



MODULAR RF SHIELDED ENCLOSURES - SPECIFICATIONS

ARCHITECTS AND ENGINEERS SPECIFICATIONS

1. GENERAL

The R.F. Shielded solid wall enclosure described and herein specified shall be designed and installed for the containment or exclusion of radio frequency interference and shall be manufactured by R.F.I. Industries Pty. Ltd.

2. PERFORMANCE

The shielding effectiveness or attenuation shall be equal to or greater than MIL STD 285 or NSA 65-6 and/or related specifications.

This performance shall be on the complete enclosure and shall apply to all accessories specified with the enclosure.

3. MATERIALS

All materials used in the enclosure, including all accessories, shall be new, undamaged and installed and used in such a manner that normal wear and tear does not affect the specified shielding effectiveness.

4. CONSTRUCTION

a) General

The shielded enclosure shall be of the prefabricated modular type and shall be fully capable of being assembled and disassembled wholly from the inside.

b) Panels

The panels shall be constructed of a layer of zinc coated sheets of 24 gauge steel laminated to both sides of 13mm exterior grade plywood, particle board or medium density fibre board.

The walls, floor and ceiling panels shall be of the same construction. Each panel is nominally 2400mm by 1200mm in size.

The panels shall be joined and supported by specially designed members that clamp the edges of the panels and provide continuous, uniform and constant pressure contact against the shielding elements of the panels. The walls shall be self-supporting from floor to ceiling with no bracing against the parent room construction. The ceiling shall be self-supporting or supported by hangers from the structure ceiling.

c) Framing System

The steel frame system shall consist of four types of sections; "M", "U", "hat" and "flat" sections forming the intermediate joints. These sections shall be made of 3mm zinc plated steel. The "M" and "hat" sections shall have nutserts fixed at 100mm centres.

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The "U" and "flat" sections shall have holes punched at 100mm centres to correspond to the positioning of the nutserts. Screw fasteners of zinc plated steel not less than 6mm in diameter shall be provided to complete the assembly.

The entire framework shall be supplied with integral interconnecting tabs to enable erection and dismantling to be carried out without undue loss of time.

d) Doors

The shielded doors shall have a minimum clear opening of 815 x 2020mm unless otherwise specified.

The doors shall be equipped with a double row of beryllium copper contact strips around the periphery of each door. The contact strip shall be mechanically attached (not soldered), a method that allows ready field repair if required.

The doors shall be equipped with a 2 point latching mechanism to provide positive closure and ensure equal compression of the contact strip and thus maintain the RF integrity of the enclosure.

With the door at rest, and the contact strip in light contact with the frame but without any pressure being exerted on it, the mechanism shall draw the door into its final closed and RF tight position.

Bearing surfaces, rollers and door cams shall be case hardened steel, designed to provide years of trouble-free operation with no loss of attenuation due to friction and wear.

e) Floor

The original building floor must have a level surface of 3mm within 3metres. The shielded enclosure shall be supported with suitable hardboard sub-flooring to provide levelling when necessary and to provide for electrical isolation from the parent room floor.

The shielded enclosure floor shall be capable of supporting loads of 5000 kg/m².

The completed enclosure shall be provided with heavy-duty vinyl tiles or anti-static carpet as specified.

5. WAVEGUIDE AIR VENTS

Each enclosure shall be fitted with a minimum of one air inlet and one exhaust waveguide vent. The waveguide vent or honeycomb assembly shall be suitably treated for corrosion protection. The performance (shielding effectiveness) of the vent shall be equal to that of the total shielded enclosure.

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6. GROUNDING

Each enclosure shall be fitted with an earth stud of solid brass on not less than 6mm diameter. The earth stud shall extend a suitable distance both inside and outside the enclosure for installation of ground leads. The earth stud shall be provided with its own washers and nuts.

7. POWER LINE FILTERS

Power line filters when specified as part of the shielded enclosure shall be of the specified voltage and current rating and be manufactured in accordance with MIL-F-15733.

Filters shall provide the proper attenuation to conform to the shielded enclosure specifications.

8. SIGNAL LINE FILTERS

Signal line filters shall be provided when specified, to provide proper pass band characteristics for telephone, data, teletype facilities or control line functions. These filters shall have suitable attenuation to be compatible with the completed enclosure.

9. PENETRATIONS

All necessary penetrations for specified services shall be supplied and installed.

10. R.F. TESTING AND CERTIFICATION

Each enclosure shall be RF tested and shown to be equal to or greater than MIL STD 285 or NSA 65-6 and/or related specifications as required by the customer.

This performance shall be on the complete enclosure and shall apply to all accessories specified with the enclosure.

A full test report will be supplied in duplicate to the customer and a copy kept on file at RFI Industries Pty Limited.

If required, a handbook can be supplied with delivery of the enclosure.

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