
ECS Composites

7000 Series - TSC Composite Rackmount Cases

Product Specification-Authorized for Reprinting

Photo Highlights

- **TSC Composite Case Exterior**
- **Riveted TSC Composite and Aluminum CEA-310 Rack with Eight Diagonally Attached Shock Mounts**
- **10-32 Nut-Bar Fasteners for Equipment Panels**
- **Two Removable Covers**
- **External Draw Pull Latches**
- **Water Tight Closures**
- **Case-to-Case Stacking Features**
- **Recessed Hardware**



Military Rackmount Cases with Composite/Aluminum Racks

Case Description Summary – 7000 Series rackmount cases shall include –

- Shock mounted 19-inch TSC composite and aluminum rack in accordance with CEA Standard 310-E.
- One TSC composite center body.
- Two TSC composite removable covers.
- Integrally molded TSC closures with gaskets.
- Stainless steel exterior hardware.
- Integrally molded external case-to-case stacking features.
- One automatic air pressure relief valve.

TSC Composite Case Components

– 7000 Series rackmount case center bodies and covers shall –

- Be high pressure compression molded TSC composite.
- Be compression molded TSC components reinforced with 40% continuous glass fibers by weight in the composite material. Remaining material in TSC case components shall primarily consist of thermoplastic polypropylene resin, with a small percentage of pigment for coloration of the composite parts.
- Have compression molded TSC components with corners that are thicker than the flat wall sections to provide enhanced impact resistance.
- Be permanently pigmented and shall not be painted.

Water Tight Closures – Removable covers shall –

- Have integrally molded resealable closures comprised of male and female features which consist of the same TSC material as the rest of the composite case components.
- Have closure gaskets that provide a water tight seal and shall be retained in the female profile with adhesive.

ECS Composites

7000 Series - TSC Composite Rackmount Cases

Product Specification-Authorized for Reprinting

CEA Standard 310-E Shock Mounted Rack – 7000 Series racks shall –

- Be manufactured from compression molded TSC composite components and precision machined aluminum extrusions. Machined aluminum rack components shall mechanically interlock with the TSC top and bottom rack components and shall be machine riveted with stainless steel semi-tubular rivets.
- Have aluminum vertical members which provide multiple equipment mounting capabilities. Racks shall have CEA compliant equipment mounting holes in front and rear vertical members and interior vertical rails for attachment of slides and brackets.
- Have diagonally attached elastomeric shock mounts which are installed between the rack and the center body of the case. Shock mount selection and mounting locations shall be determined based on the customer's representation of the center-of-gravity and the weight of customer specified equipment which will be installed in the rack.
- Each be supplied with twenty (20) threaded self locking, 10-32 clip nuts which are capable of being installed in any of the equipment mounting holes in the rack.
- Have optional stainless steel nut bars with threaded 10-32 tapped holes for equipment mounting.

Exterior Hardware – 7000 Series rackmount case exterior hardware shall –

- Be available with recess mounted lever-action latches, surface mounted cam-action latches or rotary draw-pull latches.
- Employ latching solutions that permit rapid opening of sealed cases and rapid reinstallation and resealing of covers.
- Not employ latch or closure designs which require the use of tools for opening or closing rackmount cases.
- Be available with numerous handle styles.
- Unless specified otherwise, be 304 grade stainless steel with a clear passivated finish but shall also be available in stainless steel with black oxide finish or powder coated finishes.
- Be manufactured from cold rolled steel with appropriate plated finishes or powder coated finishes if suitable 304 grade stainless steel hardware is not available.
- Be recessed below the exterior perimeter surfaces of the rackmount case.

Stacking Features – 7000 Series rackmount cases shall –

- Include integrally molded stacking features on the TSC top and bottom surfaces of rackmount case center bodies which allow stackability of all 7000 Series and 8000 Series rackmount cases regardless of rack depth.
- Allow rackmount cases to be stackable with covers installed or removed, and allow covers to be removed and/or reinstalled while cases are stacked.
- Be available with optional Loadmaster™ stacking features which allow 7000 Series rackmount cases to stack together and interlock with ECS Loadmaster™ rotational molded transit cases and storage cases.
- Allow electronic equipment to be accessible front and back for ease of cabling and operation when covers are removed.

Colors and Options – 7000 Series rackmount cases shall –

- Be available in most colors in accordance with FED-STD-595.
- Allow the installation and operation of numerous options and accessories, including casters, equipment slides, drawers, work surfaces, air conditioners and ventilation systems, exterior plug receptacles and other options which are required for effective utilization of rack mounted electronic equipment.
- Be available with shielded racks to provide EMI protection in accordance with MIL-STD-461 and/or conductive materials molded into the composite case shells to provide EMI shielding in accordance with MIL-STD-461.

ECS Composites

7000 Series - TSC Composite Rackmount Cases

Product Specification-Authorized for Reprinting

- MIL-STD-810F Performance Testing** –
- **High and Low Temperature** – 7000 Series rackmount cases and their components shall not exhibit any significant degradation in performance and/or strength when exposed to temperatures ranging from -65° F to +185° F in accordance with MIL-STD-810F, Methods 501 and 502 for storage and operational conditions.
 - **Drop** – 7000 Series rackmount 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** – 7000 Series rackmount 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 7000 Series rackmount 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** – 7000 Series rackmount 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** – 7000 Series rackmount 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** – 7000 Series rackmount 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** – 7000 Series rackmount 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** –
- 7000 Series rackmount 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 commercial applications.

ECS Composites January, 2007