



# FRP Rackmount Cases Protect and Customize

## RUGGED DURABILITY

Custom rackmount cases provide a balance of rugged durability, sizing options and effective shock and vibration protection. The FRP material used in these rackmount cases allows great design flexibility for military and industrial electronic applications. Compression molded FRP parts have 65% glass fiber reinforcement in a thermoset polyester resin base, and they are extremely impact resistant. These ruggedized rackmount cases provide unparalleled design flexibility and can be configured for nearly any scenario.

Watertight rackmount cases provide protection from moisture, salt spray, sand and dust throughout the world's climate extremes. Impervious to fuels, oils and solvents, they can also be decontaminated if exposed to chemical warfare agents.

What does this all mean? It means there is not a place in the world you can take these cases where they will fail. Don't believe us? Test them out yourself.

## IDEAL CUSTOMER

- Military
- Computers
- Commercial

## FEATURES

- Large Transports
- Almost Any Application
- Meets MIL-STD-810G

## THE ECS DIFFERENCE

	ECS TRANSIT CASES	COMPETITORS TRANSIT CASES
MATERIAL	FRP - Fiberglass Reinforced Polyester	Rotationally molded LLDPE
TENSILE STRENGTH	33,500	4,000
TENSILE MODULUS	2,431,000	75,000
FLEXURAL STRENGTH	46,900	N/A
FLEXURAL MODULUS	1,994,000	175,000
THERMAL DEFLECTION	392	122
SIZES	Endless	Driven by tool size
CUSTOM FEATURES	Rapid Decompression Discs, Air Valves, Fork Tubes, Gaskets, Casters, Hoist Rings, Desiccant Holders, Specialized Isolation Systems, Specified Custom Options.	





## UNLIMITED SIZE AND CUSTOMIZATION

ECS Case invented the 19" rackmount case in 1969 and has provided the leading rackmount solutions since. The first rackmounts were FRP composite, and to this day FRP Rackmount Cases remain the ideal balance of rugged durability, sizing options and effective shock and vibration protection. FRP Rackmount cases provide unparalleled design flexibility and generous sway space for shock and vibration attenuation. These versatile rackmount cases can be configured to enclose an wide range of equipment sizes, weights and special features.

- FRP Composite material
- Hermetically sealed
- Recessed, stainless steel hardware
- Two removable covers to allow electronic equipment to be accessed from front or back.

## TOTAL PROTECTION FROM THE WORLD'S ENVIRONMENTS

Water tight FRP composite cases provide protection from moisture, salt spray, sand and dust throughout the world's climate extremes. Impervious to fuels, oils and solvents, they can also be decontaminated if exposed to chemical warfare agents. ECS FRP containers have protected extremely expensive military equipment, including \$100-million satellites, from the world's most challenging climatic and environmental conditions.

## STRENGTH TO MATCH THE APPLICATION

Light in Weight - The unique FRP molding process at ECS provides the lightest and most impact resistant, custom designed, hermetically sealed containers known to man. Optional, premium priced, polyester/fiberglass composites can be compression molded by ECS to achieve super-light transit case weights. FRP composite exteriors can be compression molded with a range of wall thicknesses and corner thicknesses capable of providing extraordinary transportation durability, impact resistance and stacking strength for large military and commercial equipment.

## EXTREMELY DURABLE FRP THERMOSET COMPOSITE PARTS

Compression molded FRP parts have 60%-65% glass fiber reinforcement in a thermoset polyester resin base. Composite parts are compression molded on hydraulic presses with capacity up to 150-tons. High glass fiber content in the FRP case shells provides exceptional impact resistance and rugged durability at temperatures which exceed a range of -65° F to +185° F.

## EXTREME EQUIPMENT WEIGHT RANGE

FRP custom palletized designs can incorporate the features common to a hermetically sealed composite enclosure with the forklift handling features of a sea-going freight container. FRP custom cases and enclosures can be supplied with an unlimited number of shock mounts to accommodate and protect unusually heavy equipment. Unlimited Range of Interior Structures - Fabricated aluminum platforms are frequently installed inside large FRP containers. Shock mounts, engineered by ECS to match the weight and fragility of the equipment, allow each platform to "float" inside its container. Shock mounted platforms assure that large electronic systems, antennas, satellites and other large military equipment will be protected from shock and vibration during shipment.

## SHOCK MOUNTS AND CUSHIONS FOR EQUIPMENT PROTECTION

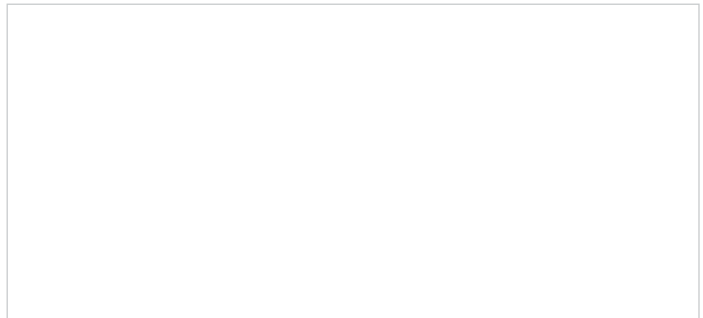
Shock and vibration attenuation can be provided by elastomeric shock mounts, helical isolator (cable) mounts and custom fabricated foam cushions. The high impact absorption characteristics of FRP composite materials enhance shock and vibration protection for enclosed equipment. Custom designed foam cushions are manufactured by ECS using computer controlled equipment. Shock mounts are configured for the weight and center of gravity of the installed equipment, and they provide uniform performance in all three axes. Optional shock mount configurations and spring rates can be provided to support a broad range of equipment weights and equipment centers-of-gravity.

## CUSTOM FRP RACKMOUNT SPECIFICATIONS

- 2000 Rigid Rack: The smallest, non-shock isolated rackmount case. Optional latching drawer.
- 3000 Unlimited Rack: Perfect for large payloads and is available in unlimited sizes. Optional 1U sliding equipment shelf and work surface.
- 4000 Compact Rack: The smallest shock isolated envelope. Riveted aluminum rack with eight multi-axis shock mounts.
- 5000 Standard Rack: For equipment with normal fragility. Riveted aluminum rack with eight diagonally attached shock mounts.
- 6000 High Fragility Rack: Has increased sway space for equipment with high fragility. Riveted aluminum rack with eight diagonally attached shock mounts.

## MIL-STD-810G PERFORMANCE TESTING FOR:

- High and Low Temperature
- Drop Testing
- Transportation Vibration
- Loose Cargo Bounce
- Water Submersion/Wind Blown Rain
- Fungus Growth
- Low Pressure



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