ATTACHMENT A: PROPOSAL REQUIREMENTS & SPECIFICATIONS
EQUALIS GROUP: WASTE & RECYCLING CONTAINERS WITH RELATED SOLUTIONS

Table of Contents

Section 1. General Guidelines

1.1. Instructions for Completing Attachment A

Attachment A is provided to Bidders in an editable Microsoft Word form so that it can easily serve as the base document for a Bidder's Technical Proposal. Bidders should incorporate their Technical Proposal responses directly into this document and include referenced attachments separately.

Use the following electronic file naming convention for naming your Technical Proposal prior to uploading your completed Technical Proposal to Bonfire: ***Technical Proposal – Bidder Name.docx***.

For sections of **Attachment A** structured like the example below, simply click in the green cell or paste (using the *Paste Special > Merge Formatting* function in Microsoft Word) your response.

1.1.1.	***Formation.*** In what year was the company formed? For how long has your company been operating under its present business name? If your company has changed its business name, include the most recent prior business name and the year of the name change.
This is a sample question. Do not provide a response.	

For sections of **Attachment A** structured like the example below, click on the "**Yes**" checkbox if your solution **fully provides** the defined requirement. Click on the "**No**" checkbox if your solution does not provide or only provides part of the defined requirement.

1.1.2.	***Financing.*** Does your company offer any financing options or programs?	☒ Yes ☐ No
This is a sample question. Do not provide a response.		

1.2. Use of Attachments

Bidders may incorporate additional documents by reference as part of their response to the questions in this document. For example, you may want to include brochures, reports, charts, or graphs in response to specific questions. Bidders should clearly state in their response whether any specific documents are incorporated in their proposal by reference. In the event the attached documents are not referenced correctly, the PRT may exclude those attachments from consideration when scoring proposals.

The file names of such referenced documents that are included in a Bidder's electronic Technical Proposal submissions and uploaded to Bonfire should include in the following order: i) Technical Proposal, ii) Bidder's name, iii) the Section number of the question for which the file is included as part of the response, and iv) a brief description of what is included in the electronic file. For example, if a Bidder references an attachment that includes financial statements in response to **Section 2.2.1.**, the following electronic file name would be appropriate: ***Technical Proposal – Bidder Name – Section 2.2.1. – Financial Statements.pdf***.

Section 2. Bidder Overview & Qualifications

2.1. Company Information

2.1.1.	***Company Name & Address.***

Company Name:	Otto Environmental Systems North America, Inc.
Headquarters Street Address:	12700 General Drive
City, State & Zip Code:	Charlotte, NC 28273
Main Telephone Number:	800-795-6886
Website:	www.otto-usa.com

2.1.2.	***Formation.*** In what year was the company formed? For how long has your company been operating under its present business name? If your company has changed its business name, include the most recent prior business name and the year of the name change.

2003 Otto Environmental Systems North America, Inc.

2.1.3.	***Legal Structure.*** Check the box next to the option that best describes the company's legal structure. Include requested narrative in the space provided.

☒	Corporation – provide the State of incorporation and the company ownership structure.	Delaware corporation 2021 Corp Structure EIN (003) as of 2-5-2
☐	Partnership – provide the State of registration and the names of all partners.	Click here to enter response.
☐	Sole Proprietorship – provide the State of registration and the name and title of the principal.	Click here to enter response.
☐	Joint Venture – provide the State of registration and the names and titles of all principals.	Click here to enter response.
☐	Other – provide detailed description of corporate structure and ownership.	Click here to enter response.

2.2. Financial Strength & Legal Considerations

2.2.1.	***Financial Strength.*** Provide three (3) years of company and any parent company financial statements or other documents that speak to the financial strength of the company, such as the most recent Annual Report to Shareholders and 10K Report (if applicable) or audited financial statements, including income statement and balance sheet. *Note: you may mark this information as a "**Trade Secret**" per the terms outlined in the RFP.*

[redacted]

2.2.2.	***Bankruptcy & Insolvency.*** Describe any bankruptcy or insolvency for your organization (or its predecessors, if any) or any principal of the firm in the last three (3) years.

N/A

2.2.3.	***Litigation.*** Describe any litigation in which your company has been involved in the last three (3) years and the status of that litigation.

- Gail Ullman v Otto Environmental Systems North America, Inc. and Allied Waste Services of Massachusetts, LLC – This is a product liability claim. Otto has filed a Motion to Dismiss the claim.
- Teddy Reed v Otto Environmental Systems North America, Inc. – This is a product liability claim. Our insurance carrier, Liberty Mutual, settled this claim for $5,000 and a Release was filed.

2.2.4.	***Mandatory Contract Performance Disclosure***. Pursuant to **RFP Section 3.13**, disclose whether your company's performance and/or the performance of any of the proposed subcontractor(s) under contracts for the provision of services that are the same or similar to those to be provided for the Program which is the subject of this RFP has resulted in any "formal claims" for breach of those contracts. For purposes of this disclosure, "**formal claims**" means any claims for breach that have been filed as a lawsuit in any court, submitted for arbitration (whether voluntary or involuntary, binding or not), or assigned to mediation. For any such claims disclosed, fully explain the details of those claims, including the allegations regarding all alleged breaches, any written or legal action resulting from those allegations, and the results of any litigation, arbitration, or mediation regarding those claims, including terms of any settlement. While disclosure of any formal claims will not automatically disqualify a Bidder from consideration, at the sole discretion of Equalis Group, such claims and a review of the background details may result in a rejection of a Bidder's proposal. Equalis Group will make this decision based on the Proposal Review Team's determination of the seriousness of the claims, the potential impact that the behavior that led to the claims could have on the Bidder's performance of the work, and the best interests of Members.

N/A

2.2.5.	***Mandatory Disclosure of Governmental Investigations***. Pursuant to **RFP Section 3.14**, indicate whether your company and/or any of the proposed subcontractor(s) has been the subject of any adverse regulatory or adverse administrative governmental action (federal, state, or local) with respect to your company's performance of services similar to those described in this RFP. If any such instances are disclosed, Bidders

	must fully explain, in detail, the nature of the governmental action, the allegations that led to the governmental action, and the results of the governmental action including any legal action that was taken against the Bidder by the governmental agency. While disclosure of any governmental action will not automatically disqualify a Bidder from consideration, such governmental action and a review of the background details may result in a rejection of the Bidder's proposal at Group's sole discretion. Equalis Group will make this decision based on the Proposal Review Team's determination of the seriousness of the claims, the potential impact that the behavior that led to the claims could have on the Bidder's performance of the work, and the best interests of Members.
N/A	

2.3. Industry Qualifications

2.3.1.	***Company Identification.*** How is your organization best identified? Is it a manufacturer, distributor/dealer/reseller, or service provider?
Manufacturer.	
2.3.1.1.	***Authorization.*** If your company is best described as a distributor/dealer/reseller (or similar entity), please provide your written authorization to act as a distributor/dealer/reseller for the manufacturer of the products proposed in this RFP. If applicable, is your dealer network independent or company owned?
Network Independent	
2.3.1.2.	***Network Relationship.*** If your company is best described as a manufacturer or service provider, please describe how your dealer network operates to sell and deliver the Products & Services proposed in this RFP.
Otto Environmental Systems North America is a manufacturer and service provider. Regarding the scope of this bid, we are bidding our products manufactured, including our 2 and 4-wheeled refuse and recycling containers. Our dedicated sales team, the largest in the waste industry, will utilize the Equalis Group alongside directly selling to municipal customers to increase the velocity of these types of sales because of the ease of procuring items, vs. going directly out to bid.	
2.3.2.	***Industry Experience.*** How long has your company provided products and services outlined in your response to this RFP? What percentage of your company's revenue in each of the last three (3) full calendar years was generated from these products and services?
Our company has sold waste and recycling containers here in the United States since 1983. The containers solicited in this bid have been the primary source of the company's revenue since inception.	
2.3.3.	***Geographic Reach.*** Describe your company's service area in the United States and which areas you intend to offer services under a resulting contract if awarded. If your company does not currently provide services nationwide, describe your plans/timeframes to achieve nationwide service provision, if applicable.
Our company operates in all 50 states, including Alaska and Hawaii. We intend to offer services via Equalis in the entire United States, if awarded.	

2.3.4.	***Certifications and Licenses.*** Provide a detailed explanation outlining the licenses and certifications that are i) required to be held, and ii) actually held by your organization (including third parties and subcontractors that you use). Has your company maintained these certifications on an ongoing basis? If not, when, and why did your company lose any referenced certifications?
ISO Certification	ISO Certification.pdf

2.4. Public Sector Focus

2.4.1.	***Public Sector Contract Vehicles.*** What Public Sector contract vehicles (e.g., state term contracts, public sector cooperatives, etc.) does your company have in place to provide products & services defined in this RFP? For each contract vehicle, when was the contract established, what is the expiration date, and how much annual revenue does your company generate through the contract(s) in each of the last three (3) calendar years?
See attached sales flyer to this bid for our primary public sector contract vehicles. Sales from these are confidential and we are not able to disclose due to agreements with the individual cooperatives.	
2.4.2.	***Education Success.*** What is the i) total dollar amount, and ii) percentage of your company's total annual revenue generated by sales to educational institutions (i.e., K-12 schools & school districts and high education)?
Our company's principal sales are to private and publicly held waste collection agencies, along with municipalities. We do not currently sell directly to schools, school districts, or higher education. Some of Otto's distribution network does sell directly to these institutions, however. Sales data is not available to share along these lines.	
2.4.3.	***Government Success.*** What is the i) total dollar amount, and ii) percentage of your company's total annual revenue generated by sales to local governments (i.e., municipalities, counties, special districts, and state agencies)?
[redacted]	
2.4.4.	***Public Sector Strategic Growth Plan.*** Describe your company's three to five-year public sector sales objectives and the key elements of your strategic plan to achieve those objectives. What is the total annual dollar value of your company's total revenue generated by local governments and educational institutions in each of the last three (3) calendar years? What percentage of your company's total annual revenue is generated by sales to local governments and educational institutions? *For clarity, the figures requested are to include revenue generated through cooperative contracts (see question 2.4.1) and all other forms of revenue to local governments and educational institutions to represent the aggregate revenue volume.*
Our overall goal is to maintain municipal sales at no less than 20% of total sales revenue. We are currently launching a new website which will assist us with marketing to these customers, and we are very focused on prospecting the most populous cities in the USA which are currently not carted, and not in a franchise agreement with a waste collection company.	

2.5. Customer References

2.5.1.	Provide references of at least five (5) local government or educational institution customers for which your company has provided products and services similar in nature and scope to those defined in this RFP in the last three (3) years. Each reference should include: • Customer name and location; • Customer contact person and their title, telephone number, and email address; • A brief description of the products and services provided by your company; • Customer relationship starting and ending dates; and, • Notes or other pertinent information relating to the customer and/or the products and services your company provided.

References updated 10282020.p

2.6. Insurance Coverage

2.6.1.	***General Liability, Property & Automobile Insurance.*** If your company is selected as the Winning Supplier, during the term of any agreements between your company and Equalis Group, and for two (2) years following expiration or termination of such agreements, your company, at its own expense, will maintain and will require that its agents, subcontractors, or suppliers engaged in your company's performance of its duties under such agreements, maintain general liability insurance, property insurance, and automobile insurance (at a minimum, in the amount of $1,000,000 per occurrence/$5,000,000 annual aggregate) applicable to any claims, liabilities, damages, costs, or expenses arising out of its performance under such agreements. Confirm that your company either a) has, or b) will purchase insurance coverage as described herein.	☒ Yes ☐ No

Click here to provide additional commentary, if necessary.

2.6.2.	***Employee Dishonesty – Members.*** The Winning Supplier shall be held fully liable for any and all dishonest acts of its employees and/or its subcontractor's employees. Coverage must be provided for Third Party Employee Dishonesty, covering all employees and all officers of your company and any subcontractors, in an amount not less than $100,000 per occurrence. Confirm that your company either a) has, or b) will purchase insurance coverage as described above covering all employees and all officers of your company, in an amount not less than $100,000 per occurrence for each Equalis Group Member utilizing the Program.	☒ Yes ☐ No

Click here to provide additional commentary, if necessary.

Section 3. Products and Services

3.1. Products & Services

3.1.1.	***Product & Services Description(s).*** Provide a detailed description of the products and services you are offering as a part of your proposal. **IMPORTANT:** this description along with the products and services outlined in the **Attachment B – Cost Proposal** will be utilized to define the overall products and services available under a resulting contract.

Otto provides a range of products including a broad array of two-wheeled carts, recycling bins, and related products, along with commercial dumpsters for a variety of waste streams in both residential and commercial sectors.
Otto pioneered the 2-wheeled plastic waste cart in 1965. We designed the product with effective collection in mind, based upon a simple, high quality solution, which works for you. Regarding the longevity and the durability of our product, our HDPE (high-density polyethylene) composition is heavy duty and fully recyclable. Our Injection molding allows for intricate design features, such as integrated wear strips, support ribs, and assembly slots, where other molding processes create simpler and less effective outputs. Consistency in our wall thickness allows isolation of special features to strengthen areas where the container faces special stress, for example:

- Lid attachments are cylindrical-shaped and double-ribbed, creating a robust attachment to the container body.
- The container base is manufactured with a dual molded-on "wear strip" to take the brunt of the wear and abuse. The flat bottom of the container does not touch the ground.
- Molded gussets contribute greater strength to the axle mounting details.
- High pressure injected resin ensures complete and even coverage throughout the mold, providing overall consistent wall thickness and eliminating thin spots or "windows" which can lead to premature failure points.

Otto carts are manufactured using high density polyethylene (HDPE). Otto only uses HDPE grades that have longer molecular chains to decrease the melt index and give the material "melt strength." The higher molecular weight also gives the material increased environmental stress crack resistance (ESCR), impact strength, and cold-temperature toughness over a material with a similar density but shorter molecular chains. Each lot of resin is put through extensive testing to verify the melt flow index and check for moisture and contamination to ensure the resin meets Otto's established standards.

Other benefits include:

- A guaranteed ten-year, non-prorated warranty on carts.
- Standard Snap-On wheels that roll easily, quietly and provide greater control of the cart.
- A large oversize solid steel axle, which is manufactured from recycled material, to provide exceptional durability.
- A cart design that leads the industry in wind stability.
- A virtually maintenance-free container, decreasing costly labor for repair.
- A durable metal lower "catch" bar.
- Industry leading and value-added graphic design services for instructions and container branding.
- A selection of seven standard colors and superior hot stamping using the latest heat sink technologies.
- An aesthetically pleasing container that complements both inside and outside environments

Models offered in this proposal include:

- ***95-gallon carts (Edge, Millennium, and Momentum)***

  We offer 3 separate models, all ANSI compliant, and all designed differently primarily to satisfy the cosmetic preferences of all users. Some prefer a shorter and wider container while others tend to favor a taller and narrower container, hence the reason we offer 3 separate models. These are distinguished in our ***Residential Containers Brochure***, submitted with this bid.

- ***25-gallon, 35-gallon, 45-gallon, and 65-gallon Edge carts***

  We offer carts sized for any purpose, and any frequency of collection. Our smaller sized carts are generally used in areas where frequency of collection is higher and / or in areas such as townhomes, etc., without space for a large 95-gallon container.

- ***4 wheeled Front Load and Rear Load dumpsters (2 Cubic Yard, 3 Cubic Yard, and 4 Cubic Yard)***

  Otto offers a line of plastic hybrid waste collection bins for commercial use, ideal for noise sensitive environments as they are quiet in operation and purposed for collection of wet waste in salt-water climates, as they do not rust. They are lightweight, durable, and easy to use. We offer the only bins of this type in the industry, an incredible advantage to Equalis Group members.

Please see the Product Specifications for each item we are bidding within this proposal.

3.1.2.	***Compatibility.*** Describe your product's compatibility with refuse collection vehicles.

The products offered to Equalis Group members are fully compatible with collection equipment utilized here in the United States. Each product we are bidding meets the stringent standards of ANSI Z245.60.

ANSI Certificates are included with this bid submission.

3.1.3.	***Open Market Products.*** Provide a detailed description of your ability to accommodate requests for Open Market Products. Open Market Products is a category of products that cannot be found in your standard catalog offering or non-inventoried products.

The primary products offered by Otto are part of this bid submission. In the event an Equalis Group member has a need apart from our proposed offerings, our team is eager to learn the requirements and potentially oblige the request and include in our catalog for all to utilize.

3.1.4.	***Customized Offering.*** Describe how you are able to customize the program offering to Equalis Group Members.

The products offered are available to Equalis Group Members in a variety of colors, with many hot-stamp and/or in mold labeling options to make them unique to the member. Still too, the products are offered with 100% Financing, a feature not promoted or made available to other cooperatives. Additionally, we offer a unique 5-day delivery program for Equalis Group Members.
https://integration.financepartners.com/landing_page/otto/?v=0e09e015-896f-4584-86bf-738cbd0b3243&s=34966ff5-136d-409b-aa15-ae76d47a1eaf&logo=v&clr=blue-red
https://www.linkedin.com/feed/update/urn:li:activity:6762384892782243840

3.1.5.	***Differentiators.*** Describe what differentiates your company's products and services from your competitors.

Please see Otto's Product Specifications included in this bid package. Our waste and recycling containers are a quality solution based upon a tried-and-true offering which works. Differentiating us from the competitors, Otto offers the broadest array of product colors, a Graphics Designer on staff for customization of Equalis Member artwork for application of the graphic to our product, the industry's only injection molded 2 Cubic Yard Front Load Container, and the industry's only hybrid plastic and steel plastic dumpsters. Additionally, we also are the only company to offer a 100% Financing offering and 5-day product delivery.

3.1.6.	***Manufacturing.*** Describe your manufacturing process and any advantages it offers over your competitors. Your response may include, but is not limited to, facility locations, explanation of the materials used during various manufacturing processes, a description of the inspection & quality control processes, and identification of manufacturing certifications (e.g., ISO).

ISO Certification.pdf

Otto Environmental Systems North America, Inc. is ISO 9001:2015 certified. Otto is regularly audited to maintain this along with other quality standards. ***Every order is inspected*** to meet specified project requirements. Otto carts are manufactured using advanced injection molding with high density polyethylene (HDPE). Otto only uses HDPE grades that have longer molecular chains to decrease the melt index and give the material "melt strength." The higher molecular weight also gives the material increased environmental stress crack resistance (ESCR), impact strength, and cold-temperature toughness over a material with a similar density but shorter molecular chains. Each lot of resin is put through extensive testing to verify the melt flow index and check for moisture and contamination to ensure the resin meets Otto's established standards.

Otto is committed to corporate sustainability at our manufacturing locations and in our community. Within the manufacturing process, Otto uses the highest possible levels of recycled content without compromising product integrity.

Otto has centered its policies and procedures around environmental sustainability – those actions that reduce the impact that the company's manufacturing has on both local and global environments. Our manufacturing operations have increasingly incorporated additional efforts to reduce their carbon footprint. In the past few years, Otto has been able to reduce six-fold its solid waste generation through reclamation, recycling, and recapturing efforts. Otto recycles over 13 million pounds of plastic annually through both internal and externally sourced operations.

3.2. Additional Features

3.2.1.	***Value Add.*** Describe any other features or capabilities relating to this RFP that would improve or enhance the Program. Your response may include, but is not limited to, additional products and services, ecommerce capabilities, marketing capabilities, green initiatives, and technological advancements.

In addition to items mentioned already within our proposal, Otto offers a unique service offering via the flyer attached to our bid submission which is readily available to all Equalis Group members. Otto pioneered container management services in 2000's and currently manages nearly 2 million carts nationwide.

3.3. Additional Offerings

3.3.1.	***Other Capabilities.*** Identify and describe any other products and/or services your company offers outside the primary scope of this RFP that can be made available to Equalis Group Members. Include proposed pricing for any additional products or services your company offers in **Attachment B – Cost Proposal** in accordance with the directions provide in **RFP Section 2.3 Cost Proposal & Acceptable Pricing Formats**.
There are no other products and/or services offered as part of this bid other than those already discussed.	

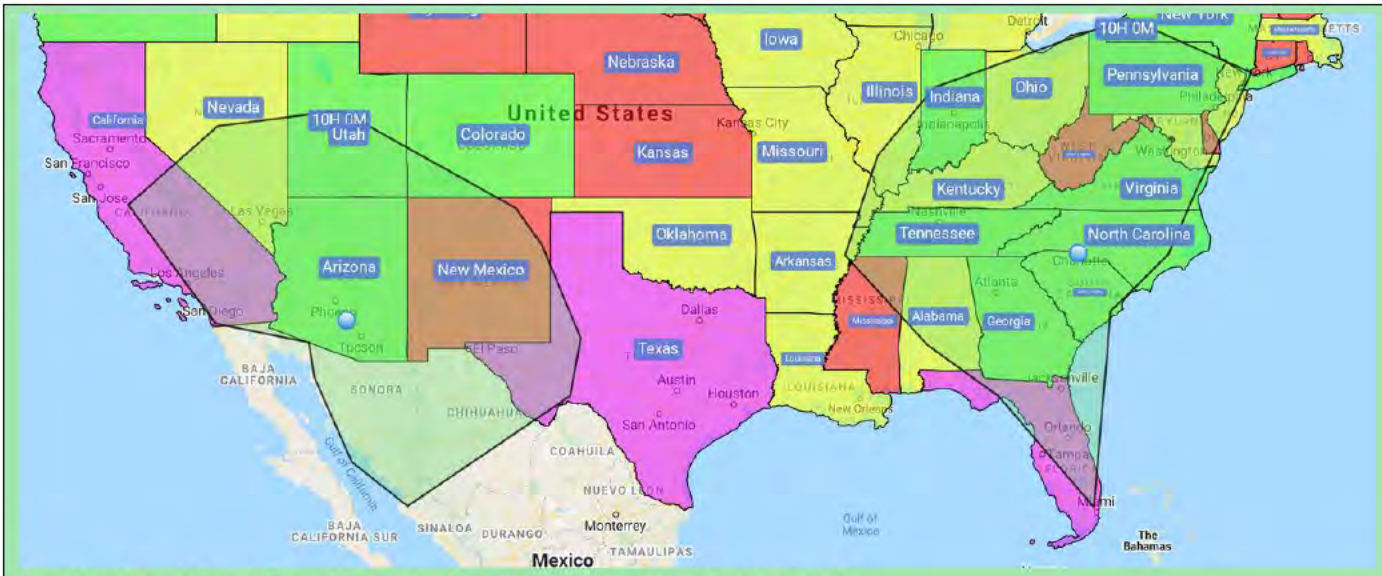
3.4. Warranty

3.4.1.	***Warranty.*** Provide a copy of the manufacturer's warranty. If required, please attach the warranty as an attachment, as instructed in this document. Describe notable features and/or characteristics of the warranty that a public sector customer would find interesting or appealing. Pricing related to the any extended warranty options must be included in ***Attachment B – Cost Proposal***.
Warranty PolicyTen Year Carts.pdf Warranty Bin.pdf Warranty PolicyOneYr Triumpl There is no added cost for our warranty. A copy of our ***Statement of Warranty*** is attached to this submission.	

Section 4. Business Operations

4.1. Logistics

4.1.1.	***Distribution Capabilities.*** Describe how Bidder proposes to distribute the products/services in Bidder's defined geographic reach.
Products are distributed from two strategically located facilities, our Charlotte, North Carolina factory and distribution center, along with our Eloy, Arizona factory. These sufficiently and effectively serve members all over the USA, East, West, and Central regions.	
4.1.2.	***Distribution Centers.*** Provide the number, size, and location of Supplier's distribution facilities, warehouses, and retail network as applicable.



Our Charlotte, NC and Eloy, AZ locations are located within one day's drive of:

- 67% of the total SFU Market within the US
- 71% of the fastest growing SFU Markets within the US

Manufacturing Locations & Machine Capabilities

Otto's footprint & press capabilities enable it to service a wide geographic dispersion of locations

Machine Quantity	Manufacturer	Tons (US)	Shot Size (oz)	Robot Axis Quantity	Machine Quantity	Manufacturer	Tons (US)	Shot Size (oz)	Robot Axis Quantity
1	UBE	3500	1184	6	1	Krauss Maffei	1300	160	4
1	Haitian	3300	905	6	1	Haitian	1300	200	6
2	Krauss Maffei	3200	1100	6	1	Haitian	1200	268	6
1	Battenfeld	3000	629	6	1	Krauss Maffei	1000	218	6
1	Haitian	1850	341	6	1	Krauss Maffei	1000	146	4
1	Battenfeld	1650	322	6	2	UBE	1000	185	3
2	Haitian	1400	357	5	1	Haitian	600	111	6

- 16-acre land tract
- 177,000 sq. ft. mfg. & office
- 230,976 sq.ft. inventory area
- 25 molding presses
- 85-ton crane capacity
- 8-car rail spur
- 1MM lb. silo capacity
- Headcount: 230

Charlotte, NC

Headquarters & Manufacturing Location

Eloy, AZ

Manufacturing Location

- 18-acre land tract
- 32,000 sq. ft. mfg. & office
- 400,000 sq. ft. inventory area
- 4,500 sq. ft. pump & power room
- 6 molding presses
- 55-ton crane capacity
- 20-car rail spur
- 1MM lb. silo capacity
- Headcount: 67

Machine Quantity	Manufacturer	Tons (US)	Shot Size (oz)	Robot Axis Quantity
1	Engel	3500	968	6
1	HPM	3500	950	6
1	Engle	3150	675	6
1	Engel	1850	323	6
1	Husky	1650	478	4
1	Engel	1250	164	6
1	Milcron	400	54	3

4.1.3.	***Supply Chain.*** Identify all other companies that will be involved in processing, handling, or shipping the products or services to the Equalis Group Member.

There will be no other companies involved in processing or handling the orders for Equalis Group Members. Otto subcontracts shipping services to the nation's top-rated freight carriers, and normally delivers orders via Less Than Truckload or Full 53' Truckload Carriers.

4.1.4.	***Optimized Shipping.*** Describe how the products included in your proposal can be packaged for optimal shipping efficiency.

Our products are configured to nest inside one another for shipment either via Less than Truckload or Full 53' Trailer carriers. The shipping quantities are detailed in the product literature, attached to our proposal.

4.1.5.	***Fill Rates.*** Provide fill rates and average delivery timeframes met by specific distribution centers.

Orders are filled in full based upon the purchase requests received from members. Our average delivery timeframe is approximately 3 weeks from receipt of order. Orders are filled from both Charlotte, NC and Eloy, AZ facilities, which is determined based upon the location of the Equalis Group member.

4.1.6.	***On Time Delivery Rate.*** Provide your average on-time delivery rate.

Our average on-time delivery rate is 97%.

4.1.7.	***Expedited Orders.*** Describe your approach to handling emergency orders and/or service. Your description may include, but is not limited to, response time, breadth of service coverage, and service level.

Requests for expedited service are considered on a case-by-case basis and entail provision of a shorter delivery lead time under this circumstance. Requests are reviewed by the Operations Team and granted if achievable. Note: Our 5-day delivery program has eliminated needs for expedited service, and apart from this, our lead times are industry leading and generally limited to an average of 3 weeks including product delivery.

4.2. Customer Service

4.2.1.	***Customer Service Department***. Describe your company's customer service department & operations. Your description may include, but is not limited to, hours of operation, number and location of service centers, parts outlets, number of customer service representatives. Clarify if the service centers are owned by your company of if they are a network of subcontractors.

Our customer service team operates Monday – Friday, 8 am – 7 pm, EST, coast to coast. Our team is located within our Charlotte, NC and Eloy, AZ manufacturing facilities, and are wholly owned by Otto. We offer after hours contact information as might be needed in emergency situations.

4.2.2.	***Complaint Resolution.*** Describe your customer complaint resolution process. Describe how unresolved complaints are handled.

Complaints, when these may arise, are directed to our Chris Smith, Director of Customer Experience, for resolution and for handling within 24 hours of receipt. Our company has an internal Complaint Review Board which meets regularly to review complaints and related causes to institute corrective measures.

4.2.3.	***Product Returns.*** Describe your product return policy and procedures.

Our company does not traditionally have product returned, but in the event of an issue, problems follow a robust complaint resolution process led by Director of Customer Experience, Chris Smith, with a goal of response and handling within 24 hours of receipt.

4.3. Order & Invoice Processing; Payment

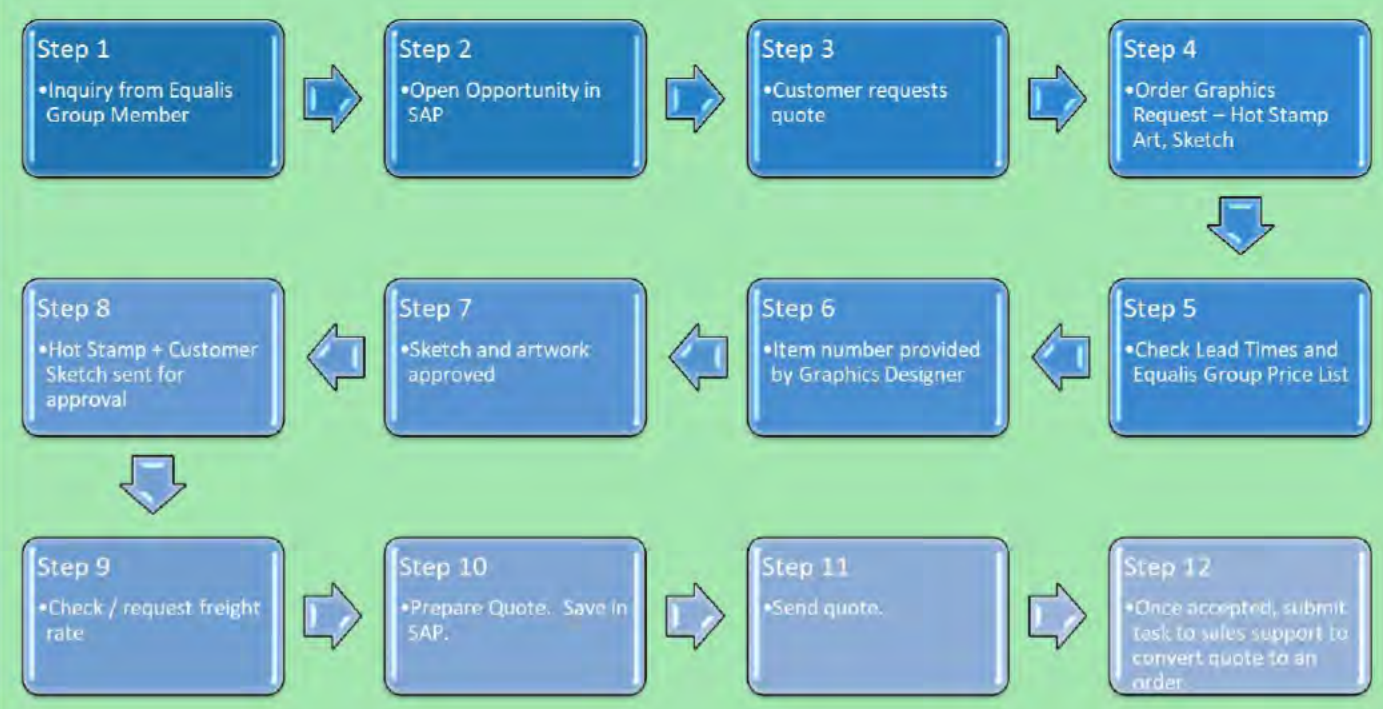
4.3.1.	***Purchasing Options***. Describe the different channels in which this contract will be made available to Equalis Group Members. Your response should include, but is not limited to, whether your organization will serve as the single point of contact or if the contract will be made available to your dealers and resellers, if applicable.

Our company intends to leverage the Equalis Group Member Program with our national sales team. A file showing this team is provided as an appendix to our bid. Our organization is the single point of contact for Equalis Group Members. We do not intend to offer this via our dealer network, as pricing offered to Equalis direct from Otto is in most cases preferable to dealer pricing. Dealer pricing is reserved for waste hauling companies while the Equalis Group Member Program will be directed toward municipal customers. (Note: the document follows this answer for convenience, and a dedicated file is included as an appendix for improved readability.) The primary contacts for Equalis Members will be Sandra Abdow, Municipal Manager, and Travis Dowell, National Sales Director, along with Chris Smith, Director of Customer Experience.

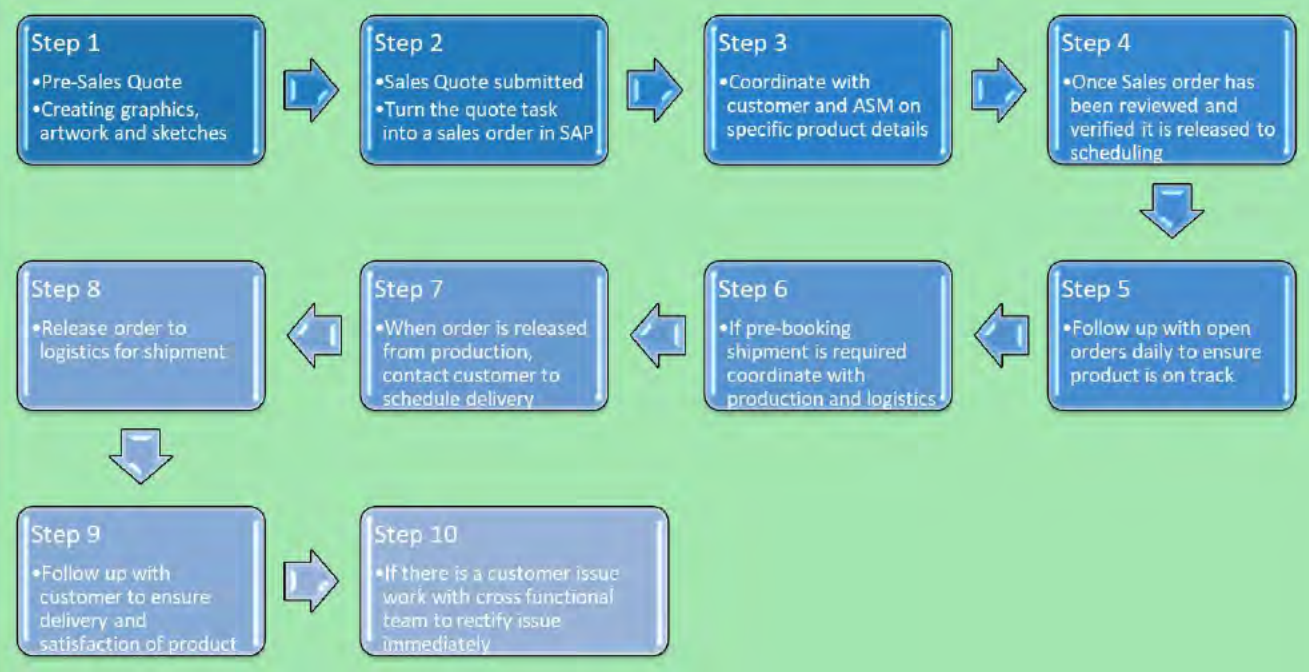
4.3.2.	***Order Process***. Describe your company's quote or proposal development and order submission process.

Our quote and order process is illustrated below.
Quite simply, Equalis Group Members will contact the Otto Sales Representative closest to them geographically and request a quotation. Quotations will feature Equalis Group pricing along with related discounts, and specify quantities needed along with related shipping charges, sales tax (if applicable), and delivery timeline specific to their orders.

Quote Process:



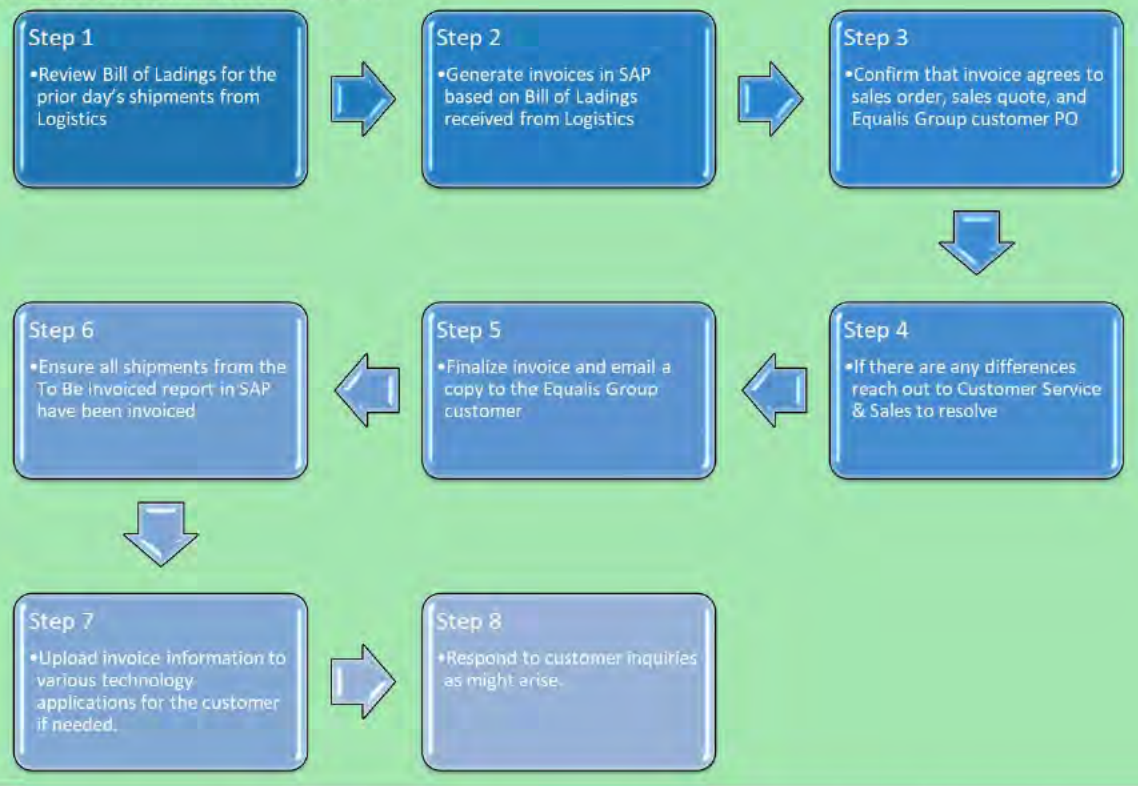
Order Process:



4.3.3.	***Invoice Process***. Describe your company's invoicing process.

4.3.3 Invoice Process

Our invoice process is illustrated below.



4.3.4.	***Payment.*** **What are your standard payment terms? What methods of payment do you accept?**

Our standard payment terms are "Net 30 days".

Payments are accepted via:

- Check
- Wire
- Electronic Transfer
- Credit Cards
  Visa, Mastercard, American Express
- Financing

4.3.5.	***Financing.*** **Does your company offer any financing options or programs?**	☒ Yes ☐ No

Our company offers a 100% Financing Program administered by Ascentium Capital. See the below link and flyer within this submission for the details.

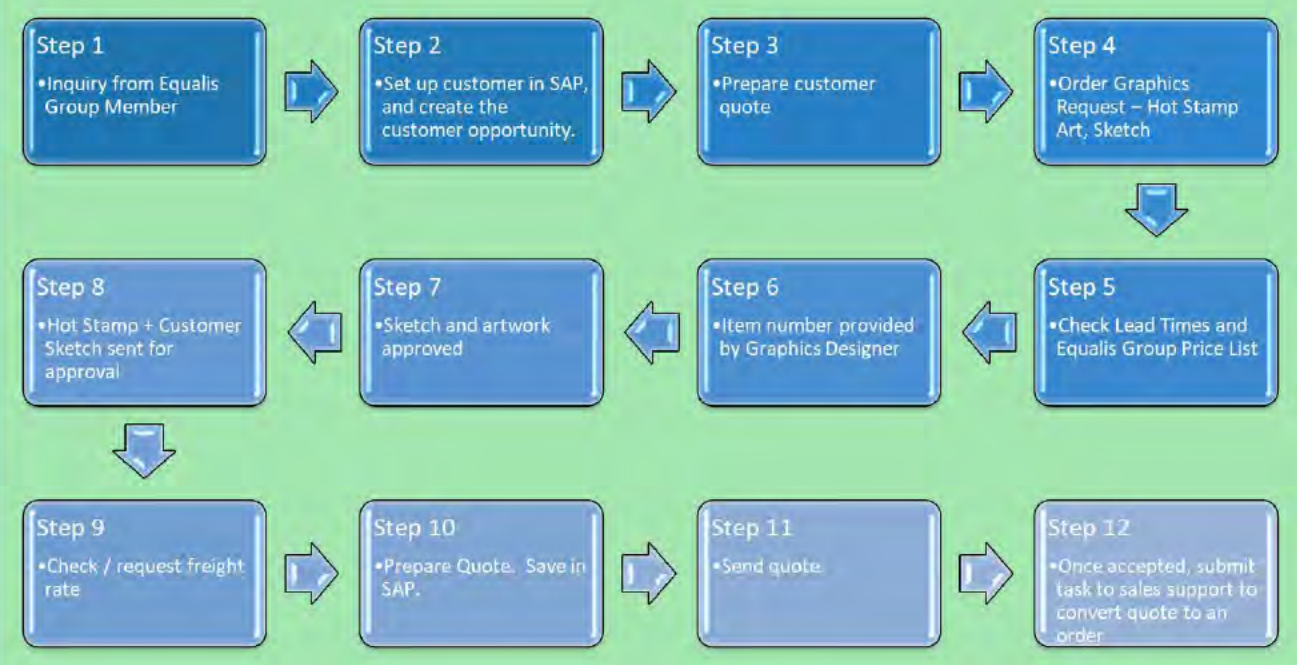
https://integration.financepartners.com/landing_page/otto/?v=0e09e015-896f-4584-86bf-738cbd0b3243&s=34966ff5-136d-409b-aa15-ae76d47a1eaf&logo=v&clr=blue-red

Flexible financing options are available through Ascentium Capital including **$0 down** and **Deferred Payment** programs. For more information, please contact **Michael Fiore** at **281-921-3863** or michaelfiore@ascentiumcapital.com.

4.4. Members Contracting for Services

4.4.1.	***Customer Set Up.*** Once an Equalis Group Member decides to accept your company's proposal for services as described in this RFP, what is the process for the Member to become a customer?

Equalis Group Customers are set up in our SAP Operating System by our local Area Sales Managers upon contact with us by the member. This is "Step 2" of our process, as shown below.



Set-up details include:

- Customer name and address
- Contact detail including e-mail and phone number.
- Delivery preferences
- Receiving contact detail
- Product preferences
- Other information as may be conveyed by the Equalis Group Member to Otto's Area Sales Manager.

4.4.2.	***Customer Agreements.*** Does your company have standard customer agreements? If yes, please provide copies of any standard customer agreements and describe your process and timeline for reviewing, negotiating, and finalizing any customer-specific contract terms or requirements.	☒ Yes ☐ No

Otto's agreements are on an order-by-order basis, and include these details:

- Quote Number
- Validity date
- Product detail
- Product quantity and price
- Delivery Date
- Product Item Number and related Graphics
- Contact name, e-mail, and phone number at Otto.
- Order Confirmation and Order Invoicing are similarly formatted for ease of understanding and simplicity and include Otto's Terms & Conditions.

Copies follow with this submission and are additionally shown next page.

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, NC 28273

Quote: 12725

Page: 1/3

Mr. John Smith
City of ABC
333 Main Street
Anywhere AR 00000

Dear John,

Thank you for allowing Otto Environmental Systems North America, Inc. the opportunity to present this quotation to City of ABC. Please let me know if you have any questions, and thank you for your interest.

Proposal Valid: February 27, 2021 - March 27, 2021

Line	Product	Description	Quantity	Net Price	Net Value
10	OTTO45GEDGE	45 Gal Edge Otto CART	760 Each	35.71 USD / 1 Each	27,139.07 USD
	List Price		36.07	USD / 1 Each	27,413.20 USD
	Product Discount (%)		-1.00	%	-274.13 USD
	Freight		950.00	USD	950.00 USD
	Green Color Cart with Black Color Lid Hot Stamp - ABC Company Serialization - Begin with T321 000001 Delivery: March 23, 2021				

Total Item Net Value	27,139.07 USD
Freight	950.00 USD
Total	**28,089.07 USD**

Payment Terms: 30 days net
Incoterms: FOB Destination Prepaid (Dom), Anywhere, AR 00000

Delivery quoted at 3 weeks.

Shipping quoted at $950.00

Please contact Travis Dowell for questions.
704 804 0806, mobile

Thank you!

4.5. Sustainability, Reclamation, and Recycling Initiatives

4.5.1.	***Sustainable Company Initiatives.*** Describe the ways in which your company is addressing the issue of sustainability.

Sustainability Commitment.pdf

Section 5. Go-To-Market Strategy

5.1. Bidder Organizational Structure & Staffing of Relationship

5.1.1.	***Key Contacts.*** Provide contact information and resumes for the person(s) who will be responsible for the following areas; Executive Contact, Contract Manager, Account Manager/Sales Lead, Reporting Contact, and Marketing Contact. Indicate who the primary contact will be if it is not the Account Manager.

Our key contacts along with related resumes represent who would be involved in the direct support of Equalis Group Members, and are shown below, along with related SWAT Team Slide provided in the Appendix. See the following links to our team's credentials and expertise:

- ***Mike Costello, CEO***
  https://www.linkedin.com/in/mpcostello/
- ***Jim Sanderson, COO***
  https://www.linkedin.com/in/jim-sanderson-mba-c-p-m-cpsm-b77a556/
- ***Robert Cheney, VP Sales***
  https://www.linkedin.com/in/robertcheney01/
- ***Christa Rendino, VP Corporate Controller***
  https://www.linkedin.com/in/christacpa/
- ***Travis Dowell, Director of Sales – National / International***
  https://www.linkedin.com/in/travis-dowell-jr-9a16a315/
- ***Chris Smith, Director of Customer Experience***
  https://www.linkedin.com/in/chris-smith-a3502553/
- ***Jason Bass, Director of Quality***
  https://www.linkedin.com/in/jason-bass-a3b2a87/
- ***Mark Young, Director of Otto Field Services***
  https://www.linkedin.com/in/mark-young-5baa6116/

A map of Area Sales Managers is included with our proposal, and also shown on the next page.

Otto Environmental Systems | Sales & Service Regions

Michael Costello
President and CEO
480-227-6335 m
Michael.Costello@otto-usa.com


Robert Cheney
VP Sales & Service
980-402-8429 m
Robert.Cheney@otto-usa.com


Chris Smith
Director of Customer Experience
704-583-5216 p
Chris.Smith@otto-usa.com


Sandra Abdow
Municipal Manager
980-275-5457 p
Sandra.Abdow@otto-usa.com

Sales


Travis Dowell
National Sales Director
704-804-0806 m
Travis.Dowell@otto-usa.com

WESTERN REGION AREA MANAGERS


Brandon Budlong
704-500-4546 m
Brandon.Budlong@otto-usa.com


Andrew Arata
650-438-1909 m
aarata@otto-usa.com


Juli Smith
704-941-1808 m
Juli.Applegate@otto-usa.com


Korman Pak
704-615-8345 m
Korman.Pak@otto-usa.com


Brian Buerkett
704-467-0432 m
Brian.Buerkett@otto-usa.com

EASTERN REGION AREA MANAGERS


Mark Brace
919-414-2453 m
Mark.Brace@otto-usa.com


Chuck Munsey
704-737-3358 m
charles.munsey@otto-usa.com


John Van Ness
704-467-4186 m
John.VanNess@otto-usa.com


Shawn Newton
Inside Sales
704-583-5258 p
704-363-4387 m
snewton@otto-usa.com

Sales Service Support


Heather McClimen
Senior Sales Service Specialist
704-583-5214 p
hmcclimen@otto-usa.com


Tammy Mobley
Sales Service Specialist
704-583-5265 p
Tammy.Mobley@otto-usa.com


Kathy Tudor
Graphics Designer
704-583-5213 p
980-949-1071 m
ktudor@otto-usa.com


Zulema Zuniga
Senior Sales Service Specialist
520-381-3404 p
zzuniga@otto-usa.com


Carol Talley
Sr. Sales Service Support / Retail
980-275-5491 p
Carol.Talley@otto-usa.com

5.1.2.	***Sales Organization.*** Provide a description of your sales organization, including key staff members, the size of the organization, in-house vs. third-party sales resources, geographic territories, vertical market segmentation, etc.

Our Sales & Service Organization is depicted visually on the prior page and described below.
Direct customer sales include waste collection companies and municipalities, purchasing the product for residential usage to facilitate safe and effective recovery of garbage and recyclables at the generation source. Some municipalities franchise the waste collection out to a private company to handle, while others choose to procure the products themselves and manage the residential waste collection activity directly.

Otto's extensive distributor network provides additional avenues to reach both direct and indirect buyers of the product country wide.

To facilitate both direct (to private haulers and municipalities) and indirect (to distributors that sell to private haulers and municipalities) sales of these products Otto maintains a nationwide sales team which includes nine Area Sales Managers located throughout the United States and two Sales Directors. Otto also sells to thirty-nine distributors, but these are designed primarily to sell directly to private haulers and municipalities within their distribution area. Otto's overall goal is "marketplace focus", being close to the customers.

Otto uses electronic media distributed to direct and indirect buyers via the sales team and distribution network, along with trade shows and industry events to build awareness of the brand and the product each year. The corporate website also serves to promote the product, along with the social media accounts on LinkedIn and Facebook.

5.2. Contract Implementation Strategy & Expectations

5.2.1.	***Five (5) Year Sales Vision & Strategy.*** Describe your company's vision and strategy to leverage a resulting contract with Equalis over the next five (5) years. Your response may include, but is not limited to; the geographic or public sector vertical markets being targeted; your strategy for acquiring new business and retaining existing business; how the contract will be deployed with your sales team; and the time frames in which this will be completed.

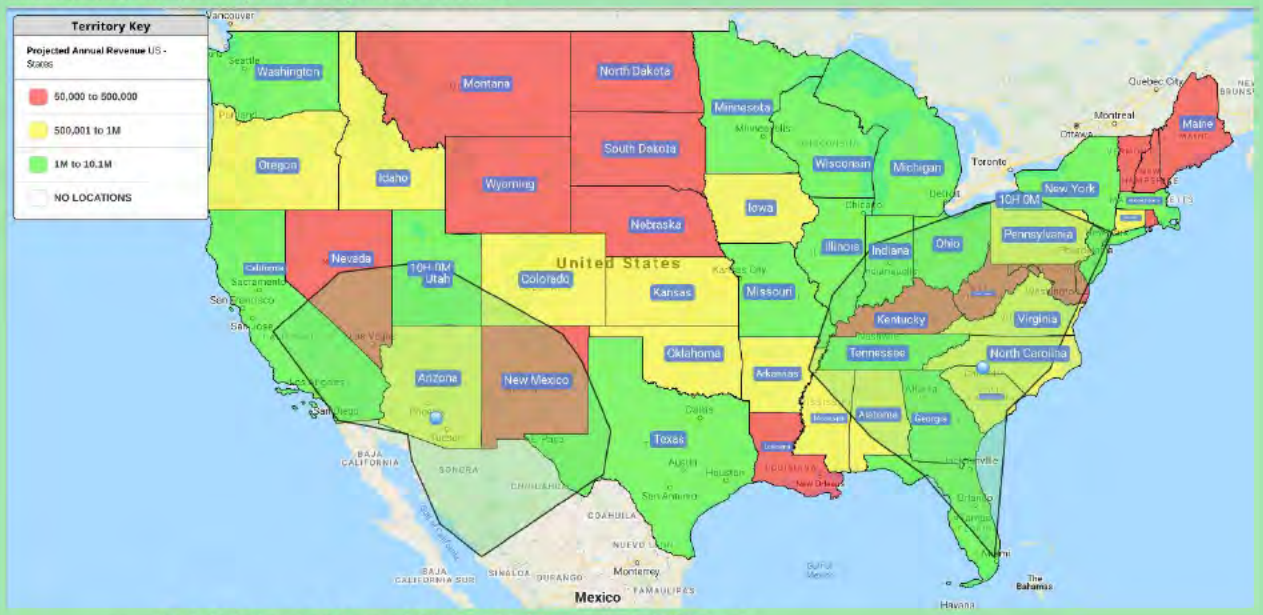
The Otto team would leverage a contract with Equalis Group by specifically targeting the ease of purchasing via this method, compared to preparing a direct bid. Our Action Plan would include:

- Training of our Sales Team to the Equalis Group Strategy, members, and related details.
- Implementation of a compensation / incentive plan to specifically include the Equalis program.
- Focus on the "Top Fastest Growing" USA markets, per the map next page. Population drives sales of our products, and these areas would be targeted first.
- Creation of a social media, website, and marketing strategy specific to this program.

We estimate a program launch would require approximately 45-60 days and be led by Otto's own internal Program Management Office, to ensure each stage gate is completed successfully and on time.
Population Migration and single-family unit (SFU) growth shows a South Easterly trend over the past 10 years with CA, TX and FL representing 33% of growth and 25 "Green States" representing 57%. (90% of SFU Growth in 28 States)

% SFU Growth
33%
57%
6%
4%

Our sales strategy would naturally focus on California, Texas, and Florida, along with the "Green" states, to help position the products in the areas where they are likely most needed.



- Total Estimated Annual Market Volume of ~1.45M Carts
- Total Estimated Annual Market Revenue of ~$61M
- 25%, or $5M, of Current Otto Municipal Revenue falls into this category

Projected $31M Annual Revenue within 1 Day's Drive of the Otto facilities in Arizona and North Carolina.

Our dedicated and internal Project Management Office would oversee implementation of the Equalis Group product rollout and related details. Below is a sample tracking tool used for projects within the business.

PMO
Project Management Office

Project ID	Project Health	Costs	Schedule	Resources	ROI	Start	Finish	Project Cost	Project ROI	Owner
P1008	☐	☐	🟡	🟡	☐	12/1/2021	4/7/2023	$1.2M	$1.6M	Randy Oppy
P1009	☐	☐	☐	🟡	☐	6/7/2021	4/19/2022	$140k	$300k	Randy Oppy
P1013	🟡	🟡	🟡	🟢	🟡	3/15/2021	10/20/2021	$40k	$80k	Charles Templeton
P1005	☐	🟡	☐	☐	🟡	3/15/2021	11/22/2021	$0	$200k	Randy Oppy
P1011	☐	☐	☐	☐	☐	3/15/2021	11/23/2021	$10k	$80k	Charles Templeton
P1004	🟢	🟢	🟢	🟢	🟢	2/15/2021	10/31/2022	$140k	$350k	Randy Oppy
P1007	🟢	🟢	🟢	🟢	🟢	2/15/2021	8/16/2022	$3M	$750k	Randy Oppy
P1006	🟡	🟢	🟡	🟢	🟢	2/15/2021	6/13/2022	$210k	$1.4M	Randy Oppy
P1010	🟡	🟢	🟡	🟢	🟢	2/16/2021	5/13/2021	$50k	$25k	Charles Templeton

5.2.2.	***Sales Team Incentives.*** Will your sales team be equally incentivized to leverage the Equalis Group Master Agreement when compared to their typical compensation structure?	☒ Yes ☐ No

The Sales Team will be incentivized to leverage Equalis, as they are with other special programs held currently, and are compensated monthly based upon their individual and collective success driving revenue during the period.

5.2.3.	***Revenue Objectives.*** What are your sales revenue objectives in each of the five (5) years if awarded this contract?

A 10% YOY Revenue Growth is assumed for planning purposes. We estimate a full year revenue result of approximately $10M, with growth each year following the first full year, at a conservative rate of 10-20%. Market conditions are anticipated to be favorable during the period with continued low interest rates and above average housing starts, along with containerization preferences for collection of solid waste residuals at curbside. Given most cities currently containerize garbage, our focus would be on recycling and green waste, organics, container applications.
Grant assistance is available through the Recycling Partnership, with whom we work quite regularly. https://recyclingpartnership.org/

Section 6. Administrative Requirements

6.1. Admin Fee & Reporting

6.1.1.	***Administrative Fee.*** Equalis Group only generates revenue when the Winning Supplier generates revenue based on contract utilization by current and future Members. The	☐ Agree

	proposed Administrative Fee for this contract is two percent (2%) based on the terms disclosed in the **Attachment D – Model Administration Agreement**.	☒ Negotiate
Alternate fee suggestion. 1.5%		
6.1.2.	***Sales & Administrative Fee Reporting.*** Equalis Group requires monthly reports detailing sales invoiced the prior month and associated Administrative Fees earned by the 15th of each month. Confirm that your company will meet this reporting requirement. If not, explain why and propose an alternative time schedule for providing these reports to Equalis Group.	☒ Yes ☐ No
It's agreed that monthly reports will be provided to Equalis Group by the 15th of each month.		

RESIDENTIAL
Containers

95-GALLON solutions

95EDGE

SPECIFICATIONS

MODEL ..... Edge 95G
LOAD RATING..... 335 Pounds
ASSEMBLY WEIGHT.....approx. 37.8 Pounds
STACKING ..... 8 High
LTL STACKING.....7 High
TOTAL QUANTITY (53' Truck) 504

95MOMENTUM

SPECIFICATIONS

MODEL ..... Momentum 95G
LOAD RATING..... 335 Pounds
ASSEMBLY WEIGHT.....approx. 35.7 Pounds
STACKING .....13 High
LTL STACKING.....11 High
TOTAL QUANTITY (53' Truck) 728

95MILLENNIUM

SPECIFICATIONS

MODEL .....Millennium 95G
LOAD RATING..... 335 Pounds
ASSEMBLY WEIGHT.... approx. 34.5 Pounds
STACKING .....9-10 High
LTL STACKING..... 8 High
TOTAL QUANTITY (53' Truck) ..... 504 (AZ)
TOTAL QUANTITY (53' Truck) ..... 560 (NC)

65EDGE

MODEL . . . . . Edge 65G
LOAD RATING. . . . . 230 Pounds
ASSEMBLY WEIGHT . . . . . approx. 29.5 Pounds
STACKING . . . . . 9 High
LTL STACKING. . . . . 8 High
TOTAL QUANTITY (53' Truck) 720

45EDGE

MODEL . . . . . Edge 45G
LOAD RATING. . . . . 160 Pounds
ASSEMBLY WEIGHT . . . approx. 22.2 Pounds
STACKING (Assembled) . . . . . 8 High
STACKING (Unassembled) . . . . . 10 High
LTL STACKING (Assembled). . . . . 8 High
LTL STACKING (Unassembled) . . . . . 10 High
TOTAL QTY Assembled (53' Truck) 672
TOTAL QTY Unassembled (53' Truck). . . .760

35EDGE

MODEL . . . . . Edge 35G
LOAD RATING. . . . . 122.5 Pounds
ASSEMBLY WEIGHT . . . . . approx. 19.8 Pounds
STACKING . . . . . 10 High
LTL STACKING. . . . . 9 High
TOTAL QUANTITY (53' Truck) 1,160

25EDGE

MODEL . . . . . .Edge 25G
LOAD RATING . . . . . 88 Pounds
ASSEMBLY WEIGHT . . . . approx. 14.8 Pounds
STACKING (Assembled) . . . . . 9 High
STACKING (Unassembled) . . . . . .12 High
LTL STACKING (Assembled). . . . . 9 High
LTL STACKING (Unassembled) . . . . . .12 High
TOTAL QTY Assembled (53' Truck) 954
TOTAL QTY Unassembled (53' Truck) . . . 1,272

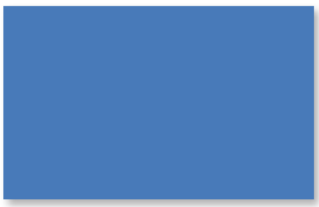
Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-795-6886 • info@otto-usa.com • otto-usa.com

Otto/062420

Color Swatches

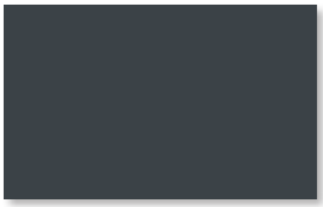
Otto residential containers are available in 8 standard colors. Custom colors available upon request.


Dark Blue - 68


Light Blue - 51


Green - 56


Forest Green - 65

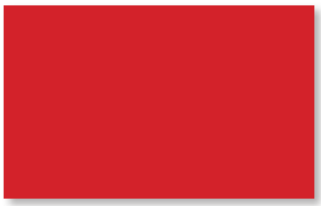

Dark Gray - 50


Light Gray - 57


Brown - 63


Black - 60

Additional common colors. Minimum quantities as well as color charges may apply.


Red - 66


Orange - 59

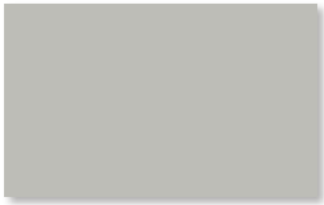

Beige - 52


Yellow - 72


Lime Green - 32


Kelly Green - 78


Colbalt Blue - 75


German Gray- 94

Colors as shown in this document may differ slightly from the actual product.

OTTO/05112018

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-227-5885 • info@otto-usa.com • otto-usa.com

Full Service Solutions

RECYCLING
18-Gallon Bin

SPECIFICATIONS

MODEL	18-Gallon Recycling Bin
ASSEMBLY WEIGHT (approximately)	4 Pounds
UNITS PER PALLET - BIN	200
UNITS PER PALLET - LID	400
LTL UNITS PER PALLET - BIN	8
LTL UNITS PER PALLET - LID	10
LTL MAX QUANTITY	1,200
TOTAL QUANTITY (53' Truck)	5,000

Recycling Bin

USER-FRIENDLY BIN FOR RECYCLING PROGRAMS

OTTOVATION

Optional 18 gallon lid fits securely over the bin's rim

Ergonomic handle design

Unique nesting design reduces distribution costs and makes containers convenient to stack and store

Designed to withstand rough handling and extreme weather conditions

Available with or without drain holes

Lid latch, along with matching curves, fastens lid securely to bin. Flexible handles with latch enables easy release and fastening. Keeps recyclable items dry while out for collection and deters insects and pests. Lid corrugation helps lid keep its shape.

AVAILABLE COLORS

The 18-gallon bin is available in 8 standard colors. The standard lid color is black to coordinate with bins. Over 80 custom colors available upon request.

68 - Dark Blue | 51 - Light Blue | 56 - Green | 65 - Forest Green

50 - Dark Gray | 51 - Light Gray | 63 - Brown | 60 - Black

YOUR BIN YOUR WAY!

Customize your bin with hot stamps or ColorFUSE technology. We can also include serialization, RFID, barcodes, and more.

Make your bins, **Truly *Your* Bins.**

Contact your Area Sales Manager to explore your options.

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-795-6886 · info@otto-usa.com · otto-usa.com

Full Service Solutions

Otto/11192019

Pioneer

Pioneer

Corrugated Plastic Container For A Variety Of Uses

- Weighs 1/3 less than same size metal containers
- Ideal for wet refuse
- Easy to maneuver on uneven surfaces
- Dual hinged lids keep pests out, and odor and refuse in
- Will not corrode in salt air or humid environments
- Never needs painting; will not chip, crack, or peel
- Integrally molded details reinforce lift and stress points

Features

- Fully stackable with or without casters
- Optional injection molded or thermoform lid available
- Two drain plugs for easy drainage
- Quick release caster plate allows for fast caster replacement from the outside of the container

Reinforced caster mount

Wheel Features

- Reinforced caster mounting for increased strength and durability
- 4" caster plates prevent puncturing in container bottom and have single-bolt release
- Standard 6" casters
- Roll brakes available

Available Colors

The Pioneer container is available in 6 standard colors. Pioneer lids are black and complement all container colors.


Green - 56


Forest Green - 65


Dark Blue - 68


Brown - 63


Dark Gray - 50


Black - 60

Colors as shown in this document may differ slightly from the actual product.

Container Specifications

MODEL	HEIGHT	WIDTH	DEPTH	LOAD RATING
PIO ASSEMBLED	51 1/4"	83 1/2"	42 1/2"	1400 LBS.

Container specifications vary slightly based on product mold.

Shipping Information

MODEL	ASSEMBLY WEIGHT	STACKING	LTL STACKING	T/L QTY (53' TRUCK)	LTL MAX QTY
PIO. ASSEMBLED	255 LBS.	3 HIGH	2 HIGH	42	6
PIO. UNASSEMBLED*	255 LBS.	5 HIGH	4 HIGH	70	8

Shipping information is estimated. *Unassembled Pioneers have lids, pockets, and casters packed separately on each pallet stack and include assembly instructions.

OTTO/051118

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-227-5885 • info@otto-usa.com • otto-usa.com

Full Service Solutions

Triumph

Triumph

Hybrid Plastic Container With Steel Reinforcements For Maximum Strength And Durability

- Weighs significantly less than same-size metal containers, improving worker safety
- Steel reinforcements strategically placed to support container, ensuring performance during heavy lifting
- Low maintenance—never needs painting, is easy to clean, and is dent resistant
- Comprehensive steel protection with electrophoretic coating (electro-coating) to maximize container life in corrosive environments
- Angled front fork pockets improve collection efficiency and reduce damage to container during emptying
- 100% recyclable

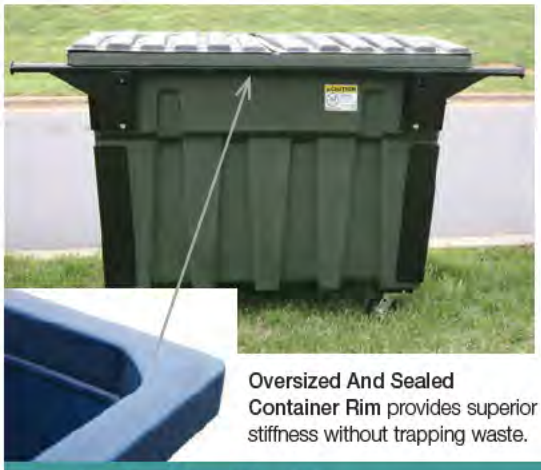
Features

Coated Steel Pocket Guides are standard on all Triumph front load containers for added protection during fork entry. Pocket inside dimensions are maximum height. Pockets installed at a high point for easy fork entry.

Triumph Lifting Sleeves are captured by a molded-in ledge to bear the weight during lifting. On 6 and 8 yard containers, a two inch structural tube supporting the bottom is attached to the lift pockets by side support brackets to manage heavier loads.

The 1½" Solid Steel Trunnion Bar on the Triumph Rear Load is supported with gussets to prevent damage when lifting heavy loads.

Standard Oversized Washer reinforced with separate rubber washer prevents leakage at container base.



Oversized And Sealed Container Rim provides superior stiffness without trapping waste.

Quick Change Caster Plates improve replacement efficiency. Steel support channels distribute heavy loads evenly across the container floor.

Customize Your Container

- Manual and Gravity lock options available on front load containers
- For additional customizations, contact your Area Manager

Wheel Features

- Reinforced caster mounting for increased strength and durability
- Quick release caster plate allows for fast caster replacement from outside of the container
- 4" caster plates prevent puncturing in container bottom and have single-bolt release
- Standard 6" casters on 1, 2, 3, & 4 yard containers
- Roll brakes available

Available Colors

The Triumph container is available in 6 standard colors. Standard frame color is black; standard lids are black and complement all container colors.

Green - 56 | Dark Gray - 50 | Black - 60 | Forest Green - 65 | Dark Blue - 68 | Brown - 63

Colors as shown in this document may differ slightly from the actual product.

Triumph

8 YARD FL
SLANT TOP

6 YARD FL
SLANT TOP

4 YARD FL

3 YARD FL

2 YARD RL

1 YARD FL

Container Specifications

MODEL	WIDTH	LOAD HEIGHT	MAX. HEIGHT	DEPTH	LOAD RATING
8 YARD FL ST TRI	81"	50"	82"	86"	5000 LBS.
6 YARD FL ST TRI	81"	50"	68"	81 1/8"	3500 LBS.
4 YARD FL TRI	81"	55 3/4"	71 1/2"	58 1/2"	2500 LBS.
3 YARD FL TRI	81"	53 1/4"	62"	55"	1500 LBS.
2 YARD RL TRI	78"	48 3/4"	50"	49 3/4"	1400 LBS.
1 YARD FL TRI	81"	40 3/4"	42 1/8"	32"	700 LBS.

Container specifications vary slightly based on product mold. Height includes casters. Width includes lift pockets. Measurements reflect maximum dimensions.

Shipping Information

MODEL	ASSEMBLY WEIGHT	STACK HEIGHT	T/L QTY (53' TRUCK)	LTL STACKING AND LTL MAX. QTY	LID DIMENSIONS (W x L)
8 YARD FL ST TRI	552 LBS.	2 HIGH	7°	1	36 x 58
6 YARD FL ST TRI	530 LBS.	2° HIGH	14°	1	36 x 58
4 YARD FL TRI	403 LBS.	2 HIGH	20°	2	36 x 58
3 YARD FL TRI	373 LBS.	3 HIGH	33°	4	36 x 54
2 YARD RL TRI	300 LBS.	5 HIGH	85	6	31 x 49
1 YARD FL TRI	217 LBS.	5 HIGH	115°	9	36 x 32

Shipping information is estimated and varies slightly based on product mold and product location.

°For maximum shipping capacity, some assembly is required: 8YD and 6YD containers ship with lids, lid rod, lid, rail and back cap inside of containers. 1YD, 2YD, 3YD and 4YD containers ship with lids inside of container.

OTTO/08012018

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-227-5885 • info@otto-usa.com • otto-usa.com

Full Service Solutions

12 Advantages of Otto's Hybrid Plastic & Steel Commercial Containers

1 Hybrid Plastic/Steel Composition

a. Weighs significantly less than same-size metal containers, improving maneuverability.

b. Placement of steel component reduces potential for damage where truck comes into contac with container.

c. High grade plastic body will no rust or corrode.

d. Available in a full family of sizes including 1, 2, 3, 4, 6, and 8 Yard Front Load and 2 Yard Rear Load configurations.

2 Quiet Noise Level

a. Plastic containers are quieter with a lower sound frequency and have a more cushioned sound than comparable steel containers.

b. Ideal for early morning collection in highly populated areas.

3 Corrugated Construction

a. Corrugated construction transitions from front and back surfaces to the container's bottom, reducing floor sag and deformation while experiencing heavy loads.

b. Corrugation helps to maintain container shape and prevent gaps between container body and lid when handling heavy waste streams.

4 Electrophoretic Coating

a. All steel parts have a coating that protects the metal from rust development. Steel hardware is e-coated prior to powder coating to increase longevity, appearance and durability.

12 Advantages of Otto's Hybrid Plastic & Steel Commercial Containers

5 Quick Change Caster Plates

llows for quick caster replacement
n the field with a single nut and bolt
nstallation. The container requires no
dditional disassembly.

6 Serial Numbers

a. Otto's containers are serialized for optimized asset management while production date stamps increase traceability.

7 Branding Locations

a. Front center surface area is designed to provide maximum visibility and accommodate a variety of customizations including decal plates, stickers, or heat transfer labels.

8 Wall Thickness

a. Durable and consistently strong containers are designed for heavy loading and are maintained through stringent process controls.

9 Steel Lift Pockets

a. Lift pockets are bolted to a molded-in support ledge on the container to bear the majority of weight during collection.

b. Pockets installed at highest possible point for easy fork entry, reducing fork positioning time.

10 ANSI Compliant

a. Complies with all safety signage.

b. Compatible with required front or rear load lifting systems.

11 Trunnion Bar*

a. Otto utilizes a nested 1 1/2" trunnion bar that uses gussets as additional support to preserve the integrity of the steel in heavy load applications.

*For 2 Yard Rear Load model

12 High Grade Plastic

a. UV resistant to help prevent UV degradation and color fading due to long term sunlight exposure.

b. Low maintenance – dent resistant, easy to clean, and no painting required.

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Full Service Solutions

OTTO/05112018

TR Lid

TR Lid

95 Gallon Replacement Lid Offers Quick And Ergonomic Field Installation

- One-piece design and snap-on hinges offer simple and streamlined field installation
- Compatible with 95-gallon Toter® EVR and EVR II carts
- Designed and manufactured to prevent breakages characteristic of original lid
- Made of injection-molded HDPE
- Standard lid color is black; custom colors available°
- Lid secures permanently with original Torx screws or standard #10 x 1" screws

Options

- One-piece construction does not require separate hinge attachments; hinges are molded-in
- Uses two Torx screws instead of the standard four, saving overhead costs

One-hand hinge closure makes for quick field replacement.

Easy viewing and access makes installing screw ergonomic and simple.

Hinge snaps shut around lid bar before screw is installed.

Shipping Information

MODEL	QTY PER BOX	QTY PER PALLET	T/L QTY (53' TRUCK)
T9560BLID*	25	50	1,300

Shipping information varies slightly based on product mold and mold location. *Part number varies with color choice. °100 minimum quantity for standard black orders. 500 minimum quantity for custom color orders. Custom colors incur an upcharge.

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OTTO/05112018

Full Service Solutions

TECHSolutions

HARNESS THE POWER OF YOUR DATA

Enable Your Container Fleet with Tools that Capture & Report Accurate Data

Utilize RFID tags to provide proof of container service, daily route audits, and update billable account database. Add barcodes for accurate asset tracking to include account viability, quantity of in-service versus out-of-service containers, etc. View daily progress reports to review asset deliveries from any computer or device that has an Internet connection. RFID tags and barcodes have the ability to reduce manual data entry for all container logistics.*

MORE EFFICIENT

BETTER TECHNOLOGY

FASTER SOLUTIONS

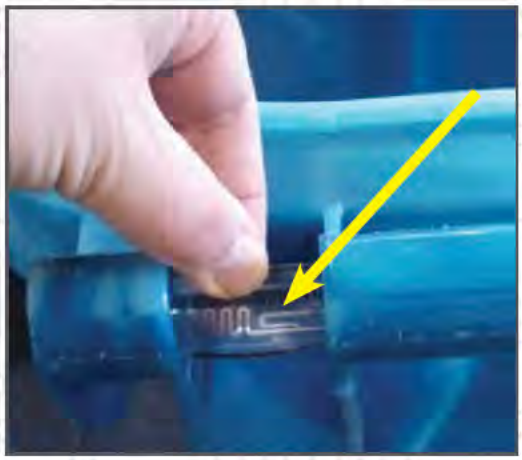
WANT MORE THAN JUST A SERIAL NUMBER?

OTTOVATION

BARCODE

Barcodes are utilized to maintain asset integrity. Typical industry hot stamps can be tampered with or weathered over time.

Otto employs heat-fused technology to literally heat sink barcode labels and serial numbers to the container, creating a tamper-resistant barcode tracking system on every asset.



RFID tags secured in the container handle: TAMPER & WEATHER RESISTANT!

RFID

Passive RFID tags are placed inside the handle of each container at the time of manufacture. The RFID value is cross-referenced to the asset serial number for proper tracking. RFID tags provide service verification for assets once a reader is installed into the truck hopper.*

**Additional software, not available through Otto, is needed for this functionality*

RFID Tag Specs:

Air Interface Protocol: EPCglobal UHF Class 1 Gen 2 (ISO 18000-6C)
Operating Frequency: Global (840-960 MHz)
IC Type: Alien Higgs-3
Memory: EPC 96 bits, User 512 bits, TID 64 bits
EPC Memory Content: Unique, randomized number
Max Read Distance: > 4.57 m (15 ft)
ARC Approved Categories: A, B, D, F, G, I, K, M, Q
Operating Temperature: -40° to +70°C (-40° to +158°F)

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Full Service Solutions

Otto/01022021

Cooperative PURCHASING

NO BIDDING.
SAVE TIME.
SAVE MONEY.

- Publicly solicited and awarded national agreements
- Competitive pricing through cooperative contracting
- Meet procurement statute requirements
- Efficient use of time and resources

Purchasing cooperatives are often FREE for your municipality to utilize.

Going to bid for your waste carts is a huge undertaking. It takes a great deal of time and energy that your team could use on other tasks.

Don't you wish there was something different?

Good news!

You can buy from a purchasing cooperative! Purchasing Cooperatives are required to follow laws requiring competitive bidding above certain thresholds. Municipalities in many states can legally use a contract that was procured by another governmental entity to purchase items or services.

YOU CAN CHOOSE FROM BOTH NATIONAL AND STATE-SPECIFIC COOPERATIVES TO PURCHASE CARTS.

NATIONAL

HGACBuy is a "Government-to-Government" procurement service available nationwide. As a unit of local government assisting other local governments, HGACBuy strives to make the governmental procurement process more efficient by establishing competitively priced contracts for goods and services.
http://bit.ly/HGACOTTO

The BuyBoard Purchasing Cooperative is a national online purchasing cooperative designed to streamline the buying process for schools, municipalities, and other public entities. BuyBoard developed contracts to comply with state laws that require government entities to make purchases from an approved list of vendors who have gone through a competitive procurement process.
To learn more, visit www.buyboard.com

STATE LEVEL

COMMBUYS Program, Commonwealth of Massachusetts
DGS COSTARS Program, Commonwealth of Pennsylvania
Capitol Region Council of Governments, CT (CRCOG)
Easibuy is a bid contract in the State of Arizona
Texas Comptroller of Public Accounts, TX
(Texas SmaryBuy)

Need further assistance in your area?

Contact:
Sandra Abdow
Municipal Manager
980-275-5457
Sandra.Abdow@otto-usa.com

OTTOVATION

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Full Service Solutions

Otto/06222020

OCMSOLUTIONS

OCM Solutions provides container management strategies customized to fit your needs. Our goal is to help you delight your customer.

YOUR TRUSTED TEAM

- A national fleet of over 80 trucks, equipped with GPS & fleet tracking software
- Licensed, insured & DOT certified drivers
- Adherence to OSHA and safe driving practices
- Over 30 years of experience servicing millions of containers throughout the U.S.

INVENTORY MANAGEMENT

Keeping track of your containers

- Establish yard organization with accurate records of finished goods, Components and containers that may be eligible for warranty, repairs or reclaim
- Save money by salvaging old and broken containers
- Discover training opportunities for operator handling to reduce container damage

ROUTE AUDITS

Putting money back in your pocket

- Audits designed to fit your specific needs and capture the information that optimizes your profit margin

CONTAINER RE-BRANDING

Quickly give your containers a new identity

- Decal application for acquired containers/ re-branding efforts
- Execution available curbside, at resident/ business location, or at your local facility

OCM Solutions, LLC
12700 General Drive, Charlotte, North Carolina 28273
800-795-6886 · info@otto-usa.com · otto-usa.com

OCMS/121619

ASSEMBLY, DISTRIBUTION & RECOVERY

Meet the start date, exceed expectations

- Experienced project management
- Technology solutions to link any combination of container data including RFID tag, barcode, serial number and address
- Installation of RFID tags on existing container fleets

CONTAINER LOGISTICS & MAINTENANCE

Extending the life of your container

- Container delivery, replacement or removal
- Container swap-outs for broken containers or change in container size/waste stream
- Curbside container repairs including lid, wheel, axle, lift bar, as well as container replacements

BENEFITS

- Increased productivity
- Create focus
- Improve operations
- Exceed expectations

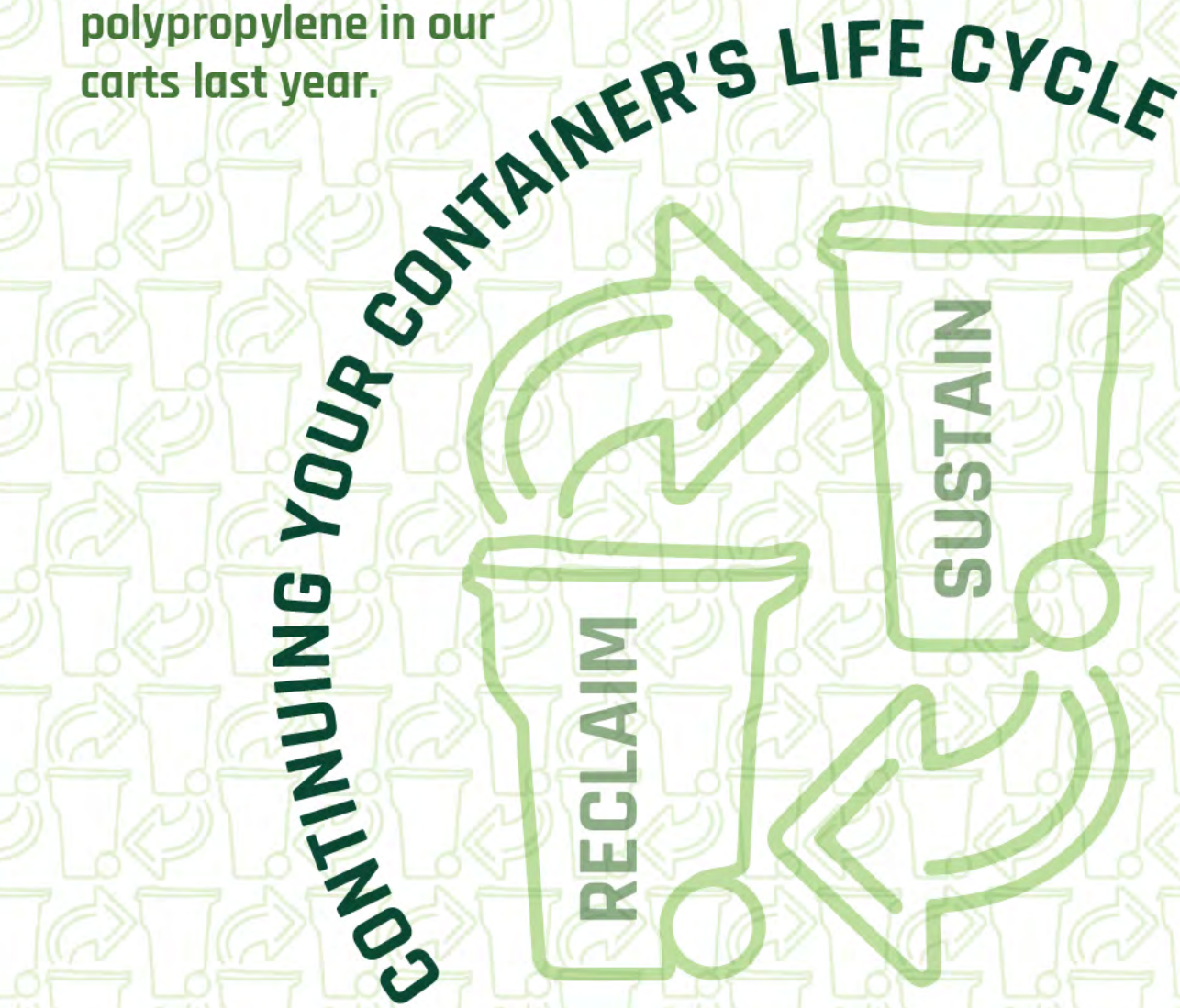
Full Service Solutions

RECYCLING REWARDS

BECOME MORE SUSTAINABLE AND MAKE MONEY DOING IT!

Otto will purchase your old, broken, or undesirable containers – regardless of the manufacturer – and make them into new carts.

Otto used over 2M pounds of cart regrind and post-industrial, re-processed polypropylene in our carts last year.



Otto collects old, broken, and unwanted plastic containers, decreasing the overall carbon footprint of the container manufacturing process.

- Our expert reclaim team will coordinate the logistics for you; prepare the containers for pick-up from your location.
- We grind the carts into flake material or pellets.
- Otto creates new containers with a percentage of recycled content during the manufacturing process.

Recycling Rewards

Otto offers credit towards future purchases or check payments. Credits are usually higher than payments and can be used on new containers, parts, or applied to outstanding invoices.

The primary factors that determine how much we pay for your retired containers are freight and weight.

High Freight + Low Weight = Low Value

Low Freight + High Weight = High Value

Benefits

- Reduce your organization's carbon footprint
- Gain an additional revenue source
- More efficiency with a clean, organized yard
- Lowered landfill tipping costs
- Continuing your container's life cycle

For more information about inbound recyclable material requirements, contact:

Brenda Stedman @ (800) 795-6886,
Brenda.Stedman@Otto-USA.com, or your Local Area Manager

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-795-6886 · info@otto-usa.com · otto-usa.com

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Otto/02202020

RECYCLING REWARDS

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Vote YES! for Otto's

Small Business Cart Stimulus Package

STIMULATE
Your BUSINESS with 100% Financing available on all cart purchases!*

STIMULATE
Your GROWTH with the first three monthly payments of only $29!*

STIMULATE
Your CASH FLOW with cart delivery in as little as 5 DAYS!

An Otto Stimulus Package we can ALL agree on!

ORDER NOW!

* with approved credit

800-795-6886 or stimulus@otto-usa.com

equalis GROUP

Demand More.

Team Equalis

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, NC 28273

Quote: 12725

Mr. John Smith
City of ABC
333 Main Street
Anywhere AR 00000

Dear John,

Thank you for allowing Otto Environmental Systems North America, Inc. the opportunity to present this quotation to City of ABC. Please let me know if you have any questions, and thank you for your interest.

Proposal Valid: February 27, 2021 - March 27, 2021

Line	Product	Description	Quantity	Net Price	Net Value
10	OTTO45GEDGE	45 Gal Edge Otto CART	760 Each	35.71 USD / 1 Each	27,139.07 USD
	List Price		36.07	USD / 1 Each	27,413.20 USD
	Product Discount (%)		-1.00	%	-274.13 USD
	Freight		950.00	USD	950.00 USD
	Green Color Cart with Black Color Lid Hot Stamp - ABC Company Serialization - Begin with T321 000001 Delivery: March 23, 2021				

Total Item Net Value	27,139.07 USD
Freight	950.00 USD
Total	**28,089.07 USD**

Payment Terms: 30 days net
Incoterms: FOB Destination Prepaid (Dom), Anywhere, AR 00000

Delivery quoted at 3 weeks.

Shipping quoted at $950.00

Please contact Travis Dowell for questions.
704 804 0806, mobile

Thank you!

Quote: 12725

Orders containing premium colors may or may not include extended lead times.

Sincerely,

Travis G Dowell

Travis.Dowell@otto-usa.com

Terms & Conditions for Quoted Freight

- The quoted freight rate is valid for 30 days, after which time the quoted freight rate is subject to change. In the event of a change, the adjusted freight rate will be communicated ahead of shipment.

- Fuel surcharges are subject to market fluctuation and actual surcharges invoiced by the carrier will be invoiced to the customer.

- Otto orders are assumed to ship when ready unless prior arrangements have been made via your Otto contact. In the absence of prior arrangements, storage charges may accrue and be invoiced for any items held more than 30 days from the date of completion of your order.

- Quoted freight rates are based upon shipment of your order during regular shipment days (Monday - Friday). Should after hours, weekend, or holiday shipment be needed, additional fees will apply, and the corresponding freight rate will be communicated ahead of shipment.

- Should you require weekend shipping, these freight rates will be quoted separately, as they are normally higher in cost than shipments during the regular workweek (Monday - Friday).

- Quoted freight rates assume shipping of your order 48 hours from the time of order completion. Customer will be charged for shipment premiums requested by a customer before the minimum 48-hour notice.

- Should a delivery address change before the shipment of your order, an adjusted freight rate will be communicated ahead of shipment. Should a delivery address change after the shipment of your order, a reconsignment fee will be charged once all updated charges are known by the carrier.

- Detention Fees - If customer holds up driver at destination and carrier charges Otto detention fees (typically after 2 hours), customer will be invoiced the actual charge along with an administration fee.

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Waste Management - Detroit, MI
Advanced Disposal - Whitmore Lake MI

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Republic Services - Anniston, AL
Republic Services - Birmingham, AL
Waste Management - Dayton, OH
Waste Management - Chardon, OH
Waste Management - Cleveland, OH
Waste Management - Newark, OH
City of Louisville - Louisville, KY

MID-SOUTH REGION

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City of Charlotte - Charlotte, NC
City of Augusta - Augusta, GA
City of Roswell - Roswell, GA

MSD-25E "Edge" Container

The Otto Multi-System Design MSD-25E "Edge" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The MSD-25E rollout refuse container is compatible with fully automated arm lifter systems. The MSD-25E is also compatible with the semi-automated bar lifter systems, with the purchase of a special attachment.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-25E container is 28.35 gallons.
Base: 25.65 gal Lid: 2.7 gal

LOAD RATING:

The Otto MSD-25E rollout refuse container is capable of accommodating a load of 88 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-25E container is 14.8 lbs.

when equipped with Otto's 8" blow molded wheels.

DIMENSIONS:

Overall Height: 28.8"
Loading Height: 26.0"
Overall Width: 19.8"
Overall Depth: 24.8"
Minimum Grip Diameter: 18.0"

CONTAINER BODY:

The Otto MSD-25E container body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.15" on the container sidewalls and 0.15" on the bottom section. The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the Otto MSD-25E container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the

container body at the top rim. The underside of the rim is reinforced with a total of twenty-eight (28) integrally molded-in gussets/ribs spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front "catch," or lower lift bar. The Otto MSD-25E container is offered with an integrally molded plastic front catch bar. The container is nestable with this feature fully installed/integrated. The plastic lower catch bar is integrally molded into the container base in the front recess. Plastic bar containers have no openings into the container bodies.

The bottom of the container has molded-in wear ridges that extend around its perimeter. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a clearance opening in the middle of the axle which allows a person's foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The Otto MSD-25E rollout container has an integrally molded front "pouch" to facilitate semi-automated lifting. The front wall of the pouch has eleven (11) corrugations in order to support the lifting platform under maximum load lifting forces. This upper pouch is reinforced with a pattern of eight (8) internal ribs. These ribs add strength and structure to the lifting pouch and front of the container.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the exterior of the top rim to prevent containers from becoming wedged together during shipment.

The weight of the container body is approximately 10.7 lbs. This weight does not include any other components.

LID:

The Otto MSD-25E container lid is injection-molded from HDPE and is attached to the container body using two HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure, tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the lid, and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The Otto MSD-25E lid attachments are cylindrical-shaped and double-ribbed, creating an extremely robust attachment to the container body. The locking mechanism for the lid hinge pin, which is inserted into the attachments, is retained beneath a molded-in step feature within the lid.

The minimum material thickness in the lid is 0.12".

The weight of the lid is approximately 2.1 lbs.

HINGE PIN:

The Otto MSD-25E lid hinge pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical center portion of the hinge pin compresses and snaps into the open slot in each side of the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-25E lid hinge is integrally molded to the container body and lid. The handle diameter is 1.2" and provides 1.87" clearance for gloved hands.

AXLE:

The Otto MSD-25E machined hollow steel axle has a 3/4" diameter. The axle is zinc plated to protect against rust and corrosion. The large diameter of the axle allows the container to be easily rolled on any surface and supports a fully loaded container. The axle will withstand a 105-lb. load without permanent deformation. The weight of the axle is 0.85 lbs.

WHEELS:

The Otto MSD-25E wheels are slightly recessed into the container body and can be relocated to forward positioned hole setting, to allow for a fully assembled nestable cart. The overall diameter of the blow molded wheel is 8".

The wheel assembly is tamper and theft-resistant and takes seconds to install on the axle. This is made possible with the use of a spring-loaded internal steel detent, which snaps into a locking groove in the axle. Yet, the wheel assembly can be easily removed with a special small hand tool available from Otto.

The weight of each wheel is 0.89 lbs.

MARKINGS:

All Otto MSD-25E containers are hot stamped with a unique sequenced serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on the container's body or lid. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, model, and manufacture's insignia.

WORKMANSHIP:

The Otto MSD-25E plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron- Phillips, Quantum) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Light Blue, Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are available to special order.

All injection-molded parts are specifically prepared to be colorfast so that the plastic material does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigment and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-25E container is stabilized against ultraviolet degradation with not less than 0.3% UV additives. This is a state-of-the-art package that meets or exceeds older systems requiring 0.5% UV additive by weight, and provides product viability for a minimum of 10 years of outdoor exposure.

RECYCLABILITY:

The Otto MSD-25E container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container.

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The Otto MSD-25E container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the type of situations encountered in actual use. The severity of some tests were scaled to anticipate an expected 10-year life.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 consecutive times.

This provides that there is not a processing issue.

2. Bib Pull Test: Bib pulled to failure to evaluate brittleness. Bib should break tensile.
3. Bar Pull Test: Bar pulled to failure. Determines if there is weakness at knit line at center of plastic bar. Bar should break off center.
4. Fit Checks: Mating components (axle and lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

MSD-35E "Edge" Container

The Otto Multi-System Design MSD-35E "Edge" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The MSD-35E rollout refuse container is compatible with fully automated arm lifter systems and standard, semi-automated bar lifter systems.

This container complies with ANSI Z245.30-2008 and ANSI Z245.60-2008 standards for Container Safety and Compatibility Requirements.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-35E container is 37.9 gallons (per ANSI Z245.30-2008, Appendix A, Volumetric Loading Capacity).
Base: 35.2 gal Lid: 2.7 gal

LOAD RATING:

Per the ANSI Z245.30-2008 Standard, the Otto MSD-35E rollout refuse container is capable of accommodating a load of 122.5 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-35E container is 19.8 lbs. when equipped with Otto's 8" blow molded wheels. Other wheel options are also available.

DIMENSIONS:

Overall Height: 38.0"
Loading Height: 35.0"
Overall Width: 19.8"
Overall Depth: 24.8"
Minimum Grip Diameter: 19.4"

CONTAINER BODY:

The Otto MSD-35E Container Body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.15" on the container sidewalls and 0.15" on the bottom section. The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the Otto MSD-35E container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the container body at the top rim. The underside of the rim is reinforced with a total of twenty-eight (27) integrally molded-in gussets/ribs spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front “catch,” or lower lift, bar. The Otto MSD-35E container is offered with either a 1" rotating steel catch bar or no bar.

The rivet-style metal catch bar is freely rotating, 1" OD (outside diameter) roll-formed steel with formed ends for added strength. The wall thickness of this bar is .050", hot rolled steel with an iron zinc clear chromate top coat shielding for corrosion protection. The rivet-style metal catch bar allows for speedy installation of the bar from the outside of the container without requiring the use of any hand tools.

The bottom of the container has molded-in wear ridges that extend around its perimeter. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a recessed area molded above the middle of the axle which allows a person’s foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The Otto MSD-35E rollout container has an integrally molded front “pouch” to facilitate semi-automated lifting. The front wall of the pouch has eleven (11) corrugations in order to support the lifting platform under maximum load lifting forces. This upper pouch is reinforced with a pattern of eight (8) internal ribs. These ribs add strength and structure to the lifting pouch and front of the container.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the exterior of the top rim to prevent containers from becoming wedged together during shipment.

The weight of the container body is approximately 12.6 lbs. This weight does not include any other components.

LID:

The Otto MSD-35E container Lid is injection- molded from HDPE and is attached to the container body using two HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure, tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the lid, and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The Otto MSD-35E lid attachments are cylindrical-shaped and double-ribbed, creating an extremely robust attachment to the container body. The locking mechanism for the lid hinge pin, which is inserted into the attachments, is retained beneath a molded-in step feature within the lid.

The minimum material thickness in the lid is 0.12".

The weight of the lid is approximately 2.1 lbs.

HINGE PIN:

The Otto MSD-35E lid Hinge Pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical center portion of the hinge pin compresses and snaps into the open slot in each side of the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-35E Lid Hinge is integrally molded to the container body and lid. The handle diameter is 1.2" and provides 2.5" clearance for gloved hands.

AXLE:

The Otto MSD-35E machined solid steel Axle has a 3/4" diameter. The axle is zinc plated to protect against rust and corrosion. The large diameter of the axle allows the container to be easily rolled on any surface and supports a fully loaded container. The axle will

withstand a 185-lbs. load without permanent deformation. The weight of the axle is 2.2 lbs.

WHEELS:

The Otto MSD-35E Wheels are slightly recessed into the container body and can be relocated to forward positioned hole setting, to allow for a fully assembled nestable cart. The overall diameter of the blow molded wheel is 8".

The wheel assembly is tamper and theft-resistant and takes seconds to install on the axle. This is made possible with the use of a spring-loaded internal steel detent, which snaps into a locking groove in the axle. Yet, the wheel assembly can be easily removed with a special small hand tool available from Otto.
The weight of each wheel is 0.89 lbs.

MARKINGS:

All Otto MSD-35E carts are hot stamped with a unique sequenced serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on the container's body or lid. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, model, and manufacture's insignia.

WORKMANSHIP:

The Otto MSD-35E plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron-Phillips, Quantum) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Light Blue, Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are available to special order.

All injection-molded parts are specifically prepared to be colorfast so that the plastic material does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigment and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-35E container is stabilized against ultraviolet degradation with not less than 0.3% UV additives. This is a state-of-the-art package that meets or exceeds older systems requiring 0.5% UV additive by weight, and provides product viability for a minimum of 10 years of outdoor exposure.

RECYCLABILITY:

The Otto MSD-35E container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container.

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The Otto MSD-35E Container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the type of situations encountered in actual use. The severity of some tests was scaled to anticipate an expected 10-year life.

Test Description	Test Requirements
Semi-Automated Lifter Life Cycle	ANSI Z245.30-2008
Fully-Automated Lifter Life Cycle	ANSI Z245.30-2008
Drop Test	10 Drops without Damage
Wind Test	See 3rd party wind resistance testing
Axle Durability (Bend) Test	ANSI Z245.30-2008
Durability During Pulling Test	ANSI Z245.30-2008

The following Quality Assurance tests are performed according to ASTM procedures.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification. This is testing procedure ASTM D1238.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 consecutive times. This provides that there is not a processing issue.
2. Bib Pull Test: Bib pulled to failure to evaluate brittleness. Bib should break tensile.
3. Bar Pull Test: Bar pulled to failure. Determines if there is weakness at knit line at center of plastic bar. Bar should break off center.
4. Fit Checks: Mating components (axle, lift bar, lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

MSD-45E "Edge" Container

The Otto Multi-System Design MSD-45E "Edge" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The MSD-45E rollout refuse container is compatible with fully automated arm lifter systems and standard, semi-automated bar lifter systems.

This container complies with ANSI Z245.30-2008 and ANSI Z245.60-2008 standards for Container Safety and Compatibility Requirements.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-45E container is 47.1 gallons (per ANSI Z245.30-2008, Appendix A, Volumetric Loading Capacity).
Base: 44.9 gal Lid: 2.2 gal

LOAD RATING:

Per the ANSI Z245.30-2008 Standard, the Otto MSD-45E rollout refuse container is capable of accommodating a load of 160 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-45E container is 22.2 lbs. when equipped with Otto's 8" blow molded wheels. Other wheel options are also available.

DIMENSIONS:

Overall Height: 39.2"
Loading Height: 36.0"
Overall Width: 22.6"
Overall Depth: 27.4"
Minimum Grip Diameter: 22.0"

CONTAINER BODY:

The Otto MSD-45E Container Body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.15" on the container sidewalls and 0.15" on the bottom section. The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the Otto MSD-45E container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the container body at the top rim. The underside of the rim is reinforced with a total of twenty-eight (28) integrally molded-in gussets/ribs spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front “catch,” or lower lift, bar. The Otto MSD-45E container is offered with either an integrally molded plastic front catch bar or a 1" rotating steel catch bar. Both the steel bar and plastic bar versions are nestable with this feature fully installed/integrated. The plastic lower catch bar is integrally molded into the container base in the front recess. Plastic bar containers have no openings into the container bodies.

The clip-style metal catch bar is freely rotating, 1" OD (outside diameter) roll-formed steel with formed ends for added strength. The wall thickness of this bar is .050", hot rolled steel with an iron zinc clear chromate top coat shielding for corrosion protection. The clip-style metal catch bar allows for speedy installation of the bar from the outside of the container without requiring the use of any hand tools. Metal spring clips are compressed during installation and spring back once inside the container for a solid stop once installed.

The bottom of the container has molded-in wear ridges that extend around its perimeter. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a recessed area molded above the middle of the axle which allows a person’s foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The inside bottom of the container has a cylindrical-shaped energy absorbing detail, approximately 4.5" in diameter, integrally molded into its floor. This detail has been engineered to protect the floor of an empty container from impact when being loaded with heavy objects.

The Otto MSD-45E rollout container has an integrally molded front “pouch” to facilitate semi-automated lifting. The front wall of the pouch has eleven (11) corrugations in order

to support the lifting platform under maximum load lifting forces. This upper pouch is reinforced with a pattern of eight (8) internal ribs. These ribs add strength and structure to the lifting pouch and front of the container.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the exterior of the top rim to prevent containers from becoming wedged together during shipment.

The weight of the container body is approximately 16.6 lbs. This weight does not include any other components.

LID:

The Otto MSD-45E container Lid is injection- molded from HDPE and is attached to the container body using two HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure, tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the lid, and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The Otto MSD-45E lid attachments are cylindrical-shaped and double-ribbed, creating an extremely robust attachment to the container body. The locking mechanism for the lid hinge pin, which is inserted into the attachments, is retained beneath a molded-in step feature within the lid.

The minimum material thickness in the lid is 0.12".

The weight of the lid is approximately 2.7 lbs.

HINGE PIN:

The Otto MSD-45E lid Hinge Pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical center portion of the hinge pin compresses and snaps into the open slot in each side of the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-45E Lid Hinge is integrally molded to the container body and lid. The handle diameter is 1.2" and provides 1.87" clearance for gloved hands.

AXLE:

The Otto MSD-45E machined solid steel Axle has a 3/4" diameter. The axle is zinc plated to protect against rust and corrosion. The large diameter of the axle allows the container to be easily rolled on any surface and supports a fully loaded container. The axle will withstand a 185-lb. load without permanent deformation. The weight of the axle is 3.5 lb.

WHEELS:

The Otto MSD-45E Wheels are slightly recessed into the container body and can be relocated to forward positioned hole setting, to allow for a fully assembled nestable cart. The overall diameter of the blow molded wheel is 8".

The wheel assembly is tamper and theft-resistant and takes seconds to install on the axle. This is made possible with the use of a spring-loaded internal steel detent, which snaps into a locking groove in the axle. Yet, the wheel assembly can be easily removed with a special small hand tool available from Otto.
The weight of each wheel is 0.89 lbs.

MARKINGS:

All Otto MSD-45E carts are hot stamped with a unique sequenced serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on the container's body or lid. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, model, and manufacture's insignia.

WORKMANSHIP:

The Otto MSD-45E plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron-Phillips, Quantum) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Light Blue, Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are available to special order.

All injection-molded parts are specifically prepared to be colorfast so that the plastic material does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigment and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-45E container is stabilized against ultraviolet degradation with not less than 0.3% UV additives. This is a state-of-the-art package that meets or exceeds older systems requiring 0.5% UV additive by weight, and provides product viability for a minimum of 10 years of outdoor exposure.

RECYCLABILITY:

The Otto MSD-45E container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container.

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The Otto MSD-45E Container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the type of situations encountered in actual use. The severity of some tests was scaled to anticipate an expected 10-year life.

Test Description	Test Requirements
Semi-Automated Lifter Life Cycle	ANSI Z245.30-2008
Fully-Automated Lifter Life Cycle	ANSI Z245.30-2008
Drop Test	10 Drops without Damage
Wind Test	See 3rd party wind resistance testing
Axle Durability (Bend) Test	ANSI Z245.30-2008

Durability During Pulling Test ANSI Z245.30-2008

The following Quality Assurance tests are performed according to ASTM procedures.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification. This is testing procedure ASTM D1238.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 consecutive times. This provides that there is not a processing issue.
2. Bib Pull Test: Bib pulled to failure to evaluate brittleness. Bib should break tensile.
3. Bar Pull Test: Bar pulled to failure. Determines if there is weakness at knit line at center of plastic bar. Bar should break off center.
4. Fit Checks: Mating components (axle, lift bar, lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

MSD-65E "Edge" Container

The Otto Multi-System Design MSD-65E "Edge" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The MSD-65E rollout refuse container is compatible with fully automated arm lifter systems and standard, semi-automated bar lifter systems.

This container complies with ANSI Z245.30-2008 and ANSI Z245.60-2008 standards for Container Safety and Compatibility Requirements.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-65E container is 67.1 gallons (per ANSI Z245.30-2008, Appendix A, Volumetric Loading Capacity).
Base: 65.1 gal Lid: 2 gal

LOAD RATING:

Per the ANSI Z245.30-2008 Standard, the Otto MSD-65E rollout refuse container is capable of accommodating a load of 230 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-65E container is 29.5 lbs. when equipped with Otto's 10" injection molded wheels. Other wheel options are als o available.

DIMENSIONS:

Overall Height: 42.38"
Loading Height: 39.1"
Overall Width: 25.13"
Overall Depth: 29.50"
Minimum Grip Diameter: 24.0"

CONTAINER BODY:

The Otto MSD-65E Container Body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.14" on the container sidewalls and 0.14" on the bottom section. The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the Otto MSD-65E container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the container body at the top rim. The underside of the rim is reinforced with a total of thirty-one (31) integrally molded-in gussets/ribs spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front “catch,” or lower lift, bar. The Otto MSD-65E container is offered with either an integrally molded plastic front catch bar or a 1" rotating steel catch bar. Both the steel bar and plastic bar versions are nestable with this feature fully installed/integrated. The plastic lower catch bar is integrally molded into the container base in the front recess. Plastic bar containers have no openings into the container bodies.

The clip-style metal catch bar is freely rotating, 1" OD (outside diameter) roll-formed steel with formed ends for added strength. The wall thickness of this bar is .050", hot rolled steel with an iron zinc clear chromate top coat shielding for corrosion protection. The clip-style metal catch bar allows for speedy installation of the bar from the outside of the container without requiring the use of any hand tools. Metal spring clips are compressed during installation and spring back once inside the container for a solid stop once installed.

The bottom of the container has molded-in wear ridges that extend around its perimeter. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a recessed area molded above the middle of the axle which allows a person’s foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The inside bottom of the container has a cylindrical-shaped energy absorbing detail, approximately 4.5" in diameter, integrally molded into its floor. This detail has been engineered to protect the floor of an empty container from impact when being loaded with heavy objects.

The Otto MSD-65E rollout container has an integrally molded front “pouch” to facilitate semi-automated lifting. The front wall of the pouch has eleven (11) corrugations in order

to support the lifting platform under maximum load lifting forces. This upper pouch is reinforced with a pattern of eight (8) internal ribs. These ribs add strength and structure to the lifting pouch and front of the container.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the exterior of the top rim to prevent containers from becoming wedged together during shipment.

The weight of the container body is approximately 19.3 lbs. This weight does not include any other components.

LID:

The Otto MSD-65E container Lid is injection- molded from HDPE and is attached to the container body using two HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure, tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the lid, and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The Otto MSD-65E lid attachments are cylindrical-shaped and double-ribbed, creating an extremely robust attachment to the container body. The locking mechanism for the lid hinge pin, which is inserted into the attachments, is retained beneath a molded-in step feature within the lid.

The minimum material thickness in the lid is 0.10".

The weight of the lid is approximately 2.9 lbs.

HINGE PIN:

The Otto MSD-65E lid Hinge Pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical center portion of the hinge pin compresses and snaps into the open slot in each side of the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-65E Lid Hinge is integrally molded to the container body and lid. The handle diameter is 1.2" and provides 1.87" clearance for gloved hands.

AXLE:

The Otto MSD-65E machined solid steel Axle has a 27/32" diameter. The axle is zinc plated to protect against rust and corrosion. The large diameter of the axle allows the container to be easily rolled on any surface and supports a fully loaded container. The axle will withstand a 260-lb. load without permanent deformation. The weight of the axle is 3.5 lb.

WHEELS:

The Otto MSD-65E container may be fitted with various 10" Wheels.

	Plastic Blow-molded	Snap-on Blow-molded	Cushion-Tread	Solid Rubber Tire	Injection Molded 10"
Description	HDPE, blow-molded, separate spacers.	HDPE, blow-molded, integrated spacers.	Injection-molded hub (HDPE) with rubberized cushion tread, separate spacers.	Injection-molded hub (HDPE) with pressed-on solid rubber tire, integrated spacers.	Injection-molded hub (HDPE), integrated spacers.
Wheel Diameter	10" diameter	10" diameter	10" diameter	10" diameter	10" diameter
	1.75" width	1.75" width	1.75" width	1.75" width	1.75" width
Load Rating	200 lbs.	200 lbs.	200 lbs.	200 lbs.	200 lbs.
Attachment	Zinc-plated palnut end caps.	Internal "snap-lock" attachment.	Internal "snap-lock" attachment.	Internal spring-loaded steel detent for snap-on.	Internal spring-loaded steel detent for snap-on.
Weight (per wheel assembly)	1.27 lbs. (10")	1.27 lbs. (10")	1.48 lbs.(10")	1.88 lbs. (10")	1.39 lbs. (10")

MARKINGS:

All Otto MSD-65E carts are hot stamped with a unique sequenced serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on the container's body or lid. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, model, and manufacture's insignia.

WORKMANSHIP:

The Otto MSD-65E plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron-Phillips, Quantum) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Light Blue, Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are available to special order.

All injection-molded parts are specifically prepared to be colorfast so that the plastic material does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigment and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-65E container is stabilized against ultraviolet degradation with not less than 0.3% UV additives. This is a state-of-the-art package that meets or exceeds older systems requiring 0.5% UV additive by weight, and provides product viability for a minimum of 10 years of outdoor exposure.

RECYCLABILITY:

The Otto MSD-65E container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container.

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The Otto MSD-65E Container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the

type of situations encountered in actual use. The severity of some tests was scaled to anticipate an expected 10-year life.

Test Description	Test Requirements
Semi-Automated Lifter Life Cycle	ANSI Z245.30-2008
Fully-Automated Lifter Life Cycle	ANSI Z245.30-2008
Drop Test (200 Lb. @ 12 Feet)	10 Drops without Damage
Wind Test	See 3rd party wind resistance testing
Axle Durability (Bend) Test	ANSI Z245.30-2008
Durability During Pulling Test	ANSI Z245.30-2008

The following Quality Assurance tests are performed according to ASTM procedures.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification. This is testing procedure ASTM D1238.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 consecutive times. This provides that there is not a processing issue.
    a. 65 gallon- 200lbs
2. Bib Pull Test: Bib pulled to failure to evaluate brittleness. Bib should break tensile.
3. Bar Pull Test: Bar pulled to failure. Determines if there is weakness at knit line at center of plastic bar. Bar should break off center.
4. Fit Checks: Mating components (axle, lift bar, lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

MSD-95E "Edge" Container

The Otto Multi-System Design MSD-95E "Edge" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The Otto MSD-95E rollout refuse container is compatible with fully automated arm lifter systems and standard, semi-automated bar lifter systems.

This container complies with ANSI Z245.30-2008 and ANSI Z245.60-2008 standards for Container Safety and Compatibility Requirements.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-95E container is 102.3 gallons (per ANSI Z245.30-2008, Appendix A, Volumetric Loading Capacity).
Base: 96.7 gal Lid: 5.6 gal

LOAD RATING:

Per the ANSI Z245.30-2008 Standard, the Otto MSD-95E rollout refuse container is capable of accommodating a load of 335 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-95E container is 37.8 lbs. when equipped with Otto's 10" injection molded wheels. Other wheel options are also available.

DIMENSIONS:

Loading Height: 41.75"
Overall Height: 45.38"
Overall Width: 27.50"
Overall Depth: 33.25"
Minimum Grip Diameter: 27.1"

CONTAINER BODY:

The Otto MSD-95E Container Body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.15" on the container sidewalls and 0.15" on the bottom section. The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the Otto MSD-95E container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the container body at the top rim. The underside of the rim is reinforced with a total of thirty-one (31) integrally molded-in gussets spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front “catch,” or lower lift, bar. The Otto MSD-95E container is offered with 1" rotating steel catch bar.

The clip-style metal catch bar is freely rotating, 1" OD (outside diameter) roll-formed steel with formed ends for added strength. The wall thickness of this bar is .050", hot rolled steel with an iron zinc clear chromate top coat shielding for corrosion protection. The clip-style metal catch bar allows for speedy installation of the bar from the outside of the container without requiring the use of any hand tools. Metal spring clips are compressed during installation and spring back once inside the container for a solid stop once installed.

The bottom of the container has molded in wear ridges that extend around its perimeter. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a recessed area molded above the middle of the axle which allows a person’s foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The inside bottom of the Otto MSD-95E container has a cylindrical-shaped energy absorbing detail, approximately 7" in diameter, integrally molded into its floor. This detail has been engineered to protect the floor of an empty container from impact when being loaded with heavy objects.

The Otto rollout container has an integrally molded front “pouch” to facilitate semi-automated lifting. The front wall of the pouch has eleven (11) corrugations in order to support the lifting platform under maximum load lifting forces. This upper pouch is reinforced with a pattern of eight (8) internal ribs. These ribs add strength and structure to the lifting pouch and front of the container.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the exterior of the top rim to prevent containers from becoming wedged together during shipment.

The weight of the container body is 27.05 lbs. This weight does not include any other components.

LID:

The Otto MSD-95E container Lid is injection- molded from HDPE and is attached to the container body using two (2) HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the lid and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The Otto MSD-95E lid attachments are cylindrical-shaped and double-ribbed, creating an extremely robust attachment to the container body. The locking mechanism for the lid hinge pin, which is inserted into the attachments, is retained beneath a molded-in step feature within the lid.

The minimum material thickness in the lid is 0.12".

The weight of the lid is 4 lbs.

HINGE PIN:

The Otto MSD-95E lid Hinge Pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical center portion of the hinge pin compresses and snaps into the open slot in each side of the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-95E Lid Hinge is integrally molded to the container body and lid. The diameter is 1.2" and provides 1.87" clearance for gloved hands.

AXLE:

The Otto MSD-95E machined solid steel Axle has a 27/32" diameter. The axle is zinc plated to protect against rust and corrosion. The large diameter of the axle allows the container to be easily rolled on any surface and supports a fully loaded container. The axle will withstand a 375-lb. load without permanent deformation. The weight of the axle is 4 lbs.

WHEELS:

The Otto MSD-95E container may be fitted with either 10" or (optional) 12" wheels.

	Plastic Blow-molded	Snap-on Blow-molded	Cushion-Tread	Solid Rubber Tire	Injection Molded 10"
Description	HDPE, blow-molded, separate spacers.	HDPE, blow-molded, integrated spacers.	Injection-molded hub (HDPE) with rubberized cushion tread, separate spacers.	Injection-molded hub (HDPE) with pressed-on solid rubber tire, integrated spacers.	Injection-molded hub (HDPE), integrated spacers.
Wheel Diameter	10" diameter	10" diameter	10" diameter	10" diameter	10" diameter
	1.75" width – or –	1.75" width – or –	1.75" width – or –	1.75" width – or –	1.75" width
	12" diameter	12" diameter	12" diameter	12" diameter	
	1.75" width	1.75" width	1.75 width	1.75" width	
Load Rating	200 lbs.	200 lbs.	200 lbs.	200 lbs.	200 lbs.
Attachment	Zinc-plated palnut end caps.	Internal "snap-lock" attachment.	Internal "snap-lock" attachment.	Internal spring-loaded steel detent for snap-on.	Internal spring-loaded steel detent for snap-on.
Weight (per wheel assembly)	1.27 lbs. (10")	1.27 lbs. (10")	1.48 lbs.(10")	1.88 lbs. (10")	1.4 lbs. (10")
	1.8 lbs. (12")	1.96 lbs. (12")	2.15 lbs. (12")	2.24 lbs. (12")	

MARKINGS:

All Otto MSD-95E carts are hot stamped with a unique sequenced serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on

the container's body or lid. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, model, and manufacture's insignia.

WORKMANSHIP:

The Otto MSD-95E plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron-Phillips, Quantum) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Light Blue, Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are available to special order.

All injection-molded parts are specifically prepared to be colorfast so that the plastic material does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigment and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-95E container is stabilized against ultraviolet degradation with not less than 0.3% UV additives. This is a state-of-the-art package that meets or exceeds older systems requiring 0.5% UV additive by weight and provides product viability for a minimum of 10 years of outdoor exposure.

RECYCLABILITY:

The Otto MSD-95E container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container.

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The MSD-95E Container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the type of situations encountered in actual use. The severity of some tests was scaled to anticipate an expected 10-year life.

Test Description	Test Requirements
Semi-Automated Lifter Life Cycle	ANSI Z245.30-2008
Fully-Automated Lifter Life Cycle	ANSI Z245.30-2008
Drop Test (335 Lb. @ 12 Feet)	10 Drops without Damage
Wind Test	See 3rd party wind resistance testing
Axle Durability (Bend) Test	ANSI Z245.30-2008
Durability During Pulling Test	ANSI Z245.30-2008

The following Quality Assurance tests are performed according to ASTM procedures.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification. This is testing procedure ASTM D1238.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 consecutive times. This provides that there is not a processing issue.
    a. 95 gallon- 335lbs
2. Bib Pull Test: Bib pulled to failure to evaluate brittleness. Bib should break tensile.
3. Bar Pull Test: Bar pulled to failure. Determines if there is weakness at knit line at center of plastic bar. Bar should break off center.
4. Fit Checks: Mating components (axle, lift bar, lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

MSD-95M "Millennium" Container

The Otto Multi-System Design MSD-95M "Millennium" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The Otto MSD-95M rollout refuse container is compatible with fully automated arm lifter systems and standard, semi-automated bar lifter systems.

This container complies with ANSI Z245.30-2008 and ANSI Z245.60-2008 standards for Container Safety and Compatibility Requirements.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-95M container is 99.9 gallons (per ANSI Z245.30-1999, Appendix A, Volumetric Loading Capacity).
Base: 95.8 gal Lid: 4.1 gal

LOAD RATING:

Per the ANSI Z245.30-2008 Standard, the Otto MSD-95M rollout refuse container is capable of accommodating a load of 335 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-95M container is 34.5 lbs. when equipped with Otto's 10" injection molded wheels. Other wheel options are available.

DIMENSIONS:

Overall Height: 41.25"
Loading Height: 39.25"
Overall Width: 29.38"
Overall Depth: 33.88"
Minimum Grip Diameter: 28.2"

CONTAINER BODY:

The Otto MSD-95M Container Body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The

interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.155". The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the container body at the top rim. The underside of the rim on the Otto MSD-95M is reinforced with a total of forty (40) integrally molded-in gussets spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front “catch,” or lower lift bar. The MSD-95M container is offered with a 1" rotating steel catch bar. The clip-style metal lower lift bar is freely rotating, 1" OD (outside diameter) roll-formed steel with formed ends for added strength. The wall thickness of this bar is .050", hot rolled steel with an iron zinc clear chromate top coat shielding for corrosion protection. The clip-style metal catch bar allows for speedy installation of the bar from the outside of the container without requiring the use of any hand tools. Metal spring clips are compressed during installation and spring back once inside the container for a solid stop once installed.

The bottom of the container has molded-in wear ridges that extend around its perimeter. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a recessed area molded above the middle of the axle which allows a person’s foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The inside bottom of the container has a spherically shaped energy absorbing detail, approximately 8" in diameter, integrally molded into its floor. This detail has been engineered to protect the floor of an empty container from impact when being loaded with heavy objects.

The Otto MSD-95M rollout container has an integrally molded front “pouch” to facilitate semi-automated lifting. This upper pouch is reinforced with a pattern of eight (8) internal ribs. These ribs add strength and structure to the lifting pouch and front of the container.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the top rim to prevent containers from becoming wedged together during shipment.

The weight of the container body is 24.1 lbs. This weight does not include any other components.

LID:

The Otto MSD-95M container Lid is injection-molded from HDPE and is attached to the container body using two (2) HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the cart and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The minimum material thickness in the lid is 0 .120".

The weight of the lid is 4.1 lbs.

HINGE PIN:

The Otto MSD-95M lid Hinge Pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical end of the hinge pin compresses and snaps into the pocket detail in the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-95M Lid Hinge is integrally molded to the container body. The handle's diameter is 1.0" and provides 1.375" clearance for gloved hands.

AXLE:

The Otto MSD-95M machined solid steel Axle has a 27/32" diameter. The axle is zinc plated to protect against rust and corrosion. The large diameter of the axle allows the container prevents bending which can cause wheel rub and supports a fully loaded container. The axle will withstand a 375-lb. load without permanent deformation. The weight of the axle is 3.9 lbs.

WHEELS:

The Otto MSD-95M container may be fitted with various 10" Wheels.

	PLASTIC BLOW-MOLDED	SNAP-ON BLOW-MOLDED	CUSHION-TREAD	SOLID RUBBER TIRE	INJECTION MOLDED 10"
Description	HDPE, blow-molded, separate spacers.	HDPE, blow-molded, integrated spacers.	Injection-molded hub (HDPE) with rubberized cushion tread, separate spacers.	Injection-molded hub (HDPE) with pressed-on solid rubber tire, integrated spacers.	Injection-molded hub (HDPE), integrated spacers.
Wheel Diameter	10" diameter	10" diameter	10" diameter	10" diameter	10" diameter
	1.75" width	1.75" width	1.75" width	1.75" width	1.75" width
Load Rating	200 lbs.	200 lbs.	200 lbs.	200 lbs.	200 lbs.
Attachment	Zinc-plated palnut end caps.	Internal "snap-lock" attachment.	Internal "snap-lock" attachment.	Internal spring-loaded steel detent for snap-on.	Internal spring-loaded steel detent for snap-on.
Weight (per wheel assembly)	1.27 lbs. (10")	1.27 lbs. (10")	1.48 lbs. (10")	1.88 lbs. (10")	1.39 lbs. (10")

MARKINGS:

All Otto MSD-95M carts are hot stamped with a unique sequence serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on the container's lid or body. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, and manufacture's insignia.

WORKMANSHIP:

The Otto MSD-95M plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron-Phillips, Quantum) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Light Blue, Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are available to special order.

All injection-molded parts are specifically prepared to be colorfast so that the plastic material does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigment and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-95M container is stabilized against ultraviolet degradation with not less than 0.3% UV additives. This is a state-of-the-art package that meets or exceeds older systems requiring 0.5% UV additive by weight and provides product viability for a minimum of 10 years of outdoor exposure.

RECYCLABILITY:

The Otto MSD-95M Gallon Container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The Otto MSD-95M Container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the type of situations encountered in actual use. The severity of some tests was scaled to anticipate an expected 10-year life.

Test Description	Test Requirements
Semi-Automated Lifter Life Cycle	ANSI Z245.30-2008
Fully-Automated Lifter Life Cycle	ANSI Z245.30-2008
Drop Test (335 Lb. @ 12 Feet)	10 Drops without Damage
Wind Test	See 3rd party wind resistance testing
Axle Durability (Bend) Test	ANSI Z245.30-2008
Durability During Pulling Test	ANSI Z245.30-2008

The following Quality Assurance tests are performed according to ASTM procedures.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification. This is testing procedure ASTM D1238.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 consecutive times. This provides that there is not a processing issue.
    a. 95 gallon- 335lbs
2. Bib Pull Test: Bib pulled to failure to evaluate brittleness. Bib should break tensile.
3. Bar Pull Test: Bar pulled to failure. Determines if there is weakness at knit line at center of plastic bar. Bar should break off center.
4. Fit Checks: Mating components (axle, lift bar, lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

MSD-95 "MOMENTUM" Container

The Otto Multi-System Design MSD-95 "Momentum" rollout container consists of injection-molded, high density polyethylene plastic body, hinged lid, two (2) hinge pins, two (2) plastic wheel assemblies, and a solid steel axle.

The Otto MSD-95 Momentum rollout refuse container is compatible with fully automated arm lifter systems and standard, semi-automated bar lifter systems.

This container complies with ANSI Z245.30-2008 and ANSI Z245.60-2008 standards for Container Safety and Compatibility Requirements.

VOLUME CAPACITY:

The total actual volume of the Otto MSD-95 Momentum container is 103.6 gallons (per ANSI Z245.30-2008, Appendix A, Volumetric Loading Capacity).
Base: 98.5 gal Lid: 5.1 gal

LOAD RATING:

Per the ANSI Z245.30-2008 Standard, the Otto MSD-95 Momentum rollout refuse container is capable of accommodating a load of 335 lbs.

WEIGHT:

The completed assembly weight of the Otto MSD-95 Momentum container is 35.7 lbs. when equipped with Otto's 10" injection molded wheels. Other wheel options are also available.

DIMENSIONS:

Loading Height: 41.60"
Overall Height: 42.80"
Overall Width: 29.50"
Overall Depth: 34.18"
Minimum Grip Diameter: 28.7"

CONTAINER BODY:

The Otto MSD-95 Momentum Container Body is injection-molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both on the interior and exterior. The interior is free of crevices and recesses where refuse could become trapped, in order to allow complete emptying. The average wall thickness is 0.15" on the container sidewalls and 0.15" on the bottom section. The high-density polyethylene has a density of 0.945 to 0.954 grams cm3. The Melt Index (MI) of the HDPE is 3.5 to 6.0.

The top of the container body is reinforced with a rim around its entire perimeter. This feature adds structure and stability to the Otto MSD-95 Momentum container and provides a flat surface for the lid to close on. The top of the rim has a rain lip to prevent water from entering the container with the lid closed. The handles are integrally molded into the container body at the top rim. The underside of the rim is reinforced with a total of thirty-two (32) integrally molded-in gussets spaced around the entire circumference of the container.

The front of the container has a molded recess that provides for the front “catch,” or lower lift, bar. The Otto MSD-95 Momentum container is with a 1" rotating steel catch bar with spring clips that allow for easy installation and prevent the bar from coming out in use. The steel catch bar is factory-installed and captured through structural external ribs molded into the container Body. The clip-style metal catch bar is freely rotating, 1" OD (outside diameter) roll-formed steel with HDPE endcaps. The wall thickness of this bar is .050", hot rolled steel with an iron zinc clear chromate top coat shielding for corrosion protection.

The bottom of the container has dual molded in wear ridges that extend both around its perimeter and around the center of the container bottom. The wear ridges provide additional protection against abrasive wear if the container is slid on asphalt or pavement and improve impact resistance of the bottom of the container. There is a recessed area molded above the middle of the axle which allows a person’s foot to be placed directly upon the axle to allow the container to be easily tilted, even with a full load.

The inside bottom of the Otto MSD-95 Momentum container has a cylindrical-shaped energy absorbing detail, approximately 7" in diameter, integrally molded into its floor. This detail has been engineered to protect the floor of an empty container from impact when being loaded with heavy objects.

The Otto rollout container has an integrally molded front upper attachment dual rib form to facilitate semi-automated lifting. This feature meets all ANSI compatibility dimensions for semi-automated tipper designs.

Otto containers are designed for nesting and easy stacking for shipment and storage. Stacking ribs are molded onto the exterior of the top rim to prevent containers from becoming wedged together during shipment. The 95 Momentum MSD cart introduces a new standard for freight efficiency, with 728 containers in a 53’ truckload.

The weight of the container body is 25.5 lbs. This weight does not include any other components.

LID:

The Otto MSD-95 Momentum container Lid is injection- molded from HDPE and is attached to the container body using two (2) HDPE snap-lock hinge pins. The lid rotates freely about the hinge a full 270 degrees. The lid, when closed, rests on the top rim of the container body, providing a secure tight fit around the entire perimeter between the lid and base. This prevents rain, insects and vermin from entering the container, as well as preventing the escape of most odors when the lid is closed.

The lid is molded with a hand-hold lip that extends across the full width of the front of the lid and wraps around both corners. This allows the lid to be easily opened from three sides without contact with refuse or residue.

The Otto MSD-95 Momentum lid attachments are cylindrical-shaped and double-ribbed, creating an extremely robust attachment to the container body. The locking mechanism for the lid hinge pin, which is inserted into the attachments, is retained beneath a molded-in step feature within the lid.

The minimum material thickness in the lid is 0.12".

The weight of the lid is 4.35 lbs.

HINGE PIN:

The Otto MSD-95 Momentum lid Hinge Pins are injection-molded from HDPE. The hinge pins secure the lid to the integrally molded lid hinge and handle detail. Two (2) hinge pins are used to secure the lid. The hinge pins are installed at the factory using a rubber mallet. At installation, the truncated conical center portion of the hinge pin compresses and snaps into the open slot in each side of the handle detail. This prevents vandalism and securely fastens the lid to the container base. The hinge pins can be removed with a special tool available from Otto.

LID HINGE AND HANDLE DETAIL:

The Otto MSD-95 Momentum Lid Hinge is integrally molded to the container body and lid. The diameter is 1.2" and provides 1.8" clearance for gloved hands.

AXLE:

The Otto MSD-95 Momentum machined solid steel Axle has a 3/4" diameter. The axle is zinc plated to protect against rust and corrosion. The diameter of the axle allows the container to be easily rolled on any surface and supports a fully loaded container. The axle will withstand a 375-lb. load without permanent deformation. The weight of the axle is 2.8 lbs.

WHEELS:

The Otto MSD-95 Momentum container may be ordered with multiple types of 10" wheels. The standard wheel is an injection molded snap-on wheel with integral spacer.

MARKINGS:

All Otto MSD-95 Momentum carts are hot stamped with a unique sequenced serial number to facilitate distribution and control. The customer's name or logo can be hot stamped on the container's body or lid. The containers are permanently marked with the month and year of production, mold number, material identification, patent number, model, and manufacturer's insignia.

WORKMANSHIP:

The Otto MSD-95 Momentum plastic material — high-density polyethylene — is manufactured from virgin raw materials by major petrochemical companies, (e.g., Exxon, Chevron-Phillips, Dow) and includes no recycled or regenerated plastic or foreign material. Up to 50% recycled material (PCR) content may be available upon request on particular colors, where suitable PCR feedstock is available.

COLOR:

Otto's standard colors are Dark Blue, Cobalt Blue, Kelly Green, Forest Green, Dark Gray, Light Gray, Brown, and Black. Other colors are also available.

All injection-molded parts are specifically prepared to be colorfast so that the plastic appearance does not alter appreciably in normal use. Due to the use of UV (ultraviolet) stable pigments and the injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Otto MSD-95 Momentum container is stabilized against ultraviolet degradation with 0.3% (3000 PPM) Tinuvin 783 HALS UV additive by weight and provides product viability for a minimum of 10 years of outdoor exposure. Otto has been using this HALS formulation for 25+ years with excellent performance well beyond 10 years.

RECYCLABILITY:

The Otto MSD-95 Momentum container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the material to be recycled and reused after the useful life of the container has been exceeded.

QUALITY ASSURANCE PROCEDURES AND PERFORMANCE TESTING:

The MSD-95 Momentum Container is designed to withstand the following series of performance tests. The performance test requirements were designed to simulate the type of situations encountered in actual use. The severity of some tests was scaled to anticipate an expected 10-year life.

Test Description	Test Requirements
Semi-Automated Lifter Life Cycle	ANSI Z245.30-2008
Fully-Automated Lifter Life Cycle	ANSI Z245.30-2008
Drop Test (300 Lb. @ 12 Feet)	10 Drops without Damage
Wind Test	See 3rd party wind resistance testing
Upper Attachment Pull Test	Ductile Performance
Durability During Pulling Test	ANSI Z245.30-2008

The following Quality Assurance tests are performed according to ASTM procedures.

Material Testing

1. Melt Flow Index Test: To check that the polymer batch matches the supplier certification. This is testing procedure ASTM D1238.
2. Colorant Color Match: Compare lot based color chips to the color chip master to ensure consistency.

In-Process Quality Tests

1. Drop Test: Cart is raised 12' under load and dropped 4 times consecutively with inspection after each drop. This confirms ductile entire body performance.
    a. 95 gallon- 300 lbs payload is used.
2. Upper Attachment Pull Test- Confirms ductile body performance
3. Bar Pull Test: Bar pulled to failure. Confirms ductile body performance in lower bar region.
4. Fit Checks: Mating components (axle, lift bar, lid) installed onto carts after cooled to ensure proper fit, form & function.
5. Weight & Thickness Checks: Evaluates molding process.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

Pioneer / Two Cubic Yard Container Specifications

The Otto Pioneer/Two Cubic Yard Container consists of injection molded, high density polyethylene plastic body, two (2) hinged plastic lid subassemblies, two (2) fork channel assemblies, and four (4) optional caster subassemblies. The two fork channel assemblies are fastened horizontally to the exterior of each side wall and under a portion of each side wall. The portion of the upper side wall extends outward above the lifting sleeve, thereby, reinforcing the lift sleeves during the lifting and emptying of the container. The side walls of the container are corrugated to provide structure and prevent bowing of the container under heavy loading conditions.

The lifting tubes are formed from seven (7) gauge steel and coated with a chip resistant polyester powder coating to prevent rust and corrosion. The lifting shoulders are formed from ten (10) gauge steel and coated with a chip resistant polyester powder coating. The lifting shoulders overlap the lifting tubes along the internal surface of the tube near the container side wall. This provides for a total metal thickness of 0.299 along this area.

The lifting sleeves are fastened to the container side wall using twelve (12) ½: - 13 – 1.5" carriage bolts with flanged lock nuts per side.

The underneath of the container is reinforced with molded in wear strips and internal ribs. The minimum height of the wear strip is ½".

A drain hole is molded into the container bottom at two (2) locations. An injection molded drain plug with a rubber gasket is used to securely seal the holes.

VOLUME CAPACITY:

The actual volume is two (2) cubic yards or four hundred four (400) gallons with lid closed.

LOAD RATING:

The Otto Two Cubic Yard Container has been rated for loads up to 1400 pounds.

WEIGHT:

The completed assembly weight of the container is 289 pounds when equipped with four (4), 6" casters.

DIMENSIONS:

Loading Height: 40.91"
Overall Height: 50.74"
Overall Width: 77.38"
Overall Depth: 42.50"

CONTAINER BODY:

The Container Body is injection molded from High Density Polyethylene (HDPE). The container body has smooth surfaces both inside and outside. The interior is free of crevices and recesses where refuse could become trapped, thus preventing complete emptying. The minimum wall thickness is 0.250 inches on the container side walls and 0.40 inches on the side wall sections at the fork sleeve locations. The top rim of the container is reinforced with a rim that extends around the entire parameter. This feature adds structure and stability to the container and provides a flat surface for the lid. The lid hinges are integrally molded into the container body at four (4) places on the top rim.

The bottom of the container has molded in wear strips and ribbing that extend around the bottom perimeter. The wear strips and ribs protect the container and add strength and structure to the container.

The top rim on the Otto container is reinforced with internal ribs. These ribs add strength and structure to the rim area.

The Otto Two Cubic Yard Containers are designed to be nested or stacked for transport, either three (3) high assembled, or five (5) high unassembled. This saves on transportation and handling costs. Stacking ribs are molded into the top rim of the container body to prevent jamming (sticking together) and allows for easy unstacking.

LID:

The lid is injection molded from High Density Polyethylene (HDPE). The lids are installed to the container body using and two (2) hinge tubes and prevented from backing out by aluminum rivets through the body of the container into the hinge tube in 2 locations. The lid rotates freely a full 270 degrees. The lids, when closed, rest on the top rim of the container body. This allows a secure tight fit around the entire perimeter between the lid and base. A molded in rain lip on the top rim of the container base prevents rain from entering. The lid does not require a latch or snap fit; therefore, children cannot get trapped inside. The entire front rim of the lids is recessed to form a hand hold area. This allows the lids to be easily opened from any position.

The minimum material wall thickness in the lid is 0.150 inches.

Corrugations and internal ribs on the underside of the lids reinforce and strengthen the lid. The lids will not collapse or fall into the container even with 100 pounds are placed in the middle of the lid.

The weight of a lid is 12.9 pounds each.

WORKMANSHIP:

The plastic material, high density polyethylene, is manufactured from virgin raw materials by major petrochemical companies, (i.e. Exxon, Quantum, Phillips) and includes no recycled or regenerated plastic or foreign material. The high-density polyethylene has a density of 0.947 to 0.968 grams cm3. The Melt Index (MI) of the HDPE is 4 – 6.

Up to 10% recycled material (PCR) content is available upon request.

COLOR:

The standard colors are Brown, Forest Green, Gray, and Dark Blue. Other colors are available to special order.

All injection molded parts are specifically prepared to be colorfast so the plastic material does not alter appreciably in normal use. Due to the high-quality pigment package and injection molding process, Otto containers have excellent color fastness.

UV LIGHT STABILIZATION:

The Two Cubic Yard Container is stabilized against ultraviolet degradation with 3000 PPM of a Hindered Anime Light Stabilizer (HALS) additive. An additional anti-oxidant package is included to assure the integrity and longevity of the container.

THERMAL STABILIZATION:

The Two Cubic Yard Container is stabilized against thermal degradation with an anti-oxidant additive. The thermal stabilizer package consists of an 500 PPM anti-oxidant additive.

RECYCLABILITY:

The Two Cubic Yard Container is produced with a fully recyclable thermoplastic High Density Polyethylene (HDPE) resin. This allows the container to be recycled and reused after its useful life.

PRELIMINARY QUALITY ASSURNACE PROCEDURES AND PERFORMANCE

TESTING:

The Quality Assurance tests are performed according to ASTM procedures.

1. Melt Flow Index Test: To check that only 100 percent pure polymers are used. They meet testing procedure ASTMD1238, Condition P.
2. Xenon Test: Speed-up simulation of weathering and UV radiation in accordance with CAM-162 (Xenon arc and water spray)
3. Material Thickness Test:

All designs, specification, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is informational in nature and shall not be construed to warranty suitability of the unit for any particular purpose as performance may vary with the conditions encountered.

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Otto Environmental Systems North America, Inc.
Triumph Plastic Frontload Commercial Containers
Product Specifications for 3 and 4 Yard Capacity

GENERAL

- The containers are designed to contain solid waste and recyclables.
- The containers are rotationally molded.
- The containers are significantly lighter than the same size steel container so they are easy to maneuver and improves worker safety.
- The containers are designed to be compatible with all standard front loading collection systems.
- The container bodies are significantly quieter than steel containers.
- Paint and graffiti can be removed from the container body using standard cleaning products.
- Product meets ANSI standards Z245.3 and Z245.6.

MATERIAL

- The plastic container bodies are molded from polyethylene resin from nationally recognized suppliers.

CONTAINER BODY

- The containers are watertight.
- The minimum wall thickness for the container body and bottom is .260".
- The containers have a removable, one inch threaded drain plug located on the lower portion of one side wall.
- The top of the containers are molded with a closed rim, tubular design for rigidity and added strength.
- The bodies have corrugation in the walls and bottoms for added strength and rigidity.
- custom labeling is available.
- The container dimensions and load ratings are as follows:

Model	Width	Load Height	Depth	Max. Height	Load Rating
3-Yard	81"	53.25"	55"	62"	1500 lbs.
4-Yard	81"	55.75"	58.5"	71.5"	2500 lbs.

- The container lifting sleeves are bolted to a molded-in support ledge.
- The fork pockets are designed to wrap around the front of the container for extra protection.
- The fork pockets are made from 10 gauge steel and are coated to resist rust.
- The containers are nestable for shipping.

- The containers are serialized and have a production date stamp for traceability.
- All attachment hardware is stainless steel to prevent rust. The washers are oversized with separate rubber washers to prevent leakage.
- .25" metal front reinforcement to prevent deformation with heavy loads.

COLOR

- All plastic parts are colorfast and made with weatherable pigments such that the material does not alter appreciably in normal use.
- The containers are UV stabilized against long-term effects of the sun.
- The following standard colors are: Dark blue, light blue, green, forest green, dark gray, tan, brown, and black. Custom colors are also available.

CASTERS (3 and 4 Yard Containers)

- The 3 yard containers are equipped with (4) standard 6" casters rated for 500 pound load each, allowing them to be pushed or pulled with little effort yet still support the rated load. The 4 yard containers are equipped with him load casters, with a minimum 700 pound load rating.
- Each container uses quick release 10 gauge steel caster plates. This allows casters to be replaced easily by removing one bolt.
- Standard containers are equipped with 2 fixed and 2 swivel casters. Alternate caster options are available.

LIDS

- The standard lids are plastic and either rotationally, compression, or blow molded.
- When assembled and closed, the lids slope from back (high) to front (low) to facilitate rain and snow run-off.
- Lid locks are available.
- The 3 and 4-yard container lids hang freely when fully opened.
- The lids are attached to the containers via 12 gauge steel hinge bars and standard rods.
- The lids are either shipped separately in each container or fully assembled..
- The containers can accommodate industry standard manufactured lids.

WARRANTY

- The containers are covered by a one year materials and workmanship warranty.

TEST REPORT

TEST DATE: 23 February 2018
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX A –VOLUMETRIC LOADING CAPACITY FOR CARTS**

TEST DESCRIPTION: This test determines the carts load capacity for the body and lid.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX A – TANK METHOD)

1. The cart is placed empty in a tank with sufficient capacity to receive the cart and to permit the cart to be positioned level.
2. The container and cart are simultaneously filled with water at standard temperature city water.
3. The water flowing into the cart is measured by flow meter to an accuracy of ± 2% of the cart capacity (±0.7gal).
4. Position the lid level and fill with standard temperature water measuring the flow with a flow meter.

TEST RESULTS:

CART S/N 011822165503

Cart Capacity = 35 gallons

Lid Capacity = 1.8 gallons

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

3/1/2018
Date

TEST REPORT

TEST DATE: 22 & 23 February 2018
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX B – SLOPE STABILITY TEST METHOD FOR CARTS**

TEST DESCRIPTION: This test checks the carts stability on a 5° concrete slope.

MINIMUM PERFORMANCE STANDARD: The cart must stand in any direction – minimum of three different orientations.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX B)

1. The cart is tested in both the empty and loaded conditions. The loaded condition conforms to the ANSI standard = 122.5 pounds with the volume of material occupying at least 70% of the total capacity of the cart. The actual load was 128 pounds.
2. Place the cart on a 5° inclined surface and verify stability by observation.
3. Rotate the cart 180° and re-verify stability.
4. Rotate the cart 90° and re-verify stability.

TEST RESULTS:

CART S/N 011822165500

Test Condition	Result
Loaded	Stable all three orientations.

CART S/N 011822165503

Test Condition	Result
UnLoaded	Stable all three orientations.

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX B

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Consulting Engineer
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Wingate, NC 29174

3/1/2018
Date

TEST REPORT

TEST DATE: 22 & 26 February 2018
SUBJECT: ANSI Z245.30 – 2008 A TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX C - DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: ANSI Z245.30-2008 APPENDIX C requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional.

TEST PROCEDURE: (Conforms to ANSI Z245.30-2008 APPENDIX C):

1. The cart is loaded with a standard load (according to the ANSI standard = 122.5 pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 128 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. (Actual curb height was 6"). The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches (Actual curb height was 6"). The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73° degrees F +/- 5).

TEST RESULTS: CART S/N 011822165500

Test Condition	Result
Push off of full cart	No significant damage.
Pull up of empty cart	No significant damage

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX C

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

3/1/2018
Date

TEST REPORT

TEST DATE: 22 & 23 February 2018
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX D – LOADING AND UNLOADING FOR CARTS**

TEST DESCRIPTION: This test determines that the cart can be safely loaded and unloaded (dumped) using a compatible lifter during a normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI Z245.30-2008 requires that after testing the cart does not suffer any damage or permanent deformation such that it cannot be safely used in accordance with ANSI Z245.30-2008 or that renders the cart incapable of meeting the lifter requirements.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX D)

1. The cart is loaded with a standard load (according to the ANSI standard = 122.5 pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 128 pounds.)
2. Semi-automated Lifter - The cart is positioned on a stationary Semi-automated lifter with attachment to the integrated upper attachment envelope. The loaded cart is raised and dumped, then lowered and reloaded. Cycle Time = 8 seconds minimum. The test is repeated for 520 cycles.
3. Automated Refuse Truck – Side Grabber – The cart is positioned on a normal ground level concrete surface. Using the normal truck mechanism, the truck operator engages, lifts, lowers, and releases the container. The test is repeated for 520 cycles.

TEST RESULTS: CART S/N 011822165502 Semi-automated
CART S/N 011822165504 Automated

SUMMARY: The carts tested **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX D.

3/1/2018

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

Date

TEST REPORT

TEST DATE: 23 February 2018
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX E – CENTER-OF-BALANCE POSITION FOR CARTS**

PERFORMANCE STANDARD: The center of the cart handle at the center-of-balance point must be 29 inches to 40 inches from the ground plane.

TEST DESCRIPTION: This test determines the height of the handle of a two-wheeled cart at the center-of-balance position.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX E)

1. The cart is loaded with a standard load (according to the ANSI standard = 122.5 pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 128 pounds.)
2. The cart is placed on a hard, flat surface.
3. The cart wheels are blocked to prevent movement.
4. The cart is tipped on the wheels to its natural balance point.
5. The distance from the ground to the center of the cart handle is measured to an accuracy of ± 0.25 inches.

TEST RESULTS:

CART S/N 011822165500

The center of the cart handle at the center-of-balance = 32.875”

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX E.

F. L. Patterson
Consulting Engineer
4915 Sadie’s Place
Wingate, NC 29174

3/1/2018
Date

TEST REPORT

TEST DATE: 23 February 2018
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX F – FORCE TO TIP TEST FOR CARTS**

PERFORMANCE STANDARD: The tipping force is to be a maximum of 120 pounds.

TEST DESCRIPTION: This test determines the tipping force of a two-wheeled cart on a level surface.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX F)

1. The cart is loaded with a standard load (according to the ANSI standard = 122.5 pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 128 pounds.)
2. The cart is placed on a hard, flat surface.
3. The cart wheels are blocked to prevent movement.
4. The cart handle is attached to a digital force gage set to record the maximum force applied capable of measuring the force to ±3% of the measured value.
5. Horizonal force is applied to bring the cart to its balance point.

TEST RESULTS:

CART S/N 011822165500

The tipping force = 20.3 pounds

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX F.

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

3/1/2018
Date

TEST REPORT

TEST DATE: 23 February 2018
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT IDENTIFICATION: THE OTTO EDGE – 35 GALLON / 8 INCH WHEELS

TEST: **APPENDIX G – LID TEST FOR CARTS**

PERFORMANCE STANDARD: The cart lid must not collapse and fall into the container.

TEST DESCRIPTION: This test determines the resistance of the cart lid to a specified load.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX G)

1. The empty cart is placed on a level surface with the lid closed.
2. A load of 80 pounds is placed in the center of the lid on a round area 8 inches in diameter at room temperature.
3. The load is maintained cart for 15 minutes.

TEST RESULTS:

CART S/N 011822165503

No significant lid distortion – lid maintained its position without falling into the cart.

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX G.

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

3/1/2018
Date

bab

Structural Engineering Services, PLLC
3017Clark Street Charlotte NC
Phone: 704.507.4014
E-mail: bbarfield@babstruct.com

TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **SLOPE STABILITY**

TEST DESCRIPTION: This test checks the static stability of an empty and loaded cart on a defined slope (5 degrees).

MINIMUM PERFORMANCE STANDARD: ANSI Z245.30 requires that the cart must stand, without tipping or moving, in three different orientations on a defined slope. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. Prepare a ramp with a slope of 5 degrees. The ramp must be of sufficient size that a cart can be moved onto the cart with no portion of the cart overhanging the edges of the ramp.
2. There is to be no wind.
3. Move an empty cart onto the ramp and orient the cart with the front of the cart facing up the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing sideways on the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing down the ramp. Note any tipping or movement.
4. Repeat step two with the cart loaded to the standard loading as specified in the ANSI standard. The loading material to occupy at least 70% of the capacity of the cart.

TEST RESULTS:

	Orientation	Result
Empty	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable
Filled (loaded lbs)	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards since non-movement in three orientations is met.

Sincerely,

Blaine A. Barfield, P.E.

bab Structural Engineering
Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

07/15/2015

bab

Structural Engineering Services, PLLC
3017Clark Street Charlotte NC
Phone: 704.507.4014
E-mail: bbarfield@babstruct.com

TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **LID TEST**

TEST DESCRIPTION: To determine if a container lid will sustain the weight of an average child (approximately 80 pounds) without collapsing into the container.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the lid of the cart must withstand a load of 80 pounds without collapsing or allowing the loading weight to fall into the container. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. The cart is placed on a smooth, level, horizontal surface.
2. A weight of 80 pounds with a surface area diameter round of 8 inches is placed on the lid of the cart.
3. The test is to be conducted at room temperature.

TEST RESULTS:

The lid did not collapse or excessively deflect during the test.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30 and Z245.60.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

bab

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **LOADING AND UNLOADING (CYCLE TEST) -AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method.

TEST RESULTS:	Cycles	Comments on Performance
	520	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD
07-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **LOADING AND UNLOADING (CYCLE TEST)-SEMI-AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard semi-automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method

TEST RESULTS:

Cycles	Comments on Performance No
520	significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance. (Includes cavities 3, 4, and 5 plastic and metal bar)

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD
07-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated pulling forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI standard Z245.30-2008 requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional. ANSI Z245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The cart is loaded with a standard load (according to the ANSI standard) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual weight was 158 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches. The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73 degrees F).

TEST RESULTS:

Test Condition	Result
Push off of full cart	No significant damage.
Pull up of empty cart	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD
07-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **CENTER OF BALANCE POSITION**

TEST DESCRIPTION: To determine the height of the handle of a two-wheeled container at the center-of-balance position. This height affects the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to the ANSI standard Z245.30, when in the center-of-balance position, the minimum height is to be 29 inches. The maximum height is to be 40 inches when in the center-of-balance position. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

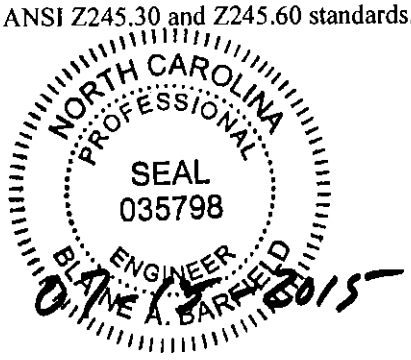
1. The cart is loaded with a standard load (3.5 pounds per gallon of rated capacity with the load occupying at least 70% of the capacity) or with the maximum rated load.
2. The test to be conducted on a hard, flat surface.
3. Block the wheels so that the cart will not roll.
4. Tip the cart slowly, rotating the cart on the wheels, to the center balance position. This position is determined as the position where the cart has a tendency to remain in a balanced (neutral) position, not tipping forward or backward.
5. When in the center balance position, place blocks under the container to maintain in balanced position.
6. Measure the distance vertically from the ground plane to the center line of the handle of the cart. The accuracy of measurement is to be ±0.25 inches.
7. Repeat steps 4, 5 and 6 and then average the results for the three determinations.

TEST RESULTS:
The results are: Average = 27.4 inches

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering
Services, PLLC



bab

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **FORCE TO TIP**

TEST DESCRIPTION: To measure the strength required to start container movement to the balance point and to ensure that the force is not greater than an established limit. This force relates to the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the force must not exceed 120pounds force. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

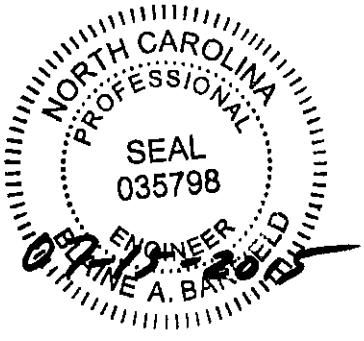
1. The cart is to be loaded with a standard load. (3.5 pounds of material per gallon of rated capacity. (The load to occupy at least 70% of the capacity of the cart.)
2. The ground to be level and with a smooth horizontal surface having less than a 1E slope.
3. The cart is to be blocked to prevent movement of the wheels.
4. A spring scale or other force-measuring device is attached to the handle of the cart. (The force-measuring device to have an accuracy of less than ±3%.) The cart is then tipped by pulling on the force-measuring device, until the cart is in the balanced position. The angle of pull, that is, the tipping force direction, is to be horizontal with less than ±2E to all sides. (The position where the cart does not tend to move either forward or backward but remains in a balanced position.) The maximum force during the pull is noted.
5. Repeat step 4 so that three determinations are made. These results are averaged.
6. The test is to be conducted at room temperature.

TEST RESULTS:
The tipping forces were as follows: Average = 23.8 pounds.

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards at or above the minimum requirements.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-45E

TEST: **VOLUMETRIC LOADING CAPACITY**

TEST DESCRIPTION: To determine the volume of a container

MINIMUM PERFORMANCE STANDARD: The volumetric loading capacity of the container should be measured according to ANSI Z245.30-2008. ANSI 2245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The volume of the cart is measured using the tank (immersion) method.
2. The empty cart is placed inside a tank with sufficient capacity to receive the container to be tested. The container must be level (that is, not inclined).
3. Simultaneously fill the tank and the container with water at a standard temperature (59°F).
4. Measure the volume of water inside the container to an accuracy of ±2 percent.
5. Repeat the capacity method and determine the volumetric capacity of the lid.

TEST RESULTS:
The cart had a capacity of 44.9 gallons. The lid had a capacity of 2.2 gallons.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30-2008 and Z245.60-2008.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

07-15-2015

TESTING REPORT

DATE: 20 April 2009
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **WIND TUNNEL**

TEST DESCRIPTION: This test is a measure of the stability of the cart in a high wind. Although not specifically tied to the basic purpose of the cart, most consumers would object to a cart that often tipped over and spilled the contents.

MINIMUM PERFORMANCE STANDARD: The specification varies from site to site depending upon prevalent wind conditions, etc. Most manufacturers expect the cart to be stable up to at least 30 mph.

TEST PROCEDURE:

1. A large wind tunnel with a 54 inch diameter exit opening is used for the test. The wind was supplied by a Gates Super HC drive.
2. Position the cart 48 inches from the end of the exit opening. (Beyond stagnant air zone.)
3. The bottom of the cart is to be level with the exit opening and is to rest on a concrete surface that has a surface texture similar to a roadway.
4. The bottom of the cart is placed against a 6 inch brace (like a curb) to prevent the cart from rolling or sliding.
5. The wind velocity is raised until the cart starts to move. This wind speed is measured using a certified volometer.
6. Measure the air velocity to tip the cart, either free-standing or against the curb if it has rolled or slid.
7. Test cart in three orientations toward the wind tunnel opening – front, side and back.
8. The procedure was performed using a blow-molded wheel and then repeated using an injection molded wheel with rubber tread.

TEST RESULTS:

Test	Orientation Towards Wind Tunnel		
	Front	Side	Back
Wind speed to tip the cart	40 mph	44 mph	46 mph

SUMMARY: The cart was stable in moderate to high winds.

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **SLOPE STABILITY**

TEST DESCRIPTION: This test checks the static stability of an empty and loaded cart on a defined slope (5 degrees).

MINIMUM PERFORMANCE STANDARD: ANSI Z245.30 requires that the cart must stand, without tipping or moving, in three different orientations on a defined slope. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. Prepare a ramp with a slope of 5 degrees. The ramp must be of sufficient size that a cart can be moved onto the cart with no portion of the cart overhanging the edges of the ramp.
2. There is to be no wind.
3. Move an empty cart onto the ramp and orient the cart with the front of the cart facing up the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing sideways on the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing down the ramp. Note any tipping or movement.
4. Repeat step two with the cart loaded to the standard loading as specified in the ANSI standard. The loading material to occupy at least 70% of the capacity of the cart.

TEST RESULTS:

	Orientation	Result
Empty	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable
Filled (loaded lbs)	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards since non-movement in three orientations is met.

Sincerely,

Blaine A. Barfield, P.E.

bab Structural Engineering
Services, PLLC

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **LID TEST**

TEST DESCRIPTION: To determine if a container lid will sustain the weight of an average child (approximately 80 pounds) without collapsing into the container.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the lid of the cart must withstand a load of 80 pounds without collapsing or allowing the loading weight to fall into the container. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. The cart is placed on a smooth, level, horizontal surface.
2. A weight of 80 pounds with a surface area diameter round of 8 inches is placed on the lid of the cart.
3. The test is to be conducted at room temperature.

TEST RESULTS:

The lid did not collapse or excessively deflect during the test.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30 and Z245.60.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **LOADING AND UNLOADING (CYCLE TEST) -AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method.

TEST RESULTS:	Cycles	Comments on Performance
	520	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

7-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **LOADING AND UNLOADING (CYCLE TEST)-SEMI-AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard semi-automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method

TEST RESULTS:

Cycles	Comments on Performance No
520	significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance. (Includes cavities 3, 4, and 5 plastic and metal bar)

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

7-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated pulling forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI standard Z245.30-2008 requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional. ANSI Z245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The cart is loaded with a standard load (according to the ANSI standard) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual weight was 240 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches. The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73 degrees F).

TEST RESULTS:

Test Condition	Result
Push off of full cart	No significant damage.
Pull up of empty cart	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

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bab Structural Engineering Services, PLLC

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **CENTER OF BALANCE POSITION**

TESTDESCRIPTION: To determine the height of the handle of a two-wheeled container at the center-of-balance position. This height affects the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to the ANSI standard Z245.30, when in the center-of-balance position, the minimum height is to be 29 inches. The maximum height is to be 40 inches when in the center-of-balance position. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. The cart is loaded with a standard load (3.5 pounds per gallon of rated capacity with the load occupying at least 70% of the capacity) or with the maximum rated load.
2. The test to be conducted on a hard, flat surface.
3. Block the wheels so that the cart will not roll.
4. Tip the cart slowly, rotating the cart on the wheels, to the center balance position. This position is determined as the position where the cart has a tendency to remain in a balanced (neutral) position, not tipping forward or backward.
5. When in the center balance position, place blocks under the container to maintain in balanced position.
6. Measure the distance vertically from the ground plane to the center line of the handle of the cart. The accuracy of measurement is to be ±0.25 inches.
7. Repeat steps 4, 5 and 6 and then average the results for the three determinations.

TEST RESULTS:
The results are: Average = 35.5 inches

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards.

Sincerely,

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7-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **FORCE TO TIP**

TEST DESCRIPTION: To measure the strength required to start container movement to the balance point and to ensure that the force is not greater than an established limit. This force relates to the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the force must not exceed 120 pounds force. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

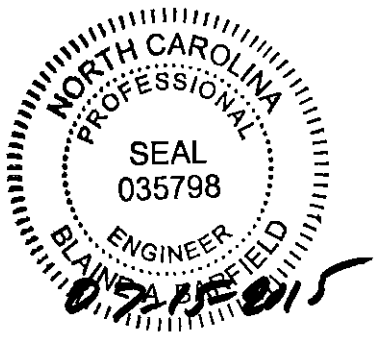
1. The cart is to be loaded with a standard load. (3.5 pounds of material per gallon of rated capacity. (The load to occupy at least 70% of the capacity of the cart.)
2. The ground to be level and with a smooth horizontal surface having less than a 1E slope.
3. The cart is to be blocked to prevent movement of the wheels.
4. A spring scale or other force-measuring device is attached to the handle of the cart. (The force-measuring device to have an accuracy of less than ±3%.) The cart is then tipped by pulling on the force-measuring device, until the cart is in the balanced position. The angle of pull, that is, the tipping force direction, is to be horizontal with less than ±2E to all sides. (The position where the cart does not tend to move either forward or backward but remains in a balanced position.) The maximum force during the pull is noted.
5. Repeat step 4 so that three determinations are made. These results are averaged.
6. The test is to be conducted at room temperature.

TEST RESULTS:
The tipping forces were as follows: Average = 60 pounds.

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards at or above the minimum requirements.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-65E

TEST: **VOLUMETRIC LOADING CAPACITY**

TEST DESCRIPTION: To determine the volume of a container

MINIMUM PERFORMANCE STANDARD: The volumetric loading capacity of the container should be measured according to ANSI Z245.30-2008. ANSI 2245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The volume of the cart is measured using the tank (immersion) method.
2. The empty cart is placed inside a tank with sufficient capacity to receive the container to be tested. The container must be level (that is, not inclined).
3. Simultaneously fill the tank and the container with water at a standard temperature (59°F).
4. Measure the volume of water inside the container to an accuracy of ±2 percent.
5. Repeat the capacity method and determine the volumetric capacity of the lid.

TEST RESULTS:
The cart had a capacity of 65.1 gallons. The lid had a capacity of 2 gallons.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30-2008 and Z245.60-2008.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

TESTING REPORT

DATE: 1 November 2007
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **WIND TUNNEL**

TEST DESCRIPTION: This test is a measure of the stability of the cart in a high wind. Although not specifically tied to the basic purpose of the cart, most consumers would object to a cart that often tipped over and spilled the contents.

MINIMUM PERFORMANCE STANDARD: The specification varies from site to site depending upon prevalent wind conditions, etc. Most manufacturers expect the cart to be stable up to at least 30 mph.

TEST PROCEDURE:

1. A large wind tunnel with a 54 inch diameter exit opening is used for the test. The wind was supplied by a Gates Super HC drive.
2. Position the cart 48 inches from the end of the exit opening. (Beyond stagnant air zone.)
3. The bottom of the cart is to be level with the exit opening and is to rest on a concrete surface that has a surface texture similar to a roadway.
4. The bottom of the cart is placed against a 6 inch brace (like a curb) to prevent the cart from rolling or sliding.
5. The wind velocity is raised until the cart starts to move. This wind speed is measured using a certified volometer.
6. Measure the air velocity to tip the cart, either free-standing or against the curb if it has rolled or slid.
7. Test cart in three orientations toward the wind tunnel opening – front, side and back.
8. The procedure was performed using a blow-molded wheel and then repeated using an injection molded wheel with rubber tread.

TEST RESULTS:

Test	Orientation Towards Wind Tunnel		
	Front	Side	Back
Wind speed to tip the cart*	43 mph	59 mph	63 mph

* Unless otherwise noted, the lid lifting either did not occur or occurred simultaneously with cart tipping

SUMMARY: The cart was stable in moderate to high winds.

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **SLOPE STABILITY**

TEST DESCRIPTION: This test checks the static stability of an empty and loaded cart on a defined slope (5 degrees).

MINIMUM PERFORMANCE STANDARD: ANSI Z245.30 requires that the cart must stand, without tipping or moving, in three different orientations on a defined slope. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. Prepare a ramp with a slope of 5 degrees. The ramp must be of sufficient size that a cart can be moved onto the cart with no portion of the cart overhanging the edges of the ramp.
2. There is to be no wind.
3. Move an empty cart onto the ramp and orient the cart with the front of the cart facing up the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing sideways on the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing down the ramp. Note any tipping or movement.
4. Repeat step two with the cart loaded to the standard loading as specified in the ANSI standard. The loading material to occupy at least 70% of the capacity of the cart.

TEST RESULTS:

	Orientation	Result
Empty	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable
Filled (loaded lbs)	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards since non-movement in three orientations is met.

Sincerely,

Blaine A. Barfield, P.E.

bab Structural Engineering Services, PLLC

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **LIDTEST**

TEST DESCRIPTION: To determine if a container lid will sustain the weight of an average child (approximately 80 pounds) without collapsing into the container.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the lid of the cart must withstand a load of 80 pounds without collapsing or allowing the loading weight to fall into the container. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. The cart is placed on a smooth, level, horizontal surface.
2. A weight of 80 pounds with a surface area diameter round of 8 inches is placed on the lid of the cart.
3. The test is to be conducted at room temperature.

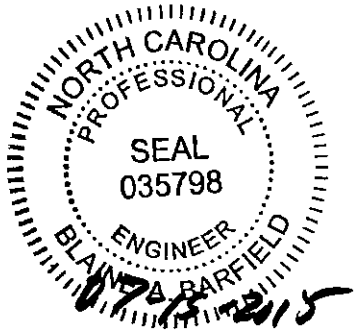
TEST RESULTS:

The lid did not collapse or excessively deflect during the test.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30 and Z245.60.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E (10-inch wheels)

TEST: **DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated pulling forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI standanrL245.30-2008 requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional. ANSI 2245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI 2245.30-2008):

1. The cart is loaded with a standard load (according to the ANSI standard) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual weight was 350 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches. The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73 degrees F).

TEST RESULTS

Test Condition	Result
Push off of full cart	No significant damage
Pull up of empty cart	No significant damage

SUMMARY: The cart passed the ANSI 2245.30-2008 and 2245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

7-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E (12-inch wheels)

TEST: **DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated pulling forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI standard Z245.30-2008 requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional. ANSI Z245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The cart is loaded with a standard load (according to the ANSI standard) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual weight was 350 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches. The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73 degrees F).

TEST RESULTS:

Test Condition	Result
Push off of full cart	No significant damage.
Pull up of empty cart	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blain A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

7-15-2015

bab

Structural Engineering Services, PLLC
3017Clark Street Charlotte NC
Phone: 704.507.4014
E-mail: bbarfield@babstruct.com

TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **CENTER OF BALANCE POSITION**

TEST DESCRIPTION: To determine the height of the handle of a two-wheeled container at the center-of-balance position. This height affects the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to the ANSI standard Z245.30, when in the center-of-balance position, the minimum height is to be 29 inches. The maximum height is to be 40 inches when in the center-of-balance position. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

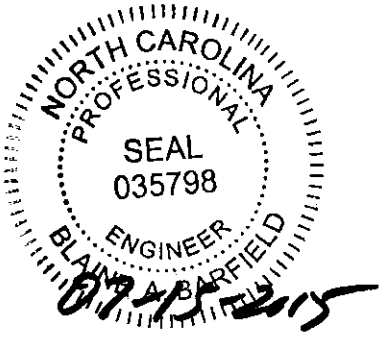
1. The cart is loaded with a standard load (3.5 pounds per gallon of rated capacity with the load occupying at least 70% of the capacity) or with the maximum rated load.
2. The test to be conducted on a hard, flat surface.
3. Block the wheels so that the cart will not roll.
4. Tip the cart slowly, rotating the cart on the wheels, to the center balance position. This position is determined as the position where the cart has a tendency to remain in a balanced (neutral) position, not tipping forward or backward.
5. When in the center balance position, place blocks under the container to maintain in balanced position.
6. Measure the distance vertically from the ground plane to the center line of the handle of the cart. The accuracy of measurement is to be ±0.25 inches.
7. Repeat steps 4, 5 and 6 and then average the results for the three determinations.

TEST RESULTS:
The results are: Average = 38.0 inches

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering
Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **LOADING AND UNLOADING (CYCLE TEST)-SEMI-AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard semi-automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method

TEST RESULTS:

Cycles	Comments on Performance No
520	significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance. (Includes cavities 3, 4, and 5 plastic and metal bar)

Sincerely,

Brian A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BRIAN A. BARFIELD

7-15-2015

bab

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3017Clark Street Charlotte NC
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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **LOADING AND UNLOADING (CYCLE TEST) -AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method.

TEST RESULTS:	Cycles	Comments on Performance
	520	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

bab

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3017Clark Street Charlotte NC
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E-mail: bbarfield@babstruct.com

TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **FORCE TO TIP**

TEST DESCRIPTION: To measure the strength required to start container movement to the balance point and to ensure that the force is not greater than an established limit. This force relates to the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the force must not exceed 120pounds force. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

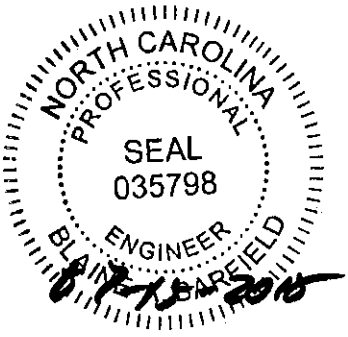
1. The cart is to be loaded with a standard load. (3.5 pounds of material per gallon of rated capacity. (The load to occupy at least 70% of the capacity of the cart.)
2. The ground to be level and with a smooth horizontal surface having less than a 1E slope.
3. The cart is to be blocked to prevent movement of the wheels.
4. A spring scale or other force-measuring device is attached to the handle of the cart. (The force-measuring device to have an accuracy of less than ±3%.) The cart is then tipped by pulling on the force-measuring device, until the cart is in the balanced position. The angle of pull, that is, the tipping force direction, is to be horizontal with less than ±2E to all sides. (The position where the cart does not tend to move either forward or backward but remains in a balanced position.) The maximum force during the pull is noted.
5. Repeat step 4 so that three determinations are made. These results are averaged.
6. The test is to be conducted at room temperature.

TEST RESULTS:
The tipping forces were as follows: Average = 85 pounds.

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards at or above the minimum requirements.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC



bab

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95E

TEST: **VOLUMETRIC LOADING CAPACITY**

TEST DESCRIPTION: To determine the volume of a container

MINIMUM PERFORMANCE STANDARD: The volumetric loading capacity of the container should be measured according to ANSI Z245.30-2008. ANSI 2245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The volume of the cart is measured using the tank (immersion) method.
2. The empty cart is placed inside a tank with sufficient capacity to receive the container to be tested. The container must be level (that is, not inclined).
3. Simultaneously fill the tank and the container with water at a standard temperature (59°F).
4. Measure the volume of water inside the container to an accuracy of ±2 percent.
5. Repeat the capacity method and determine the volumetric capacity of the lid.

TEST RESULTS:
The cart had a capacity of 96.7 gallons. The lid had a capacity of 5.6 gallons.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30-2008 and Z245.60-2008.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD
7-15-2015

TESTING REPORT

DATE: 26 July 2007
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **WIND TUNNEL**

TEST DESCRIPTION: This test is a measure of the stability of the cart in a high wind. Although not specifically tied to the basic purpose of the cart, most consumers would object to a cart that often tipped over and spilled the contents.

MINIMUM PERFORMANCE STANDARD: The specification varies from site to site depending upon prevalent wind conditions, etc. Most manufacturers expect the cart to be stable up to at least 30 mph.

TEST PROCEDURE:

1. A large wind tunnel with a 54 inch diameter exit opening is used for the test. The wind was supplied by a Gates Super HC drive.
2. Position the cart 48 inches from the end of the exit opening. (Beyond stagnant air zone.)
3. The bottom of the cart is to be level with the exit opening and is to rest on a concrete surface that has a surface texture similar to a roadway.
4. The bottom of the cart is placed against a 6 inch brace (like a curb) to prevent the cart from rolling or sliding.
5. The wind velocity is raised until the cart starts to move. This wind speed is measured using a certified volometer.
6. Measure the air velocity to tip the cart, either free-standing or against the curb if it has rolled or slid.
7. Test cart in three orientations toward the wind tunnel opening – front, side and back.
8. The procedure was performed using a blow-molded wheel and then repeated using an injection molded wheel with rubber tread.

TEST RESULTS:

Test	Orientation Towards Wind Tunnel		
	Front	Side	Back
Wind speed to tip the cart	47 mph	56 mph	57 mph

SUMMARY: The cart was stable in moderate to high winds.

A. Brent Strong
Professor, Manufacturing Engineering
Brigham Young University
265 CTB, Provo, UT 84602

bab

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **SLOPE STABILITY**

TEST DESCRIPTION: This test checks the static stability of an empty and loaded cart on a defined slope (5 degrees).

MINIMUM PERFORMANCE STANDARD: ANSI Z245.30 requires that the cart must stand, without tipping or moving, in three different orientations on a defined slope. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. Prepare a ramp with a slope of 5 degrees. The ramp must be of sufficient size that a cart can be moved onto the cart with no portion of the cart overhanging the edges of the ramp.
2. There is to be no wind.
3. Move an empty cart onto the ramp and orient the cart with the front of the cart facing up the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing sideways on the ramp. Note any tipping or movement. Tum the cart so that the front of the cart is facing down the ramp. Note any tipping or movement.
4. Repeat step two with the cart loaded to the standard loading as specified in the ANSI standard. The loading material to occupy at least 70% of the capacity of the cart.

TEST RESULTS:

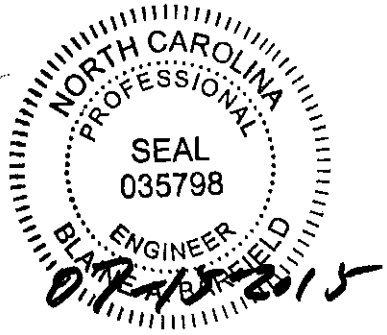
	Orientation	Result
Empty	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable
Filled (loaded lbs)	Front facing upward	Stable
	Front facing sideways (right)	Stable
	Front facing sideways (left)	Stable
	Front facing downward	Stable

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards since non-movement in three orientations is met.

Sincerely,

Blaine A. Barfield, P.E.

bab Structural Engineering
Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **LIDTEST**

TEST DESCRIPTION: To determine if a container lid will sustain the weight of an average child (approximately 80 pounds) without collapsing into the container.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the lid of the cart must withstand a load of 80 pounds without collapsing or allowing the loading weight to fall into the container. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. The cart is placed on a smooth, level, horizontal surface.
2. A weight of 80 pounds with a surface area diameter round of 8 inches is placed on the lid of the cart.
3. The test is to be conducted at room temperature.

TEST RESULTS:

The lid did not collapse or excessively deflect during the test.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30 and Z245.60.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE BARFIELD
7-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M (10-inch wheels)

TEST: **DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated pulling forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI standanrL245.30-2008 requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional. ANSI 2245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI 2245.30-2008):

1. The cart is loaded with a standard load (according to the ANSI standard) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual weight was 350 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches. The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73 degrees F).

TEST RESULTS

Test Condition	Result
Push off of full cart	No significant damage
Pull up of empty cart	No significant damage

SUMMARY: The cart passed the ANSI 2245.30-2008 and 2245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

bab

Structural Engineering Services, PLLC
3017Clark Street Charlotte NC
Phone: 704.507.4014
E-mail: bbarfield@babstruct.com

TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated pulling forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI standard Z245.30-2008 requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional. ANSI Z245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The cart is loaded with a standard load (according to the ANSI standard) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual weight was 350 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. The cart is then repositioned at the top of the curb. The test is repeated for 520 cycles (drops).
3. Using the cart's handles, an unloaded (empty) cart is pulled up a curb. The curb height was 5.5 inches. The cart is repositioned at the bottom of the curb. The test is repeated 520 cycles (lifts).
4. The carts are set down onto a concrete surface.
5. The temperature to be normal room temperature (73 degrees F).

TEST RESULTS:

Test Condition	Result
Push off of full cart	No significant damage.
Pull up of empty cart	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

7-15-2015

bab

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **CENTER OF BALANCE POSITION**

TEST DESCRIPTION: To determine the height of the handle of a two-wheeled container at the center-of-balance position. This height affects the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to the ANSI standard Z245.30, when in the center-of-balance position, the minimum height is to be 29 inches. The maximum height is to be 40 inches when in the center-of-balance position. ANSI Z245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

1. The cart is loaded with a standard load (3.5 pounds per gallon of rated capacity with the load occupying at least 70% of the capacity) or with the maximum rated load.
2. The test to be conducted on a hard, flat surface.
3. Block the wheels so that the cart will not roll.
4. Tip the cart slowly, rotating the cart on the wheels, to the center balance position. This position is determined as the position where the cart has a tendency to remain in a balanced (neutral) position, not tipping forward or backward.
5. When in the center balance position, place blocks under the container to maintain in balanced position.
6. Measure the distance vertically from the ground plane to the center line of the handle of the cart. The accuracy of measurement is to be ±0.25 inches.
7. Repeat steps 4, 5 and 6 and then average the results for the three determinations.

TEST RESULTS:
The results are: Average = 34.0 inches

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering
Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD
07-15-2015

bab

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **LOADING AND UNLOADING (CYCLE TEST)-SEMI-AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard semi-automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method

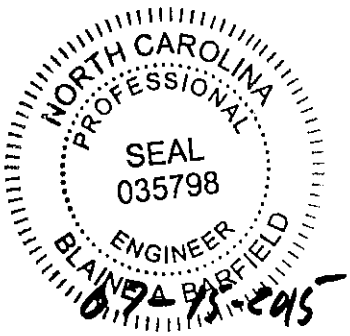
TEST RESULTS:

Cycles	Comments on Performance
520	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance. (Includes cavities 3, 4, and 5 plastic and metal bar)

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **LOADING AND UNLOADING (CYCLE TEST) -AUTOMATED**

TEST DESCRIPTION: The loading and unloading test is designed to approximate the useful life of a cart (10 years) in the actual lifting that is performed when emptying the cart into a semi- automated truck. This test is useful in assessing the overall design (such as the lid fit, handle material and hinge mechanism, wheel assembly strength, etc.) and overall durability.

MINIMUM PERFORMANCE STANDARD: ANSI standard Z245.30-2008 requires that after testing the cart should not suffer any damage or permanent deformation such that it cannot be safely used in normal operation. ANSI Z-245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The test is conducted at room temperature.
2. A standard automated lifting mechanism is used. This lifter is compatible with all currently used carts. The lifting mechanism is attached to a stationary frame which allows the cart to be emptied and then reloaded on each cycle.
3. The cycle time is greater than eight seconds, as required in the standard.
4. The cart is loaded with inert material at 3.5 pounds per gallon according to the rated size of the container. The loading material is to occupy at least 70% of the volume of the cart.
5. The cart is positioned in front of the lifting mechanism and is then engaged by the lifter and lifted to empty the cart into a bin. The cart is set down onto a concrete surface and is held stationary as it is reloaded by tipping the bin to allow the weights to re-enter the cart.
6. Inspections are made whenever any change is noticed and after every 100 lifts.
7. Failure is judged to be cracks, holes or other induced defects or deformations in the cart that would prevent the cart's use as a trash cart and be emptied by the automated method.

TEST RESULTS:	Cycles	Comments on Performance
	520	No significant damage

SUMMARY: The cart passed the ANSI Z245.30-2008 and Z245.60-2008 standards for minimum performance.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD
07-15-2015

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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **FORCE TO TIP**

TEST DESCRIPTION: To measure the strength required to start container movement to the balance point and to ensure that the force is not greater than an established limit. This force relates to the ease of operation of the cart.

MINIMUM PERFORMANCE STANDARD: According to ANSI Z245.30, the force must not exceed 120 pounds force. ANSI Z-245.60 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30):

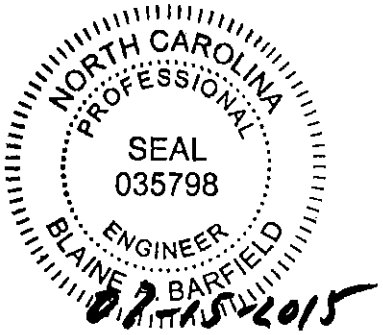
1. The cart is to be loaded with a standard load. (3.5 pounds of material per gallon of rated capacity. (The load to occupy at least 70% of the capacity of the cart.)
2. The ground to be level and with a smooth horizontal surface having less than a 1E slope.
3. The cart is to be blocked to prevent movement of the wheels.
4. A spring scale or other force-measuring device is attached to the handle of the cart. (The force-measuring device to have an accuracy of less than ±3%.) The cart is then tipped by pulling on the force-measuring device, until the cart is in the balanced position. The angle of pull, that is, the tipping force direction, is to be horizontal with less than ±2E to all sides. (The position where the cart does not tend to move either forward or backward but remains in a balanced position.) The maximum force during the pull is noted.
5. Repeat step 4 so that three determinations are made. These results are averaged.
6. The test is to be conducted at room temperature.

TEST RESULTS:
The tipping forces were as follows: Average = 72 pounds.

SUMMARY: The cart passed the ANSI Z245.30 and Z245.60 standards at or above the minimum requirements.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC



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TESTING REPORT

DATE: 15 July 2015
SUBJECT: Trash carts
PRODUCT IDENTIFICATION: MSD-95M

TEST: **VOLUMETRIC LOADING CAPACITY**

TEST DESCRIPTION: To determine the volume of a container

MINIMUM PERFORMANCE STANDARD: The volumetric loading capacity of the container should be measured according to ANSI Z245.30-2008. ANSI 2245.60-2008 establishes dimensional requirements for the cart.

TEST PROCEDURE (Meets the requirements of ANSI Z245.30-2008):

1. The volume of the cart is measured using the tank (immersion) method.
2. The empty cart is placed inside a tank with sufficient capacity to receive the container to be tested. The container must be level (that is, not inclined).
3. Simultaneously fill the tank and the container with water at a standard temperature (59°F).
4. Measure the volume of water inside the container to an accuracy of ±2 percent.
5. Repeat the capacity method and determine the volumetric capacity of the lid.

TEST RESULTS:
The cart had a capacity of 95.8 gallons. The lid had a capacity of 4.1 gallons.

SUMMARY: The cart passed the test at or above minimum requirements as specified in ANSI Z245.30-2008 and Z245.60-2008.

Sincerely,

Blaine A. Barfield, P.E.
bab Structural Engineering Services, PLLC

NORTH CAROLINA PROFESSIONAL SEAL 035798 ENGINEER BLAINE A. BARFIELD

7/15/2015

TEST REPORT

TEST DATE: 18 April 2019
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX A –VOLUMETRIC LOADING CAPACITY FOR CARTS**

TEST DESCRIPTION: This test determines the carts load capacity for the body and lid.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX A – TANK METHOD)

1. The cart is placed empty in a tank with sufficient capacity to receive the cart and to permit the cart to be positioned level.
2. The container and cart are simultaneously filled with water at standard temperature city water.
3. The water flowing into the cart is measured by flow meter to an accuracy of ± 2% of the cart capacity (±0.7gal).
4. Position the lid level and fill with standard temperature water measuring the flow with a flow meter.

TEST RESULTS:

Cart Capacity = **98.5** gallons

Lid Capacity = **5.1** gallons

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

07/22/2019
Date

TEST REPORT

TEST DATE: 23 April 2019
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX B – SLOPE STABILITY TEST METHOD FOR CARTS**

TEST DESCRIPTION: This test checks the carts stability on a 5° concrete slope.

MINIMUM PERFORMANCE STANDARD: The cart must stand in any direction – minimum of three different orientations.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX B)

1. The cart is tested in both the empty and loaded conditions. The loaded condition conforms to the ANSI standard = 340 pounds with the volume of material occupying at least 70% of the total capacity of the cart. The actual load was 340 pounds.
2. Place the cart on a 5° inclined surface and verify stability by observation.
3. Rotate the cart 180° and re-verify stability.
4. Rotate the cart 90° and re-verify stability.

TEST RESULTS:

Test Condition	Result
Loaded	Stable all three orientations.
Unloaded	Stable all three orientations.

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX B

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

07/22/2019
Date

TEST REPORT

TEST DATE: 18 April 2019
SUBJECT: ANSI Z245.30 – 2008 A TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX C - DURABILITY DURING PULLING (CURB TEST)**

TEST DESCRIPTION: This test determines whether the cart's handles, wheels, and axles will withstand the repeated forces experienced during normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: ANSI Z245.30-2008 APPENDIX C requires that after testing the handles, wheels, axles, their attachments to the container, and the container itself must remain functional.

TEST PROCEDURE: (Conforms to ANSI Z245.30-2008 APPENDIX C):

1. The cart is loaded with a standard load (according to the ANSI standard = 340pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 340 pounds.)
2. Using the cart's handles, the loaded cart is pushed off a curb. The curb height was 5.5 inches. (Actual curb height was 6"). The cart is pulled back up a slope to repositioned at the top of the curb in lieu of repositioning an empty cart by pulling up the curb. The test is repeated for 520 cycles (drops).
3. The carts are set down onto a concrete surface.
4. The temperature to be normal room temperature (73° degrees F +/- 5).

Test Condition	Result
Push/pull drop of full cart	No significant damage.

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX C

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

Date 04/22/2019

TEST REPORT

TEST DATE: 18 & 23 April & 20 June 2019
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX D – LOADING AND UNLOADING FOR CARTS**

TEST DESCRIPTION: This test determines that the cart can be safely loaded and unloaded (dumped) using a compatible lifter during a normal 10-year useful life.

MINIMUM PERFORMANCE STANDARD: The ANSI Z245.30-2008 requires that after testing the cart does not suffer any damage or permanent deformation such that it cannot be safely used in accordance with ANSI Z245.30-2008 or that renders the cart incapable of meeting the lifter requirements.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX D)

1. The cart is loaded with a standard load (according to the ANSI standard = 340pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 341 pounds.)
2. Semi-automated Lifter - The cart is positioned on a stationary Semi-automated lifter with attachment to the integrated upper attachment envelope. The loaded cart is raised and dumped, then lowered and reloaded. Cycle Time = 8 seconds minimum. The test is repeated for 520 cycles.
3. Automated Refuse Truck – Side Grabber – The cart is positioned on a normal ground level concrete surface. Using the normal truck mechanism, the truck operator engages, lifts, lowers, and releases the container. The test is repeated for 520 cycles.

TEST RESULTS: Semi-automated – No Significant Damage
Automated – No Significant Damage

SUMMARY: The carts tested **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX D.

07/22/2019

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

Date

TEST REPORT

TEST DATE: 23 April 2019
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX E – CENTER-OF-BALANCE POSITION FOR CARTS**

PERFORMANCE STANDARD: The center of the cart handle at the center-of-balance point must be 29 inches to 40 inches from the ground plane.

TEST DESCRIPTION: This test determines the height of the handle of a two-wheeled cart at the center-of-balance position.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX E)

1. The cart is loaded with a standard load (according to the ANSI standard = 340pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 341pounds.)
2. The cart is placed on a hard, flat surface.
3. The cart wheels are blocked to prevent movement.
4. The cart is tipped on the wheels to its natural balance point.
5. The distance from the ground to the center of the cart handle is measured to an accuracy of ± 0.25 inches.

TEST RESULTS:

The center of the cart handle at the center-of-balance = 32.25"

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX E.

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

07/22/2019
Date

TEST REPORT

TEST DATE: 23 April 2019
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX F – FORCE TO TIP TEST FOR CARTS**

PERFORMANCE STANDARD: The tipping force is to be a maximum of 120 pounds.

TEST DESCRIPTION: This test determines the tipping force of a two-wheeled cart on a level surface.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX F)

1. The cart is loaded with a standard load (according to the ANSI standard = 340pounds) with the volume of material occupying at least 70% of the total capacity of the cart. (The actual load was 340 pounds.)
2. The cart is placed on a hard, flat surface.
3. The cart wheels are blocked to prevent movement.
4. The cart handle is attached to a digital force gage set to record the maximum force applied capable of measuring the force to ±3% of the measured value.
5. Horizonal force is applied to bring the cart to its balance point.

TEST RESULTS:

The tipping force = 87.5 pounds (3 test Average)

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX F.

07/22/2019

F. L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

Date

TEST REPORT

TEST DATE: 23 April 2019
SUBJECT: ANSI Z245.30 – 2008 TESTING
PRODUCT TESTED: THE OTTO MOMENTUM - 95 GALLON MSD ROLLOUT CART

TEST: **APPENDIX G – LID TEST FOR CARTS**

PERFORMANCE STANDARD: The cart lid must not collapse and fall into the container.

TEST DESCRIPTION: This test determines the resistance of the cart lid to a specified load.

TEST PROCEDURE – (Conforms to ANSI Z245.30-2008 – APPENDIX G)

1. The empty cart is placed on a level surface with the lid closed.
2. A load of 80 pounds is placed in the center of the lid on a round area 8 inches in diameter at room temperature.
3. The load is maintained cart for 15 minutes.

TEST RESULTS:

No significant lid distortion – lid maintained its position without falling into the cart.

SUMMARY: The cart **PASSED** the requirements of ANSI Z245.30-2008 APPENDIX G.

F.L. Patterson
Consulting Engineer
4915 Sadie's Place
Wingate, NC 29174

07/22/2019
Date

Otto Environmental Systems North America, Inc.

COMMERCIAL DUMPSTER WARRANTY - COMMERCIAL CUSTOMER

1. One Year, Non-Prorated Warranty

When purchased new, Otto warrants its commercial waste containers will meet applicable specifications and be free from defects in material and workmanship while in normal use for the period of one (1) year from the initial date of shipment. Otto extends this warranty only to the first purchaser of the waste container, except when the purchase is made through an authorized Otto distributor, when the warranty will extend to the first purchaser from the distributor and not to the distributor. Third party manufactured casters are not covered by this warranty.

2. Exclusions From Warranty Coverage

2.1 Normal wear and tear for serviceable containers
2.2 Negligent and Abusive Use: including improper storage, use and handling, vandalism, and damage from wildlife
2.3 Damage from incompatible, improperly installed, operated, or damaged lifting mechanisms
2.4 Improper use of container exceeding specifications
2.5 Unauthorized repair or alteration
2.6 Damage caused by natural calamities such as fire, storm, or high winds

Types of damages excluded from this warranty will be determined, each on its own merit, by an Otto warranty representative.

3. Warranty Administration

3.1 Buyer representative shall notify Otto's applicable Area Sales Manager or Otto Representative in writing before the end of the warranty period for the allegedly defective container(s).
3.2. The Serial Number(s) of the alleged defective container(s) shall be submitted via email on the Otto Damage Submittal Form (F-9400) and must be accompanied by the appropriate defect code identifying where the failure occurred. To properly evaluate the claim, electronic photos of the failure types should be submitted for 20% of the claim quantity.
3.3 Buyer agrees that Otto or its designated representative shall have the right to inspect and test the allegedly defective container(s) at the customer site or predetermined location.
3.4 At the time a Damage Submittal Form is submitted, the containers become Otto's property. Otto requires the right to collect/reclaim and recycle the container(s). Buyer agrees to empty, disassemble, and stack containers for shipment set up by Otto.
3.5 Otto reserves the right to repair, to replace or to grant credit for defective containers.

4. Exclusive Warranty Remedy

Upon determination of containers/parts as defective by Otto, said product shall, at Otto's sole option, be repaired, replaced or the first purchaser shall be given a credit for the amount of the original purchase price of the affected product. Any repaired or replaced containers/parts will assume the remainder of the one –year (or) applicable warranty from the original containers initial shipment date.

This warranty is in lieu of any other remedy warranty, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. In no event shall Otto be liable for incidental or consequential damages (including freight charges) or delay in performance resulting from the defect. Products manufactured by a supplier or third party manufacturer, specifically RFID components, distributed products and customer specified items, are not covered by this warranty and may be warranted by the manufacturer's warranty as offered.

Credits not used within six (6) months of issue will expire.

Otto Environmental Systems North America, Inc.
12700 General Drive, Charlotte, North Carolina 28273
800-795-OTTO (6886) • info@otto-usa.com • otto-usa.com

PERRY JOHNSON REGISTRARS, INC.

Certificate of Registration

Perry Johnson Registrars, Inc., has audited the Quality Management System of:

Otto Environmental Systems N.A., Inc.
12700 General Drive, Charlotte, NC 28273 United States

(Hereinafter called the Organization) and hereby declares that Organization is in conformance with:

ISO 9001:2015

This Registration is in respect to the following scope:

Manufacture and Assembly of Injection Molded Plastic Parts for the Solid Waste Industry

This Registration is granted subject to the system rules governing the Registration referred to above, and the Organization hereby covenants with the Assessment body duty to observe and comply with the said rules.

Terry Boboige

Terry Boboige, President
Perry Johnson Registrars, Inc. (PJR)
755 West Big Beaver Road, Suite 1340
Troy, Michigan 48084
(248) 358-3388

PERRY JOHNSON REGISTRARS, INC.

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

PERRY JOHNSON REGISTRARS, INC. UKAS MANAGEMENT SYSTEMS 0105

The use of the UKAS accreditation symbol is in respect to the activities covered by the Accreditation Certificate Number 0105.

The validity of this certificate is dependent upon ongoing surveillance.

Effective Date:	Expiration Date:	Certificate No.:
November 15, 2019	November 14, 2022	C2019-03110

Cart References

City of Charlotte, NC 250,000 carts 95 gallon	**Ellen Price** Deputy Director of Administration Solid Waste Services Department 1105 Otts Street Charlotte, NC 28205 704-353-1183 eprice@ci.charlotte.nc.us
Trust Waste Solutions 95 gallon carts	**Chris Hawes** Owner 3096 N. Mechanic St El Campo TX 77437-9424 979-257-3610 chris@trustwastesolutions.com
Green Waste Recovery, Inc. San Jose, CA 100,000 carts 32, 65 and 95 gallon (serving the City of San Jose, and Monterey County, CA)	**Frank Weigel** President 1500 Berger Drive San Jose, CA 95112 408-283-4800 fweigel@greenwasterecovery.com
City of Sacramento, CA 120,000 carts 32, 65 and 95 gallon	**Wendall Brown** Integrated Waste General Supervisor Recycling and Solid Waste Division 918 Del Paso Rd. Building One Sacramento, CA 95834 916-808-4841 wbrown@cityofsacramento.org
California Waste Solutions Oakland, CA 180,000 carts 32, 65 and 95 gallon (serving the City of San Jose, CA and the City of Oakland, CA)	**Matt Bussing** Chief Operations Officer 1820 10th Street Oakland, CA 94607 408-477-6943 mbussing@calwaste.com
City of Durham, NC 100,000 carts 65 and 95 gallon	**Darryl Collins** Senior Assistant Solid Waste Manager 1833 Camden Ave. Durham, NC 27701 919-560-4186 ext. 32226 darryl.collins@durhamnc.gov

Cart References

City of Plano, TX 140,000 carts 95 gallon	**Steve Funk** EWS Operations Manager 4120 W. Plano Parkway Plano, TX 75093 972-769-4225 stevef@plano.gov
City of Waterbury, CT 37,000 carts 65 and 95 gallon	**Bart Startup** Refuse Supervisor 500 Captain Neville Dr. Waterbury, CT 06705 203-574-8390 bstartup@waterburyct.org
City of Minneapolis, MN 50,000 carts 32 gallon	**Richard Schoumaker** Equipment Supervisor Solid Waste & Recycling Division 2710 Pacific Street N. Minneapolis, MN 55411 612-673-5638 Richard.schoumaker@minneapolismn.gov
Frederick County, MD 5,000 carts 95 gallon	**Rebecca Culler** Recycling Program Manger Frederick County Dept. of Solid Waste 9031 Reichs Ford Road Frederick, MD 21704 301-600-7406 Rculler@Frederickcountymd.gov
Reedy Creek Authority Lake Buena Vista, FL 50,000 carts 35 and 65 gallon	**Bob Kirkpatrick** Service Manager for Solid Waste P.O. Box 10000 Lake Buena Vista, FL 32830 407-824-4184
DEKALB COUNTY GA 150,000 + carts 95, 65, 45 and 35 gallon	**Tracy Hutchinson** Director of Sanitation 3720 Leroy Scott Blvd Decatur, GA 30032 404-294-2177 tahutchinson@dekalbcountyga.gov

OTTO Environmental Systems North America, Inc.
FIVE YEAR, NON-PRORATED
RECYCLE BIN WARRANTY

1. Otto Recycle Bin Warranty

For all new Recycle Bins, Otto warrants that they will meet applicable specifications and be free from defects in material and workmanship while in normal use for a period of Five years from the initial date of shipment from Otto's manufacturing facility. Otto extends this warranty only to the first purchaser of the recycle bin, except when the purchase is made through an authorized Otto distributor, when the warranty will extend to the first purchaser from the distributor and not to the distributor.

2. Exclusions From Warranty Coverage

2.1 Normal wear and tear for serviceable bins
2.2 Negligent and Abusive Use: including improper storage, use and handling, and vandalism.
2.3 Damage from incompatible, improperly installed, operated, or subjected to extreme impact
2.4 Improper use of bin exceeding specifications
2.5 Unauthorized repair or alteration
2.6 Damage caused by natural calamities such as fire, chemicals, storm, or high winds

Types of damages excluded from this warranty will be determined, each on its own merit, by an Otto warranty representative.

3. Warranty Administration

3.1 Buyer representative shall notify Otto's applicable Area Sales Manager or Otto Representative in writing before the end of the warranty period for the allegedly defective bin(s).
3.2. The alleged defective container(s) shall be submitted via email on the Otto Damage Submittal Form (F-9400). The quantity must be accompanied by the appropriate warranty code identifying the type of failure. To properly evaluate the claim, electronic photos of the failure types should be submitted for 20% of the claim quantity.
3.3 Buyer agrees that Otto or its designated representative shall have the right to inspect and test the allegedly defective bin(s) at the customer's site or a predetermined location.
3.4 At the time a Damage Submittal Form is submitted, the bins become Otto's property. Otto requires the right to collect/reclaim and recycle the container(s). Buyer agrees to empty, and stack bins for shipment set up by Otto.
3.5 Otto reserves the right to either, repair, replace, or grant credit for defective bins.

4. **Exclusive Warranty Remedy**

Upon determination of bins as defective by Otto, said product shall, at Otto's sole option, be repaired, replaced or the first purchaser shall be given a credit for the amount of the original purchase price of the affected product. Any repaired or replaced bins will assume the remainder of the Five–year (or) applicable warranty from the original bins initial shipment date.

This warranty is in lieu of any other remedy warranty, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. In no event shall Otto be liable for incidental or consequential damages (including freight charges) or delay in performance resulting from the defect. Products manufactured by a supplier or third party manufacturer, distributed products and customers specified items, are not covered by this warranty and may be warranted by the manufacturer's warranty as offered.

Credits not used within six (6) months of issue will expire.

12700 General Drive, P.O. Box 410251 Charlotte, NC 28241
Attn: Warranty Dept. Phone: 1(800)-227-5885

Revision November 6, 2015

OTTO Environmental Systems North America, Inc.
TEN YEAR, NON-PRORATED WARRANTY

1. Otto Roll Out Waste Container Warranty

For all new residential waste containers, Otto warrants that they will meet applicable specifications and be free from defects in material and workmanship while in normal use for a period of Ten (10) years from the initial date of shipment from Otto's manufacturing facility. Otto extends this warranty only to the first purchaser of the waste container, except when the purchase is made through an authorized Otto distributor, when the warranty will extend to the first purchaser from the distributor and not to the distributor.

2. Exclusions From Warranty Coverage

2.1 Normal wear and tear for serviceable containers
2.2 Negligent and Abusive Use: including improper storage, use and handling, vandalism, and damage from wildlife
2.3 Damage from incompatible, improperly installed, operated, or damaged lifting mechanisms
2.4 Improper use of container exceeding specifications
2.5 Unauthorized repair or alteration
2.6 Damage caused by natural calamities such as fire, storm, or high winds

Types of damages excluded from this warranty will be determined, each on its own merit, by an Otto warranty representative.

3. Warranty Administration

3.1 Buyer representative shall notify Otto's applicable Area Sales Manager or Otto Representative in writing before the end of the warranty period for the allegedly defective container(s).
3.2. The Serial Number(s) of the alleged defective container(s) shall be submitted via email on the Otto Damage Submittal Form (F-9400) and must be accompanied by the appropriate warranty code identifying where the failure occurred. To properly evaluate the claim, electronic photos of the failure types should be submitted for 20% of the claim quantity.
3.3 Buyer agrees that Otto or its designated representative shall have the right to inspect and test the allegedly defective container(s) at the customer's site or a predetermined location.
3.4 At the time a Damage Submittal Form is submitted, the containers become Otto's property. Otto requires the right to collect/reclaim and recycle the container(s). Buyer agrees to empty, disassemble, and stack containers for shipment set up by Otto.
3.5 Otto reserves the right to either repair, replace or grant credit for defective containers.

4. **Exclusive Warranty Remedy**

Upon determination of containers/parts as defective by Otto, said product shall, at Otto's sole option, be repaired, replaced or the first purchaser shall be given a credit for the amount of the original purchase price of the affected product. Any repaired or replaced containers/parts will assume the remainder of the ten (10) –year (or) applicable warranty from the original containers initial shipment date.

This warranty is in lieu of any other remedy warranty, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. In no event shall Otto be liable for incidental or consequential damages (including freight charges) or delay in performance resulting from the defect. Products manufactured by a supplier or third party manufacturer, specifically RFID components; distributed products and customers specified items, are not covered by this warranty and may be warranted by the manufacturer's warranty as offered.

Credits not used within six (6) months of issue will expire.

12700 General Drive, P.O. Box 410251 Charlotte, NC 28241
Attn: Warranty Dept. Phone: 1(800)-227-5885

Revision August 20, 2015

equalis GROUP

ATTACHMENT C: REQUIRED BIDDER INFORMATION & CERTIFICATIONS

Purpose of this Attachment C: CCOG requires the following information about Bidders who submit proposals in response to any CCOG request for proposal ("**RFP**") in order to facilitate the execution of the master group purchasing agreement ("**Master Agreement**") with the winning supplier ("**Winning Supplier**"). CCOG reserves the right to reject a Bidder's proposal if a Bidder fails to provide this information fully, accurately, and by the deadline set by CCOG in **RFP Section 1.3 – Anticipated Procurement Timetable**. Further, some of this information (as identified below) **must** be provided in order for CCOG to accept and consider a Bidder's proposal. **Failure to provide such required information may result in a Bidder's proposal being deemed nonresponsive to this RFP.**

Instructions: provide the following information about the Bidder. Bidders may a) complete this document in Microsoft Word by completing the form fields, print this attachment, and sign it in the designated signature areas, b) complete this document using the form fields, print to .pdf, and provide certified electronic signatures in the designated signature areas, or c) print this attachment, complete it, and sign it in the designated signature areas. It is mandatory that the information provided is certified with an original signature (in blue ink, please) or signed using a certified electronic signature by a person with sufficient authority and/or authorization to represent Bidder. Bidders are to provide the completed and signed information and certifications to CCOG as described in **RFP Section 4.2 – Format for Organization of the Proposal**.

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equalis GROUP

Bidders must provide all the information outlined below.

1. Equalis Group RFP Name: *RFP # COG-2112, WASTE & RECYCLING CONTAINERS WITH RELATED SOLUTIONS*	2. Proposal Due Date: *March 4, 2021*
3. Bidder Name: Otto Environmental Systems North America, Inc.	4. Bidder Federal Tax ID # or Social Security #: 25-1921060
5. Bidder Corporate Address: 12700 General Drive Charlotte, NC 28273	6. Bidder Remittance Address same

7. Print or type information about the Bidder representative/contact person authorized to answer questions regarding the proposal submitted by your company:

Bidder Representative:	*Sandra Abdow*
Representative's Title:	*Municipal Manager*
Address 1:	*12700 General Drive*
Address 2:	Click or tap here to enter text.
City, State Zip:	*Charlotte, NC, 28273*
Phone #:	*980-275-5457*
Fax #:	*704-588-5250*
E-Mail Address:	Municipal.Department@otto-usa.com

8. Print or type the name of the Bidder representative authorized to address contractual issues, including the authority to execute a contract on behalf of Bidder, and to whom legal notices regarding contract termination or breach, should be sent (*if not the same individual as in #7, provide the following information on each such representative and specify their function*):

Bidder Representative:	*Michael Costello*
Representative's Title:	*President and CEO*
Address 1:	12700 General Drive
Address 2:	Street Address 2
City, State Zip:	Charlotte, NC, 28273
Phone #:	*800-795-6886*
Fax #:	704-588-5250
E-Mail Address:	Municipal.Department@otto-usa.com

equalis GROUP

9. **Is this Bidder an Ohio certified Minority Business Enterprise ("MBE")?** Yes ☐ No X☐

If yes, attach a copy of current certification to your proposal as an appendix in the third section of your proposal.

10. Mandatory Supplier Certifications:

CCOG may not enter into contracts with any suppliers who have been found to be ineligible for state contracts under specific federal or Ohio statutes or regulations. Bidders responding to any CCOG RFP MUST certify that they are NOT ineligible by signing each of the four statements below. **Failure to provide proper affirming signature on any of these statements will result in a Bidder's proposal being deemed nonresponsive to this RFP.**

I, _____ *(insert signature of representative shown in Item #7 above)*, **hereby certify and affirm that Otto Environmental Systems North America, Inc. , has not been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in transactions by the Unites States Department of Labor, the United States Department of Health and Human Services, or any other federal department or agency as set forth in 29 CFR Part 98, or 45 CFR Part 76, or other applicable statutes.**

AND

I, _____ *(insert signature of representative shown in Item #7 above)*, **hereby certify and affirm that Otto Environmental Systems North America, Inc. , is in compliance with all federal, state, and local laws, rules, and regulations, including but not limited to the Occupational Safety and Health Act and the Ohio Bureau of Employment Services and the following:**

- Not penalized or debarred from any public contracts or falsified certified payroll records or any other violation of the Fair Labor Standards Act in the last three (3) years;
- Not found to have violated any worker's compensation law within the last three (3) years;
- Not violated any employee discrimination law within the last three (3) years;
- Not have been found to have committed more than one (1) willful or repeated OSHA violation of a safety standard *(as opposed to a record keeping or administrative standard)* in the last three (3) years;
- Not have an Experience Modification Rating of greater than 1.5 (a penalty-rated employer) with respect to the Bureau of Workers' Compensation risk assessment rating; and
- Not have failed to file any required tax returns or failed to pay any required taxes to any governmental entity within the past three (3) years.

AND

I _____ *(insert signature of representative shown in Item #7 above)* **hereby certify and affirm that Otto Environmental Systems North America, Inc. is not on the list established by the Ohio Secretary of State, pursuant to ORC Section 121.23, which identifies persons and businesses with more than one unfair labor practice contempt of court finding against them.**

AND

I _____ *(insert signature of representative shown in Item #7 above)* **hereby certify and affirm that Otto Environmental Systems North America, Inc. , either is not subject to a finding for recovery under ORC Section 9.24, or has taken appropriate remedial steps required under that statute to resolve any findings for recovery, or otherwise qualifies under that section to enter into contracts with CCOG.**

11. Supplemental Bidder Contract and Equal Employment Opportunity Information:

equalis GROUP

A. **Provide data on Bidder employees both nationwide** (inclusive of Ohio staff) **and the number of Ohio employees:**

	Nationwide:	Ohio Offices:
Total Number of Employees:	330	8
% of those who are Women:	21.5	0
% of those who are Minorities:	59.5	1

B. **If you are selected as the Winning Supplier and this RFP involves the provision of services to Equalis Group Members, will you subcontract any part of the work?**

X☐ **NO** *-or-*

☐ **YES, but for less than 50% of the work** *-or-*

☐ **YES, for 50% or more of the work**

C. **If any part of your proposal would be performed by any subcontractors, provide the following information on each subcontractor** *(additional pages may be added as needed)*:

Subcontractor Name: Naine

Street Address 1: Street Address 1

Street Address 2: Street Address 2

City, State Zip: City, State Zip

Work to be Performed: Description of Work

Estimated percentage of total proposal to be performed by subcontractors: _____ **%**
(Do NOT show dollar amounts here; show % of WORK sub-contractors will perform/provide).
Define the part of the work that will be performed by each subcontractor.

Subcontractor's employee information *(attach additional pages if needed)*:

	Nationwide:	Ohio Offices:
Total Number of Employees:	_____	_____
% of those who are Women:	_____	_____
% of those who are Minorities:	_____	_____

12. **Bidder has reviewed the Model Master Agreement attached to the RFP as Attachment E, and if awarded a contract,** ☑ **Bidder will not (or)** ☐ **Bidder will request changes to the standard language and has marked the requested changes and returned the model document with this proposal for consideration by CCOG and Equalis Group, LLC.** *(All requested changes to Model Master Agreement contract language are subject to negotiation and CCOG and Equalis Group, LLC approval.)*

13. **Bidder has reviewed the Model Administration Agreement attached to the RFP as Attachment E, and if awarded a contract,** ☑ **Bidder will not (or)** ☐ **Bidder will request changes to the standard language and has marked the requested changes and returned the model document with this proposal for**

consideration by Equalis Group, LLC. *(All requested changes to Model Administration Agreement contract language are subject to negotiation and Equalis Group, LLC approval.)*

14. I _____ *(insert signature of representative shown in Item #7 above)* **hereby affirm that this proposal accurately represents the capabilities and qualifications of Otto Environmental Systems North America, Inc. , and I hereby affirm that the cost(s) proposed to CCOG for the performance of services and/or provision of goods covered in this proposal in response to this CCOG RFP is a firm fixed price structure as described in the Cost Proposal, inclusive of all incidental as well as primary costs.** *(Failure to provide the proper affirming signature on this item may result in the disqualification of your proposal.)*

15. Additional Documents:

CCOG makes every attempt to meet the varying legal requirements of public agencies across the country. The documents included in this section are intended to give our contracts the broadest geographic reach by meeting the procurement requirements of other states outside of Ohio.

15.1. Lobbying Certification

Submission of this certification is a prerequisite for making or entering into this transaction and is imposed by Section 1352, Title 31, U.S. Code. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Any person who fails to file the required certification shall be subject to civil penalty of not less than ten thousand dollars ($10,000) and not more than one hundred thousand dollars ($100,000) for each such failure.

The undersigned certifies, to the best of his/her knowledge and belief, on behalf of Bidder that:

1. No Federal appropriated funds have been paid or will be paid on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of a Federal contract, the making of a Federal grant, the making of a Federal loan, the entering into a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all covered sub-awards exceeding one hundred thousand dollars ($100,000) in Federal funds at all appropriate tiers and that all sub-recipients shall certify and disclose accordingly.

_____
Signature of Bidder representative

15.2. Boycott Certification

Bidder must certify that during the term of any Agreement, it does not boycott Israel and will not boycott Israel. "Boycott" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with

a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Signature of Bidder representative

15.3. Federal Funds Certification Form (EDGAR)

When a participating agency seeks to procure goods and services using funds under a federal grant or contract, specific federal laws, regulations, and requirements may apply in addition to those under state law. This includes, but is not limited to, the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 CFR 200 (sometimes referred to as the "Uniform Guidance" or "EDGAR" requirements). All bidders submitting proposals must complete this Federal Funds Certification Form regarding bidder's willingness and ability to comply with certain requirements which may be applicable to specific participating agency purchases using federal grant funds. This completed form will be made available to Members for their use while considering their purchasing options when using federal grant funds. Members may also require Supplier Partners to enter into ancillary agreements, in addition to the contract's general terms and conditions, to address the member's specific contractual needs, including contract requirements for a procurement using federal grants or contracts.

For each of the items below, respondent should certify bidder's agreement and ability to comply, where applicable, by having respondents authorized representative complete and initial the applicable lines after each section and sign the acknowledgment at the end of this form. If a respondent fails to complete any item in this form, CCOG will consider the respondent's response to be that they are unable or unwilling to comply. A negative response to any of the items may, if applicable, impact the ability of a participating agency to purchase from the Supplier Partner using federal funds.

15.3.1. Supplier Partner Violation or Breach of Contract Terms

Contracts for more than the simplified acquisition threshold currently set at one hundred fifty thousand dollars ($150,000), which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 USC 1908, must address administrative, contractual, or legal remedies in instances where Supplier Partners violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Any contract award will be subject to Terms and Conditions of the Master Agreement, as well as any additional terms and conditions in any purchase order, participating agency ancillary contract, or Member construction contract agreed upon by Supplier Partner and the participating agency which mut be consistent with and protect the participating agency at least to the same extent as the CCOG Terms and Conditions.

The remedies under the contract are in addition to any other remedies that may be available under law or in equity. By submitting a proposal, you agree to these Supplier Partner violation and breach of contract terms.

Does Supplier Partner agree? Click or tap here to enter text.

(Initials of Authorized Representative)

15.3.2. Termination for Cause or Convenience

When a participating agency expends federal funds, the participating agency reserves the right to immediately terminate any agreement in excess of ten thousand dollars ($10,000) resulting from this procurement process in the event of a breach or default of the agreement by Offeror in the event Offeror fails to: (1) meet schedules, deadlines, and/or delivery dates within the time specified in the procurement solicitation, contract, and/or a

purchase order; (2) make any payments owed; or (3) otherwise perform in accordance with the contract and/or the procurement solicitation. Participating agency also reserves the right to terminate the contract immediately, with written notice to offeror, for convenience, if participating agency believes, in its sole discretion that it is in the best interest of participating agency to do so. Bidder will be compensated for work performed and accepted and goods accepted by participating agency as of the termination date if the contract is terminated for convenience of participating agency. Any award under this procurement process is not exclusive and participating agency reserves the right to purchase goods and services from other offerors when it is in participating agency's best interest.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.3. Equal Employment Opportunity

Except as otherwise provided under 41 CFR Part 60, all participating agency purchases or contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 shall be deemed to include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR Part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

The equal opportunity clause provided under 41 CFR 60-1.4(b) is hereby incorporated by reference. Supplier Partner agrees that such provision applies to any participating agency purchase or contract that meets the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 and Supplier Partner agrees that it shall comply with such provision.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.4. Davis-Bacon Act

When required by Federal program legislation, Supplier Partner agrees that, for all participating agency prime construction contracts/purchases in excess of two thousand dollars ($2,000), Supplier Partner shall comply with the Davis-Bacon Act (40 USC 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, Supplier Partner is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determinate made by the Secretary of Labor. In addition, Supplier Partner shall pay wages not less than once a week.

Current prevailing wage determinations issued by the Department of Labor are available at www.wdol.gov. Supplier Partner agrees that, for any purchase to which this requirement applies, the award of the purchase to the Supplier Partner is conditioned upon Supplier Partner's acceptance of the wage determination.

Supplier Partner further agrees that it shall also comply with the Copeland "Anti-Kickback" Act (40 USC 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States". The Act provides that each Supplier Partner or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.5. Contract Work Hours and Safety Standards Act

Where applicable, for all participating agency contracts or purchases in excess of one hundred thousand dollars ($100,000) that involve the employment of mechanics or laborers, Supplier Partner agrees to comply with 40 USC 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 USC 3702 of the Act, Supplier Partner is required to compute the wages of every mechanic and laborer on the basis of a standard work week of forty (40) hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of forty (40) hours in the work week. The requirements of 40 USC 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.6. Right to Inventions Made Under a Contract or Agreement

If the participating agency's Federal award meets the definition of "funding agreement" under 37 CFR 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance or experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Supplier Partner agrees to comply with the above requirements when applicable.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.7. Clean Air Act and Federal Water Pollution Control Act

Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act (33 USC 1251-1387), as amended – Contracts and subgrants of amounts in excess of one hundred fifty thousand dollars ($150,000) must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act, as amended (33 USC 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

When required, Supplier Partner agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and the Federal Water Pollution Control Act.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.8. Debarment and Suspension

Debarment and Suspension (Executive Orders 12549 and 12689) – A contract award (see 2 CFR 180.220) must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1966 Comp. p. 189) and 12689 (3CFR Part 1989 Comp. p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Supplier Partner certifies that Supplier Partner is not currently listed on the government-wide exclusions in SAM, is not debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549. Supplier Partner further agrees to immediately notify the Cooperative and all Members with pending purchases or seeking to purchase from Supplier Partner if Supplier Partner is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.9. Byrd Anti-Lobbying Amendment

Byrd Anti-Lobbying Amendment (31 USC 1352) – Supplier Partners that apply or bid for an award exceeding one hundred thousand dollars ($100,000) must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 USC 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. As applicable, Supplier Partner agrees to file all certifications and disclosures required by, and otherwise comply with, the Byrd Anti-Lobbying Amendment (31 USC 1352).

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.10. Procurement of Recovered Materials

For participating agency purchases utilizing Federal funds, Supplier Partner agrees to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act where applicable and provide such information and certifications as a participating agency may require to confirm estimates and otherwise comply. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds ten thousand dollars ($10,000) or the value of the quantity acquired during the preceding fiscal year exceeded ten thousand dollars ($10,000); procuring solid waste management services in a manner that maximizes energy and resource recovery, and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.11. Profit as a Separate Element of Price

For purchases using federal funds in excess of one hundred fifty thousand dollars ($150,000), a participating agency may be required to negotiate profit as a separate element of the price. See, 2 CFR 200.323(b). When

required by a participating agency, Supplier Partner agrees to provide information and negotiate with the participating agency regarding profit as a separate element of the price for a particular purchase. However, Supplier Partner agrees that the total price, including profit, charged by Supplier Partner to the participating agency shall not exceed the awarded pricing, including any applicable discount, under Supplier Partner's Group Purchasing Agreement.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.12. General Compliance and Cooperation with Members

In addition to the foregoing specific requirements, Supplier Partner agrees, in accepting any purchase order from a Member, it shall make a good faith effort to work with Members to provide such information and to satisfy such requirements as may apply to a particular participating agency purchase or purchases including, but not limited to, applicable recordkeeping and record retention requirements.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

15.3.13. Applicability to Subcontractors

Offeror agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does Supplier Partner agree? Click or tap here to enter text.
(Initials of Authorized Representative)

By signature below, I certify that the information in this form is true, complete, and accurate and that I am authorized by my company to make this certification and all consents and agreements contained herein.

Otto Environmental Systems North America, Inc.
Bidder Name

Signature of Authorized Company Official

Michael Costello
Printed Name

President and CEO
Title

Click or tap here to enter text.
Date 3/2/21

16. Required Documents for Supplier Partners Intending to Do Business in New Jersey

16.1. Ownership Disclosure Form

Pursuant to the requirements of P.L. 1999, Chapter 440 effective April 17, 2000 (Local Public Contracts Law), Bidder shall complete the form attached to these specifications listing the persons owning 10 percent (10%) or more of the firm presenting the proposal.

Commented [DR1]: I think we need to add the detail about this section where it is would be required, in order to sell in NJ that the winning supplier will have to complete the documents in this section. It will be the responsibility of the customer to ensure compliance.

equalis GROUP

Bidder Name: Otto Environmental Systems North America, Inc.

Street Address: 12700 General Drive

City, State Zip: Charlotte, NC, 28273

Complete as appropriate:

I Click or tap here to enter text., *certify that I am the sole owner of* Click or tap here to enter text., *that there are no partners and the business is not incorporated, and the provisions of N.J.S. 52:25-24.2 do not apply.*

OR:

I Click or tap here to enter text., *a partner in* Click or tap here to enter text., *do hereby certify that the following is a list of all individual partners who own a* 10 percent (10%) *or greater interest therein. I further certify that if one (1) or more of the partners is itself a corporation or partnership, there is also set forth the names and addresses of the stockholders holding 10 percent (10%) or more of that corporation's stock or the individual partners owning 10% or greater interest in that partnership.*

OR:

I Michael Costello, *an authorized representative of* Otto Environmental Systems North America, Inc., *a corporation, do hereby certify that the following is a list of the names and addresses of all stockholders in the corporation who own 10% or more of its stock of any class. I further certify that if one (1) or more of such stockholders is itself a corporation or partnership, that there is also set forth the names and addresses of the stockholders holding* 10 percent (10%) *or more of the corporation's stock or the individual partners owning a* 10 percent (10%) *or greater interest in that partnership.*

(Note: If there are no partners or stockholders owning 10% or more interest, indicate none.)

NAME	ADDRESS	% INTEREST
Otto Industries North America, Inc.	12700 General Drive, Charlotte, NC28273	100
Calidus Capital Corporation	4620-181 Bay Street, PO Box 792 Toronto, ON M5J 2T3 Canada	100
Catalyst Capital Group	Braslyn, Ltd. 4620-181 Bay Street, Toronto, ON, M5J 2T3, Canada	100
Click or tap here to enter text.	Click or tap here to enter text.	
Click or tap here to enter text.	Click or tap here to enter text.	

I further certify that the statements and information contained herein, are complete and correct to the best of my knowledge and belief.

Authorized Signature and Title
Michael Costello, President and CEO

3/2/21
Date

16.2. Non-Collusion Affidavit (to be completed and included with each proposal submitted to Members in NJ)

Street Address:

City, State Zip:

State of New Jersey

County of Customer County

I, Your Name *of the* Your City *in the County of* Your County, *State of* Your State *of full age, being duly sworn according to law on my oath depose and say that:*

I am the Your Title *of the firm of* Bidder Name, *the Bidder making the proposal for the goods, services, or public work specified under the attached proposal, and that I executed the said proposal with full authority to do so; that said respondent has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above proposal, and that all statements contained in said bid proposal and in this affidavit are true and correct, and made with full knowledge that the* Customer Name *relies upon the truth of the statements contained in said bid proposal and in the statements contained in this affidavit in awarding the contract for the said goods, services, or public work.*

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by:

Bidder Name

_____

Authorized Signature

Title

Subscribed and sworn before me

this _____ day of _____, 20____

_____

Notary Public of New Jersey
My commission expires , 20____

SEAL

16.3. Affirmative Action Affidavit
(P.L. 1975, C.127)

Bidder Name: **N/A**

Street Address: Enter Street Address

equalis GROUP

Bidder Name: N/A

Street Address: Enter Street Address

City, State Zip: Enter City, State Zip

Bid Proposal Certification:
Indicate below your compliance with New Jersey Affirmative Action regulations. Your proposal will be accepted even if you are not in compliance at this time. No contract and/or purchase order may be issued, however, until all Affirmative Action requirements are met.

Required Affirmative Action Evidence:
Procurement, Professional & Service Contracts (Exhibit A)

Supplier Partners must submit with proposal:

1. *A photocopy of their Federal Letter of Affirmative Action Plan Approval*

   OR

2. *A photocopy of their Certificate of Employee Information Report*

   OR

3. *A complete Affirmative Action Employee Information Report (AA302)*

Public Work – Over Fifty Thousand Dollars ($50,000) Total Project Cost:

Check One –

☐ *No approved Federal or New Jersey Affirmative Action Plan. We will complete Report Form AA201-A upon receipt from the* Customer Name, *or*

☐*Approved Federal or New Jersey Plan – certificate enclosed*

I further certify that the statements and information contained herein, are complete and correct to the best of my knowledge and belief.

Bidder Name

_____

Authorized Signature

Title

Date

During the performance of this contract, the Supplier Partner agrees as follows:

The Supplier Partner or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. The Supplier Partner will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Supplier Partner agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this non-discrimination clause.

The Supplier Partner or subcontractor, where applicable will, in all solicitations or advertisement for employees placed by or on behalf of the Supplier Partner, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation.

The Supplier Partner or subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the labor union or workers' representative of the Supplier Partner's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The Supplier Partner or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time and the Americans with Disabilities Act.

The Supplier Partner or subcontractor agrees to attempt in good faith to employ minority and female workers trade consistent with the applicable county employment goal prescribed by N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, C.127, as amended and supplemented from time to time or in accordance with a binding determination of the applicable county employment goals determined by the Affirmative Action Office pursuant to N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, C.127, as amended and supplemented from time to time.

The Supplier Partner or subcontractor agrees to inform in writing appropriate recruitment agencies in the area, including employment agencies, placement bureaus, colleges, universities, labor unions, that it does not discriminate on the basis of age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The Supplier Partner or subcontractor agrees to revise any of it testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the state of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

The Supplier Partner or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and lay-off to ensure that all such actions are taken without regard to age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and conform with the applicable

employment goals, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The Supplier Partner and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Affirmative Action Office for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (NJAC 17:27).

_____

Signature of Procurement Agent

16.4. Political Contribution Disclosure Form

Public Agency Instructions

This page provides guidance to public agencies entering into contracts with business entities that are required to file Political Contribution Disclosure forms with the agency. **It is not intended to be provided to Supplier Partners.** What follows are instructions on the use of form local units can provide to Supplier Partners that are required to disclose political contributions pursuant to N.J.S.A. 19:44A-20.26 (P.L. 2005, c. 271, s.2). Additional information on the process is available in Local Finance Notice 2006-1 (www.nj.gov/dca/lgs/lfns/lfnmenu.shtml).

1. The disclosure is required for all contracts in excess of seventeen thousand five hundred dollars ($17,500) that are **not awarded** pursuant to a "fair and open" process (N.J.S.A. 19:44A-20.7).
2. Due to the potential length of some Supplier Partner submissions, the public agency should consider allowing data to be submitted in electronic form (i.e., spreadsheet, pdf file, etc.). Submissions must be kept with the contract documents or in an appropriate computer file and be available for public access. **The form is worded to accept this alternate submission.** The text should be amended if electronic submission will not be allowed.
3. The submission must be **received from the Supplier Partner and** on file at least ten (10) days prior to award of the contract. Resolutions of award should reflect that the disclosure has been received and is on file.
4. The Supplier Partner must disclose contributions made to candidate and party committees covering a wide range of public agencies, including all public agencies that have elected officials in the county of the public agency, state legislative positions, and various state entities. The Division of Local Government Services recommends that Supplier Partners be provided a list of the affected agencies. This will assist Supplier Partners in determining the campaign and political committees of the officials and candidates affected by the disclosure.
    a) The Division has prepared model disclosure forms for each county. They can be downloaded from the "County PCD Forms" link on the Pay-to-Play web site at **www.nj.gov/dca/lgs/p2p**. They will be updated from time-to-time, as necessary.
    b) A public agency using these forms **should edit them to properly reflect the correct legislative district**(s). As the forms are county-based, **they list all legislative districts** in each county. **Districts that do not represent the public agency should be removed from the lists.**
    c) Some Supplier Partners may find it easier to provide a single list that covers all contributions, regardless of the county. These submissions are appropriate and should be accepted.

d) The form may be used "as-is", subject to edits as described herein.
e) The "Supplier Partner Instructions" sheet is intended to be provided with the form. It is recommended that the instructions and the form be printed on the same piece of paper. The form notes that the Instructions are printed on the back of the form; where that is not the case, the text should be edited accordingly.
f) The form is a Word document and can be edited to meet local needs, and posted for download on web sites, used as an e-mail attachment, or provided as a printed document.

5. It is recommended that the Supplier Partner also complete a "Stockholder Disclosure Certification." This will assist the local unit in its obligation to ensure that Supplier Partner did not make any prohibited contributions to the committees listed on the Business Entity Disclosure Certification in the twelve (12) months prior to the contract. (See Local Finance Notice 2006-7 for additional information on this obligation) A sample Certification form is part of this package and the instruction to complete it is included in the Supplier Partner Instructions. **NOTE: This section is not applicable to Boards of Education.**

C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM
Supplier Partner Instructions

Supplier Partners receiving contracts from a public agency that are NOT awarded pursuant to a "fair and open" process (defined at N.J.S.A. 19:44A-20.7) are subject to the provisions of P.L. 2005, c. 271, s.2 (N.J.S.A. 19:44A-20.26). This law provides that ten (10) days prior to the award of such a contract, the Supplier Partner shall disclose contributions to:

1) any State, county, or municipal committee of a political party,
2) any legislative leadership committee*,
3) any continuing political committee (a.k.a., political action committee),
4) any candidate committee of a candidate for, or holder of, an elective office:
   a) of the public entity awarding the contract,
   b) of that county in which that public entity is located,
   c) of another public entity within that county,
   d) or of a legislative district in which that public entity is located or, when the public entity is a county, of any legislative district which includes all or part of the county. The disclosure must list reportable contributions to any of the committees that exceed three hundred dollars ($300) per election cycle that were made during the twelve (12) months prior to award of the contract. See N.J.S.A. 19:44A-8 and 19:44A-16 for more details on reportable contributions.

N.J.S.A. 19:44A-20.26 itemizes the parties from whom contributions must be disclosed when a business entity is not a natural person. This includes the following:

1) individuals with an "interest" ownership or control of more than ten percent (10%) of the profits or assets of a business entity or 10% of the stock in the case of a business entity that is a corporation for profit,
2) all principals, partners, officers, or directors of the business entity or their spouses,
3) any subsidiaries directly or indirectly controlled by the business entity,
4) IRS Code Section 527 New Jersey based organizations, directly or indirectly controlled by the business entity and filing as continuing political committees, (PACs). When the business entity is a natural person, "a contribution by that person's spouse or child, residing therewith, shall be deemed to be a contribution by the business entity." [N.J.S.A. 19:44A-20.26(b)] The contributor must be listed on the disclosure. Any business entity that fails to comply with the disclosure provisions shall be subject to a fine imposed by ELEC in an amount to be determined by the Commission which may be based upon the amount that the business entity failed to report. The enclosed list of agencies is provided to assist the Supplier Partner in identifying those public agencies whose elected official and/or candidate campaign committees are affected by the

disclosure requirement. It is the Supplier Partner's responsibility to identify the specific committees to which contributions may have been made and need to be disclosed. The disclosed information may exceed the minimum requirement. The enclosed form, a content-consistent facsimile, or an electronic data file containing the required details (along with a signed cover sheet) may be used as the Supplier Partner's submission and is disclosable to the public under the Open Public Records Act. The Supplier Partner must also complete the attached Stockholder Disclosure Certification. This will assist the agency in meeting its obligations under the law.

NOTE: This section does not apply to Board of Education contracts.

[1] N.J.S.A. 19:44A-3(s): "The term "legislative leadership committee" means a committee established, authorized to be established, or designated by the President of the Senate, the Minority Leader of the Senate, the Speaker of the General Assembly or the Minority Leader of the General Assembly pursuant to section 16 of P.L.1993, c.65 (C.19:44A-10.1) for the purpose of receiving contributions and making expenditures."

C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM

Required Pursuant to N.J.S.A. 19:44A-20.26

This form or its permitted facsimile must be submitted to the local unit no later than ten (10) days prior to the award of the contract.

Part I – Supplier Partner Information

Bidder Name:	Bidder Name				
Address:	Street Address				
City:	City	State:	State	Zip:	Zip

The undersigned being authorized to certify, hereby certifies that the submission provided herein represents compliance with the provisions of N.J.S.A. 19:44A-20.26 and as represented by the Instructions accompanying this form.

_____

Authorized Signature

Printed Name

Title

Part II – Contribution Disclosure

Disclosure requirement: Pursuant to N.J.S.A. 19:44A-20.26 this disclosure must include all reportable political contributions (more than three hundred dollars ($300) per election cycle) over the twelve (12) months prior to submission to the committees of the government entities listed on the form provided by the local unit.

☐ Check here if disclosure is provided in electronic form.

Contributor Name	Recipient Name	Date	Dollar Amount
Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount

equalis GROUP

Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount
Contributor Name	Recipient Name	Date	$Amount
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Contributor Name	Recipient Name	Date	$Amount

☐Check here if the information is continued on subsequent page(s)

List of Agencies with Elected Officials Required for Political Contribution Disclosure
<u>N.J.S.A.</u> 19:44A-20.26
County Name:
State: Governor, and Legislative Leadership Committees
Legislative District #s:
State Senator and two members of the General Assembly per district.

County:

Freeholders (County Executive) | County Clerk | Surrogate | Sheriff

Municipalities (Mayor and members of governing body, regardless of title):

USERS SHOULD CREATE THEIR OWN FORM, OR DOWNLOAD FROM WWW.NJ.GOV/DCA/LGS/P2P A COUNTY-BASED, CUSTOMIZABLE FORM.

16.5. Stockholder Disclosure Form

Name of Business:

☐ I certify that the list below contains the names and home addresses of all stockholders holding ten percent (10%) or more of the issued and outstanding stock of the undersigned.

OR

☐ I certify that no one stockholder owns ten percent (10%) or more of the issued and outstanding stock of the undersigned.

Check the box that represents the type of business organization:

☐ Partnership
☐ Corporation
☐ Sole Proprietorship
☐ Limited Partnership
☐ Limited Liability Corporation
☐ Limited Liability Partnership
☐ Subchapter S Corporation

Sign and notarize the form below, and, if necessary, complete the stockholder list below.

Stockholders:

Name: Stockholder Name **Home Address:** Home Address	**Name:** Stockholder Name **Home Address:** Home Address
Name: Stockholder Name **Home Address:** Home Address	**Name:** Stockholder Name **Home Address:** Home Address
Name: Stockholder Name **Home Address:** Home Address	**Name:** Stockholder Name **Home Address:** Home Address

Subscribed and sworn before me this ___ day of _____, 2__.	_____ (Affiant)
(Notary Public)	_____ (Print name & title of affiant)
My Commission expires:	(Corporate Seal)

17. Required Documents for Supplier Partners Intending to Do Business in Arizona

17.1. Arizona Supplier Partner Requirements

AZ Compliance with Federal and state requirements. Supplier Partner agrees when working on any federally assisted projects with more than two thousand dollars ($2,000.00) in labor costs, to comply with all federal and state requirements, as well as Equal Opportunity Employment requirements and all other federal and state laws, statutes, etc. Supplier Partner agrees to post wage rates at the work site and submit a copy of their payroll to the member for their files. Supplier Partner must retain records for three years to allow the federal grantor agency access to these records, upon demand. Supplier Partner also agrees to comply with the Arizona Executive Order 75-5, as amended by Executive Order 99-4.

When working on contracts funded with Federal Grant monies, Supplier Partner additionally agrees to comply with the administrative requirements for grants, and cooperative agreements to state, local and federally recognized Indian Tribal Governments.

AZ Compliance with workforce requirements. Pursuant to ARS 41-4401, Supplier Partner and subcontractor(s) warrant their compliance with all federal and state immigration laws and regulations that relate to their employees, and compliance with ARS 23-214 subsection A, which states, ..."every employer, after hiring an employee, shall verify the employment eligibility of the employee through the E-Verify program".

CCOG reserves the right to cancel or suspend the use of any contract for violations of immigration laws and regulations. CCOG and its members reserve the right to inspect the papers of any Supplier Partner or subcontract employee who works under this contract to ensure compliance with the warranty above.

AZ Supplier Partner Employee Work Eligibility. By entering into this contract, Supplier Partner agrees and warrants compliance with A.R.S. 41-4401, A.R.S. 23-214, the Federal Immigration and Nationality Act (FINA), and all other Federal immigration laws and regulations. CCOG and/or Equalis Group members may request verification of compliance from any Supplier Partner or subcontractor performing work under this contract. CCOG and Equalis Group members reserve the right to confirm compliance. In the event that CCOG or Equalis Group members suspect or find that any Supplier Partner or subcontractor is not in compliance, CCOG may pursue any and all remedies allowed by law, including but not limited to suspension of work, termination of contract, suspension and/or debarment of the Supplier Partner. All cost associated with any legal action will be the responsibility of the Supplier Partner.

AZ Non-Compliance. All federally assisted contracts to members that exceed ten thousand dollars ($10,000.00) may be terminated by the federal grantee for noncompliance by Supplier Partner. In projects that are not federally funded, respondent must agree to meet any federal, state or local requirements as necessary. In addition, if compliance with the federal regulations increases the contract costs beyond the agreed on costs in this solicitation, the additional costs may only apply to the portion of the work paid by the federal grantee.

Registered Sex Offender Restrictions (Arizona). For work to be performed at an Arizona school, Supplier Partner agrees that no employee or employee of a subcontractor who has been adjudicated to be a registered sex

offender will perform work at any time when students are present, or reasonably expected to be present. Supplier Partner agrees that a violation of this condition shall be considered a material breach and may result in the cancellation of the purchase order at the Equalis Group member's discretion. Supplier Partner must identify any additional costs associated with compliance to this term. If no costs are specified, compliance with this term will be provided at no additional charge.

Offshore Performance of Work Prohibited. Due to security and identity protection concerns, direct services under this contract shall be performed within the borders of the United States.

Terrorism Country Divestments. In accordance with A.R.S. 35-392, CCOG and Equalis Group members are prohibited from purchasing from a company that is in violation of the Export Administration Act. By entering into the contract, Supplier Partner warrants compliance with the Export Administration Act.

The undersigned hereby accepts and agrees to comply with all statutory compliance and notice requirements listed in this document.

Michael Costello, President and CEO

Signature of Authorized Representative

Date

3/2/21