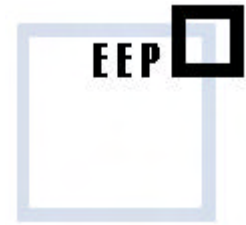


# RADIO FREQUENCY SHIELDING USING STEEL ENCLOSURES



European EMC Products Ltd



**The shielding material** should comprise of:

A minimum of 2 mm thick galvanised steel sheet securely fixed to all walls, floor and ceiling, all joints should be fully MIG (Metal Inert Gas) welded, or bolted at 100 mm centres with a suitable RF gasket. For protection against low frequency fields typically a minimum steel thickness of 6 mm will be required.

The steel can be fixed directly to the host building using mechanical anchors or can be assembled with its own steel **support structure** thereby forming independent walls or rooms.

**Ventilation grills** should be steel honeycomb minimum thickness 25.4 mm. Finish must be conductive corrosion resistant, such as lead-tin hot solder dipped.

**RF shielded doors** should be of steel single steel knife edge construction using 2 rows of beryllium copper (Cu-Be) contacts and TCS (Tin coated steel) knitmesh gasket.

**Pipe penetrations** should be prefabricated into 2mm steel plates then bonded to the shield.

**Copper cable penetrations**, ie power and data should enter the shield room through RF filters mounted on steel penetration panels.

**Internal fixing** points for decorative finishes should be metallic, ie steel studding frames used for plasterboard. The fixings can be mounted to the steel by tack welding or suitable mechanical fixings but should then be sealed over using metallic tape. The number of fixings through the shield should be kept to a minimum.

## RF Shielding Performance

Magnetic mode:	10 kHz to 100 kHz	60 dB rising to 80 dB
Electric Mode	1 kHz to 1 GHz	80 dB
Plane Wave	1 GHz to 10 GHz	80 dB

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