

Seismic Enclosures Provide an Extra Measure of Protection

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The use of seismic-rated enclosures is recommended in areas where earthquake activity is possible. In addition, power plants, railroads, airports and other installations use rack-mounted electrical and electronic equipment that is subjected to vibration and other motion that can over-stress equipment framework, components and connections. Adequate enclosure frame strength and rigidity are necessary under these conditions.

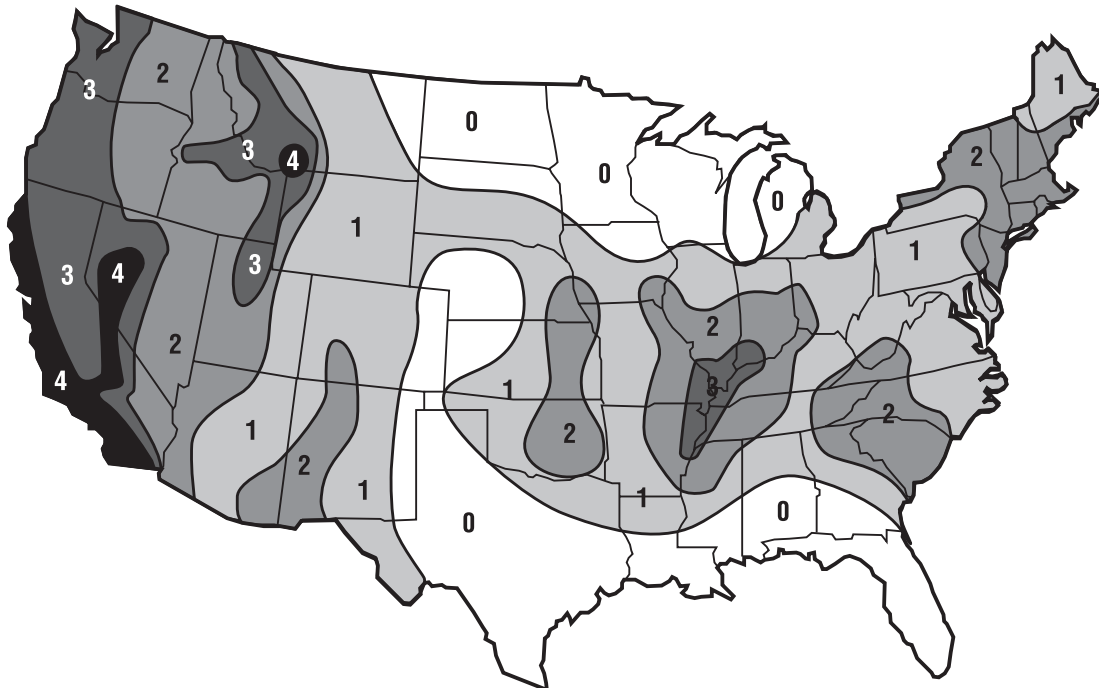
Seismic Enclosure Standards

Industry standards define global geographical areas as earthquake-risk Zones. Referring to the seismic Zone map below, Zones are numbered from 0 to 4 with Zone 4 corresponding to the highest risk areas. Geographic areas designated as Zone 0 present no substantial earthquake risk.

Conditions Other Than Earthquakes

Equipment may need to withstand the effects of movement or vibration in areas close to railways, airports, power plants and other areas subject to similar conditions.

Telcordia Seismic Zones (U.S.)



Zone 4 is the highest risk area, Zone 3 the next highest, and so on. Zone 0 has no earthquake requirements.

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Hoffman Seismic Products

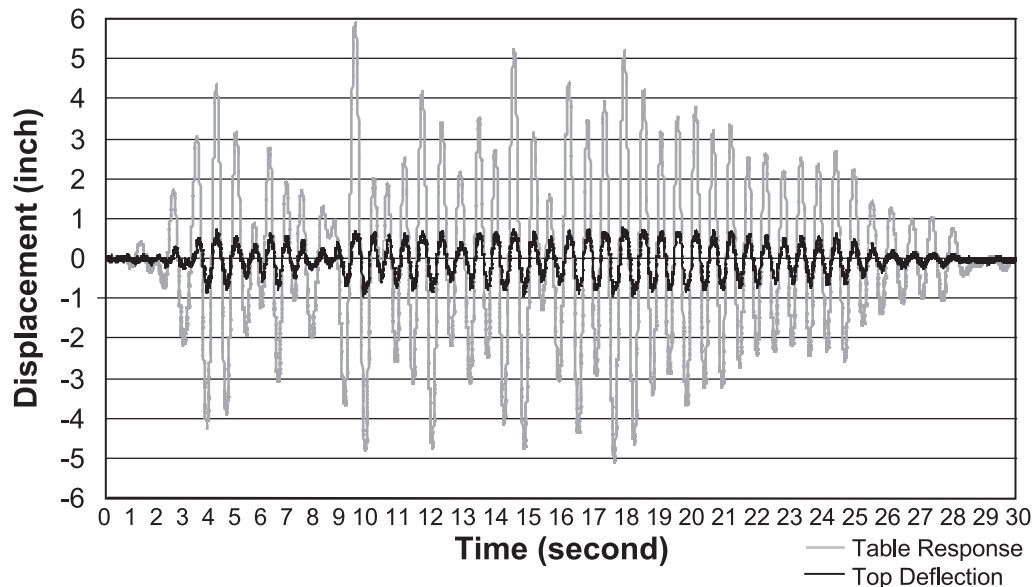
Hoffman performance-tests its seismic products according to Telcordia (formerly Bellcore) GR-63-CORE Network Equipment Building System (NEBS™) requirements for physical protection. These enclosures can also be manufactured to comply with all applicable national and international standards, such as the Uniform Building Code (UBC) and the International Electrotechnical Commission (IEC). Contact Telcordia, UBC and IEC for more information.

Seismic Certification

A Telcordia GR-63-CORE compliant test must be conducted by a Nationally Recognized Testing Laboratory (NRTL) or other recognized independent laboratory before certification will be issued. This test is conducted on an installation-specific basis with customer-installed equipment and cabling mounted inside the enclosure. In other cases or in addition to, a licensed structural engineer must certify the installation. Contact Hoffman for more information or for assistance in coordinating testing.



Enclosure mounted on shaker table



Time-motion history generated in front to back seismic enclosure test

NEBS™ is a trademark of Telcordia.

Seismic Cabinets

Seismic Cabinet



Features

- ENC2189S can be configured for 19- or 23-in. rack mounting by reversing the rack angles
- Both front and rear doors are hinged left and equipped with keylock flush handle and 3-point latching
- Same key provides access to all doors and side panels
- Doors and side panels are removable for easier equipment installation and upgrades
- Doors and side panels inset flush with frame
- Vented, heavy gauge steel base is designed to bolt to floor with seismic-rated fasteners

Specifications

- Heavy gauge welded steel frame with six rack angle mounting struts
- Includes two sets of painted L-shaped rack angles with holes per EIA spacing (5/8 in. x 5/8 in. x 1/2 in.)
- Holes are either 10-32 tapped or square, depending on model
- Top has two cable entry ports with caps and grommets and two fan-ready cutouts with finger guards
- Smoke gray acrylic window in reinforced front door
- Louvers on lower 1/3 of rear door

Finish

RAL 9005 textured low-gloss black polyester powder paint coating inside and out

Load Rating

Dynamic: 1100 lb. (499 kg)

Static: 2500 lb. (1134 kg)

For higher loads, contact Hoffman. Static load has a safety factor of 4 applied.

Accessories

ESBDK 3/8-in. Concrete Expansion bolt Anchor Kit, package of four
Also, most 19- and 23-in. rack accessories can be used with the seismic cabinets.

Bulletin: DNCS

Industry Standards

NEBS™ -Telcordia GR-63-CORE Zone 4: Tested with 1000 lb. (453.6 kg) of equipment installed and 100 lb. (45.4 kg) of simulated cable weight on the top.

Meet California Building Code (CBC) requirements
EIA 310-D

NEBS is a trademark of Telcordia

Application

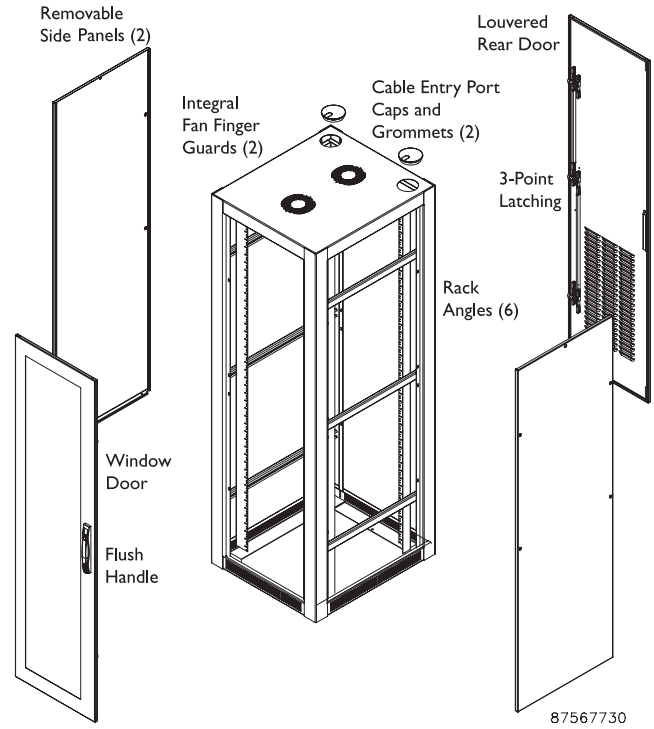
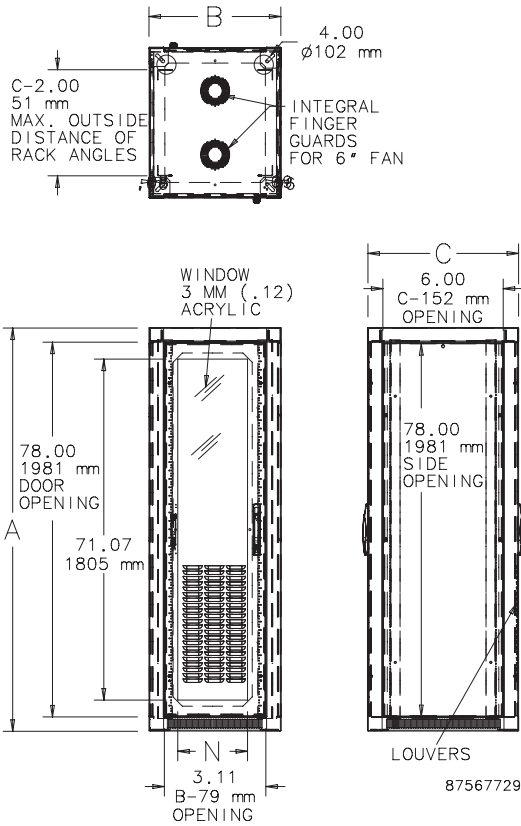
Seismic Cabinets protect LAN and WAN network equipment, servers and phone/voice mail equipment during Zone 4 seismic activity, and are also ideal for use in high vibration areas or areas with high load capacities. The cabinet's passive cooling design can be augmented with optional fans.

Standard Product Seismic Cabinets

Catalog Number	AxBxC in.	AxBxC mm	Description	Rack Units	N (in.)	N (mm)	Rack Angle Hole Type	Additional Rack Angles
ENC2178S	84.05 x 27.55 x 31.50	2135 x 700 x 800	19-in. cabinet	45	16.40	417	Tapped	ERA1921TPL
ENC2189S	84.05 x 31.50 x 35.44	2135 x 800 x 900	19- or 23-in. cabinet	45	20.40	517	Tapped	ERA192321TPL
ENC21710S	84.05 x 27.55 x 39.37	2135 x 700 x 1000	19-in. cabinet	45	16.40	417	Square	--
ENC21712S	84.05 x 27.55 x 47.25	2135 x 700 x 1200	19-in. cabinet	45	16.40	417	Square	--

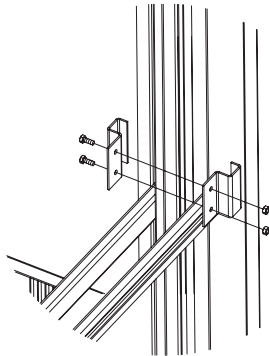
Rack angles on 23-in. cabinet can be reversed to accommodate 19- or 23-in. rack accessories.

Seismic Cabinets



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Seismic Cabinet Joining Kit

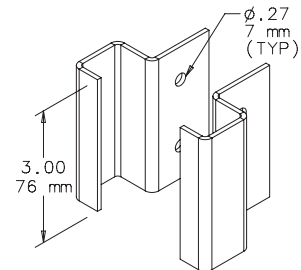


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Allows two network cabinets to be joined together. Requires removal of side covers on both joined cabinets. Brackets are used in pairs. Includes eight brackets and mounting brackets.

Bulletin: DNCY

Catalog Number	Description
ENCJK	Seismic Cabinet Joining Kit



87573201

Seismic Racks

Seismic 2-Post Open Frame Rack



Application

Designed for applications affected by vibrations and seismic activity, Seismic 2-Post Open Frame Racks integrate cable management into a fully welded, heavy gauge steel frame. Used in communication data center and telecommunication room applications, racks can be ganged with standard 2- or 4-post racks to expand existing systems.

Features

- Nominal height is 7 ft. (2.13 m) (45U)
- Fits 19-in. rack-mount equipment
- Side rails are tapped on both sides with 12-24 UNC threads for quick installation
- EIA Universal 5/8 - 5/8 - 1/2 in. vertical mounting-hole pattern matches industry standards and connects to most competitive racks
- Integral front waterfall top
- Pre-drilled holes on top to ease runway installation
- Top and bottom cable entry cutouts
- Ground provision with ground symbol
- Full complement of matching components for equipment and cable management

Specifications

- Rack is 10-gauge steel, fully welded for maximum rigidity

Finish

RAL 9005 black low-gloss polyester powder paint

Load Rating

Dynamic: 500 lb. (227 kg)

Static: 2500 lb. (1134 kg)

For higher loads, contact Hoffman. Static load has a safety factor of 4 applied.

Bulletin: DOFRS

Industry Standards

UL 1863 Listed; File No. E230874,
2500 lb. (1134 kg) rated load
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

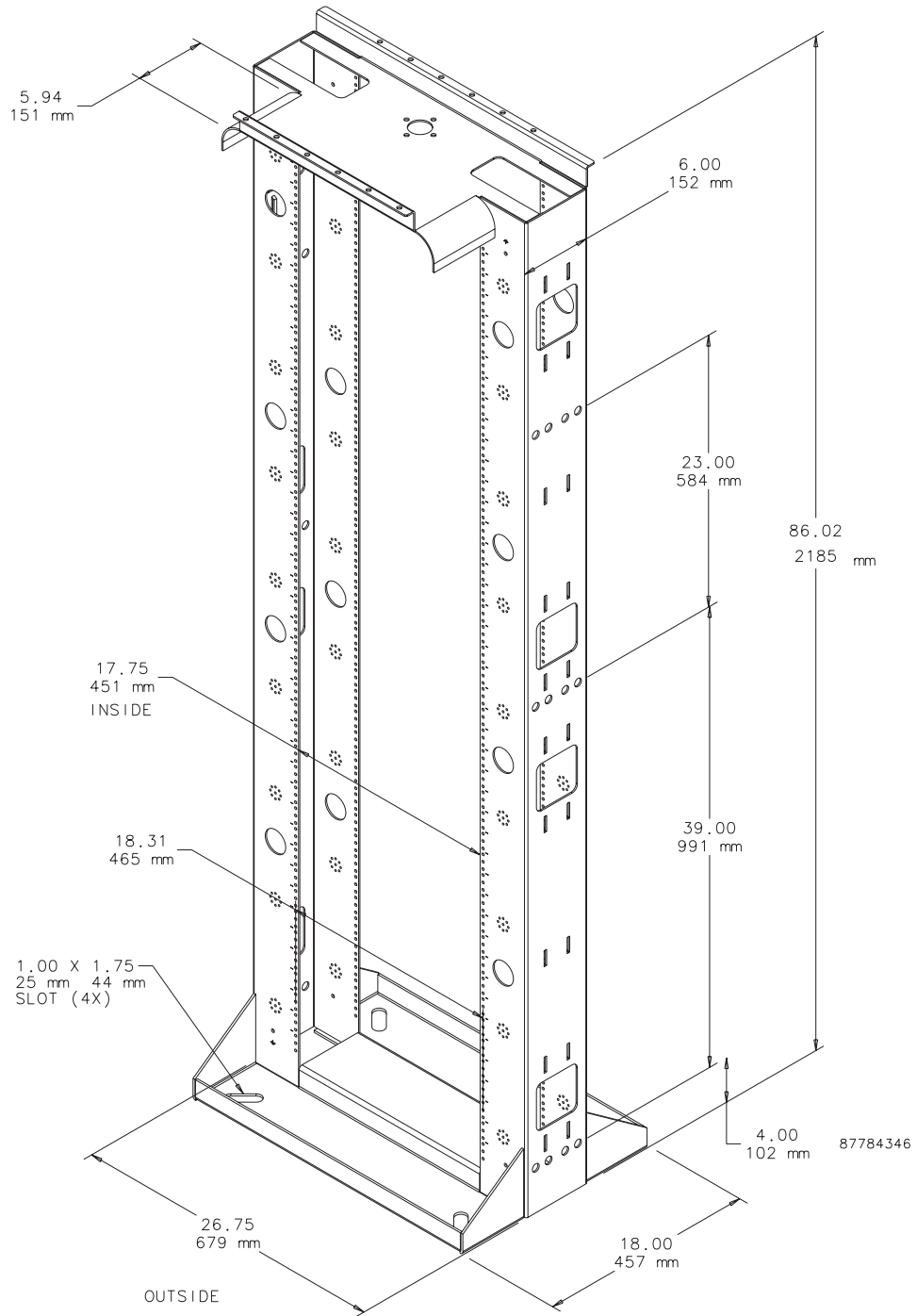
OSHPD Approved OPA-2435-07 (750 lb.)

NEBS™ -Telcordia GR-63-CORE Zone 4: Tested with 500 lb. (226.8 kg) of equipment installed
Meets California Building Code (CBC) requirements
EIA 310-D
NEBS is a trademark of Telcordia

Standard Products

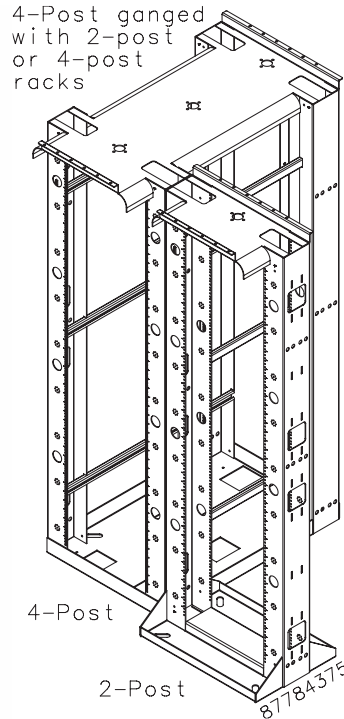
Catalog Number	AxBxC in.	AxBxC mm	Rack Units
ESDR19FM45U	86.02 x 26.75 x 18.00	2185 x 679 x 457	45

Seismic Racks



Seismic Racks

Seismic 4-Post Open-Frame Rack



Industry Standards

UL 1863 Listed; File No. E230874, 2500 lb. (1134 kg) rated load
 cUL C22.2 No. 182.4 Listed; File No. E230874

NEBS™ -Telcordia GR-63-CORE Zone 4: Tested with 1000 lb. (453.6 kg) of equipment installed
 Meet California Building Code (CBC) requirements
 EIA 310-D
 NEBS is a trademark of Telcordia

Application

Seismic 4-Post Open Frame Racks combine the mounting security of a cabinet with the accessibility of a rack. Used in communication data center and telecommunication room applications that are subject to seismic activity or vibration, these adjustable-depth racks support deeper, heavier network equipment and can be ganged with standard 2-post or other 4-post racks to expand existing systems.

Features

- EIA universal 5/8 - 5/8 - 1/2 in. spaced square holes fit 19-in. rack equipment and accessories
- Rear rack angle adjustable 0 to 39.09 in. (0 to 993 mm)
- Nominal height is 7 ft. (2.1 m)
- Can be ganged with both 2- and 4- post open frame racks
- Integral front waterfall top
- Pre-drilled holes on top to ease runway installation
- Top and bottom cable entry cutouts
- Ground provision with ground symbol
- Full complement of matching components for equipment and cable management

Specifications

- Rack is 10-gauge steel, fully welded for maximum rigidity

Finish

RAL 9005 smooth black low-gloss polyester powder paint

Load Rating

Dynamic: 1000 lb. (454 kg)

Static: 2500 lb. (1134 kg)

For higher loads, contact Hoffman. Static load has a safety factor of 4 applied.

Bulletin: DOFRS

Standard Product

Catalog Number	AxBxC in.	AxBxC mm	Rack Units
E4SDR19FM45U	86.02 x 26.75 x 39.87	2185 x 679 x 1013	45

Seismic Racks

