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RMT - Loadmaster™ Rotomolded Transit Cases
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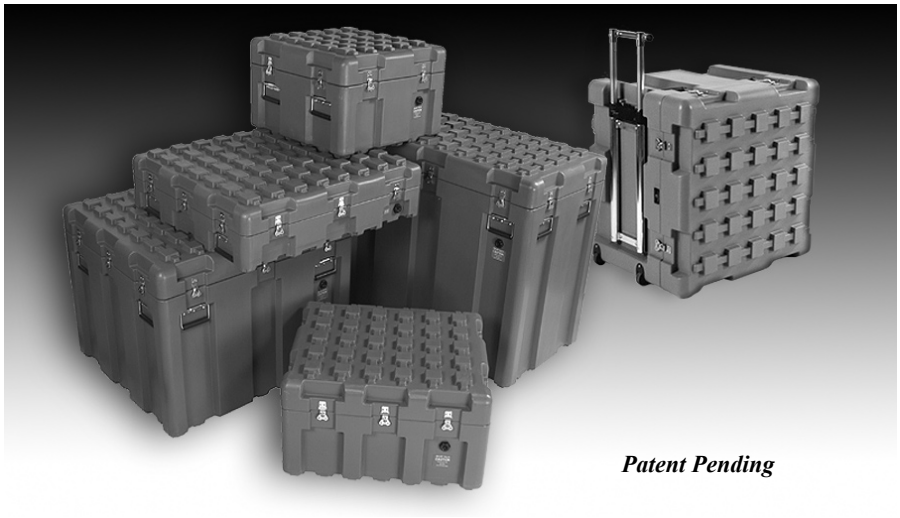
Photo Highlights

- ***Modular "Clam Shell" Transit Case Sizes***
- ***Modular Molded-in Case-to-Case Stacking Features***
- ***Rotomolded LLDPE Thermoplastic Exteriors***
- ***Optional Removable Cover or Hinged Cover***
- ***Recessed Draw Pull Latches, Handles and Air Valve***
- ***Water Tight Closures***
- ***Tote Handle Configurations***



Patent Pending

Totally Modular Rotomolded Transit Cases

Case Description Summary – Loadmaster rotomolded transit cases shall include –

- One rotationally molded bottom shell.
- One rotationally molded cover, either removable or hinged.
- Molded-in closures with gaskets.
- Field replaceable stainless steel exterior hardware.
- One automatic air pressure relief valve.

Modular Stackability of All Loadmaster Cases – Loadmaster rotomolded transit cases shall –

- Have modular dimensions whereby each case length is 4.2-inches larger than the next smaller case, each case width is 4.2-inches larger than the next smaller case, and each case height is 4.0-inches taller than the next shorter case.
- Have stacking rib features molded into the top and bottom surfaces of each Loadmaster case size which are configured in 4.2-inch intervals, which shall be parallel to both the length and width of the case, and which shall allow stacking and interlocking of rib features with any other Loadmaster rotomolded case.
- Have stacking features that allow any Loadmaster case size to be rotated 90-degrees in the horizontal plane and allow its stacking features to interlock securely with all other Loadmaster case sizes.
- Allow unusual groupings of Loadmaster cases to efficiently fit onto 463L military pallets and achieve maximum utilization of the 463L pallet.
- Be fully stackable with TSC composite rackmount cases which are equipped with Loadmaster stacking features and shall be fully compatible with Loadmaster case sizes manufactured in the future.

Loadmaster Rotationally Molded Case Components – Loadmaster rotomolded transit case bottom shells and cover shells shall –

- Be rotationally molded of thermoplastic, linear low density, polyethylene (LLDPE).
- Have 0º exterior side wall draft angle and exterior edges and corners with a maximum radius of 1-inch to maximize the interior storage cubic volume compared to the exterior cubic volume of each case.
- Have 0º side wall draft angle to maximize the stacking strength of such cases to assure that stacked cases will provide maximum unitized support while stacked, shall eliminate high-stress point loading from case to case while stacked, and shall minimize the potential for case deformation or collapse failure when exposed to unexpectedly adverse storage or transportation conditions.

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Loadmaster Rotationally Molded Case Components – Loadmaster rotomolded transit case bottom shells and cover shells shall –

- Have rotationally molded exteriors which are capable of being molded with a range of wall thicknesses and corner thicknesses to provide transportation durability, impact resistance and stacking strength for military and commercial equipment.
- Be deflashed on the return feature inside each case half to eliminate jagged/sharp edges that may be hazardous to personnel placing items in or removing items from the containers.
- Provide exceptional impact resistance and rugged durability over a broad temperature range.
- Demonstrate high impact absorption characteristics to enhance shock and vibration protection for enclosed equipment.
- Be permanently pigmented and shall not be painted.

Standard Rotomolded Transit Cases – Loadmaster rotomolded transit cases shall –

- Be available in many standard sizes from modular rotational molding tools machined from wrought aluminum plate.
- Be manufactured in uncomplicated designs – either as removable lid designs or as hinged clam-shell designs and with limited customization.
- Be capable of being stacked without causing a mismatch in case features or causing a load concentration on any area of any case, or on any stacking rib or geometric feature of any case in the stack.
- Allow the installation of optional features and hardware to satisfy unique requirements.
- Protect enclosed equipment from the world's most challenging climatic and environmental conditions.
- Be impervious to fuels, oils and solvents and shall be capable of decontamination if exposed to chemical warfare agents.
- Be carried in stock at ECS and shall be available for immediate shipment. Please refer to the Loadmaster online purchasing website located at ***www.ECSPolymerics.com.***

Water Tight Closures – Loadmaster rotomolded transit cases shall –

- Be water tight and shall provide protection from moisture, salt spray, sand and dust throughout the world's climate extremes.
- Have resealable closures comprised of a matching set of male and female features that are integrally molded into the top and bottom case halves.
- Have closure gaskets which are retained in the female closure profile with the use of an adhesive.

Exterior Hardware – Loadmaster rotomolded transit case exterior hardware shall –

- Be manufactured from 304 grade stainless steel or equivalent with a clear passivated finish.
- Be available in stainless steel with optional black oxide finish.
- Include recessed, externally mounted cam-action latches that permit rapid opening of sealed cases and rapid reinstallation and resealing of covers.
- Employ latches and closure designs which do not require the use of tools for opening or closing of cases.
- Utilize exterior hardware, including latches and handles, that is easily field replaceable with basic hand tools and that is attached with Nylock retained machine screws which thread into fully encapsulated fasteners molded into the case walls during the rotational molding process.
- Utilize exterior latches and handles that are replaceable without removing the contents of the container.
- Be recessed below the outermost surfaces of the cases.

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Exterior Hardware – Loadmaster rotomolded transit case exterior hardware shall –

- Utilize handle rotation stops, molded into the rotationally molded case shells, that prevent handle bails from rotating past 90º in addition to the 90º stops that are a normal part of the stainless steel baseplate for the handle.
- Have elastomeric handle grips that rotate on the stainless steel handle bails in compliance with MIL-STD-1472, Human Engineering Design Directive.
- Include an injection molded automatic air pressure relief valve.

Foam Cushions and Shock Mounts – Loadmaster rotomolded transit cases shall –

- Be available with fabricated foam cushions to contain individual pieces of equipment and to provide shock and vibration protection.
- Be available with fabricated foam cushion designs which are manufactured using CAD/CAM controlled foam cutting machinery and water-jet foam cutting equipment.
- Have foam cushion designs which are able to incorporate a virtually unlimited range of foam cushioning materials to create required shapes and sizes of fabricated foam cushions required for the enclosed equipment.
- Be available with shock mounts for shock and vibration control and/or shock mounted equipment platforms for the installation of equipment with shock mount spring rates that are able to support a broad range of equipment weights and equipment centers-of-gravity.

Colors and Options – Loadmaster rotomolded transit cases shall be available –

- In most colors in accordance with FED-STD-595, though most Loadmaster cases will be manufactured in commonly used military colors such as olive, desert tan, medium gray, black and earth tone, which are the case colors ECS keeps in stock.
- With optional flame retardant LLDPE resin conforming to Paragraph 5.11 of MIL-STD-648C.
- In toteable versions having tote handles and casters which are modular in size so they are stackable with all other Loadmaster transit cases and Loadmaster versions of TSC composite rackmount cases from ECS.
- With folding casters which are installed in the normal molded-in recesses on the sides of the case and are capable of being unlatched, folded downward toward the end of the case and latched in position for use and folded back into their recesses and are latched into place during case shipment or transportation.

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MIL-STD-810F Performance Testing –

- ***High and Low Temperature*** – Loadmaster rotomolded transit cases and their components shall not exhibit any significant degradation in performance and/or strength when exposed to temperatures ranging from -65º F to +185º F in accordance with MIL-STD-810F, Methods 501 and 502 for storage and operational conditions.
- ***Drop –*** Loadmaster rotomolded transit cases with covers in place shall show no evidence of damage and/or degradation when drop tested in accordance with MIL-STD-810F, Method 516, Procedure IV from a height of 24 to 48 inches onto a 2-inch thick plywood surface backed by concrete. Impacts shall be conducted on all corners, flats and edges for a total of 26 drops.
- ***Basic Transportation Vibration –*** Loadmaster rotomolded transit cases with covers in place shall show no evidence of damage and/or degradation when exposed to vibration environments for a duration of 30 minutes per mutually perpendicular axis when tested in accordance with MIL STD-810F, Method 514, Procedure I, Basic Transportation.
- ***Loose Cargo Bounce –*** A Loadmaster rotomolded transit case positioned in the upright position and with the covers in place shall show no evidence of damage and/or degradation when exposed to Loose Cargo Transportation environments for 30 minutes when tested in accordance with MIL-STD-810F, Method 514, Procedure II.
- ***Wind Blown Rain –*** Loadmaster rotomolded transit cases with the covers installed shall show no evidence of water intrusion and/or damage as a result of exposure to 40 mph wind blown rain conditions when tested in accordance with MIL-STD-810F, Method 506.4, Procedure I.
- ***Wind Blown Sand and Dust –*** Loadmaster rotomolded transit cases with covers installed shall show no evidence of damage and/or sand or dust intrusion when tested in accordance with MIL-STD-810F, Method 510, Procedures I & II – Blowing Sand and Dust.
- ***Fungus Growth –*** Loadmaster rotomolded transit cases and their components shall consist of materials that will not support fungus growth when tested in accordance with MIL-STD-810F, Method 508.
- ***Low Pressure –*** Loadmaster rotomolded transit cases shall not be damaged and/or degraded when exposed to low pressure environments when tested in accordance with MIL-STD-810F, Method 500, Procedures I and II.

General –

- Loadmaster rotomolded transit cases shall comply with applicable performance requirements of the following commonly used standards and specifications.

• **MIL-P-116**	• **MIL-C-4150J**
• **MIL-STD-130**	• **MIL-T-4734**
• **ATA-300**	• **MIL-T-21200**
• **MIL-STD-454**	• **MIL-T-28800F**
• **MIL-STD-648C**	• **MIL-STD-1472**
• **FED TEST METHOD STD 101**	

Note: ECS hereby grants permission for this Product Specification to be reprinted in part, or in its entirety, in container specifications, engineering documents and drawings, Commercial Item Descriptions, procurement documents, and other documents which define the configuration, features, design and/or performance requirements for transit cases, rackmount cases, or other types of reusable containers for military and comercial applications.

ECS Composites January, 2007

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