

ARCHITECTURAL SHIELDING USING COPPER



European EMC Products Ltd



The shielding material should comprise of:

125 micron copper sheet bonded and overlapped to all walls and ceiling, all joints should be overlapped by 100 mm and sealed with a metallic tape or soldered depending on performance required, see below.

Floor should be shielded with 1mm thick galvanised steel sheets, fixed to the floor with percussion type fixings, all sheets will be overlapped and sealed with tape with conductive adhesive. Steel sheet should also be fixed to the wall and ceiling where these coincide with the internal partition walls to be installed on completion of the shielding.

RF shielded doors should be of steel construction with TCS (tin coated steel) knit mesh gasket for RF performance. 2 point latching should be used to ensure uniform compression of the gasket.

Ventilation grills should be honeycomb minimum thickness 12.7mm

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

Windows should be shielded using an internal secondary RF shielded glazed unit of copper or stainless steel mesh bonded between glass sheets.

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 through the copper but should then be sealed over using metallic tape. The number of fixings through the copper should be kept to a minimum.

Shielding Performance Overlapped and taped joints 40 dB of attenuation of radiated electric and planewave signals over the frequency range 10 kHz to 10 GHz can be achieved. Overlapped and soldered joints 50 - 60 dB of attenuation of radiated electric and planewave signals over the frequency range 10 kHz to 10 GHz can be achieved.

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