

Mu-copper Faraday cages

Mu-copper wall covering system

Mu-Copper foil has high attenuation properties in the electrical field (up to 120 dB) as well as in the magnetic field (see shielding performance table).

It is easy to apply, like wallpaper, thanks to its special adhesive for walls, ceilings and floors. The interior finish can be plaster board, foam tiles or plywood.

The 0.12 mm thick Mu-Copper is used to transform a regular room into a shielded room; the product has excellent shielding performance even at low frequencies. The system is easy to mount on shielded doors with clamping devices. The standard width of Mu-Copper is 1000 mm; the foil can be delivered on rolls or as ready-made sheets.



Mu-copper Faraday cage, Mu-copper wall covering system

Overlap options

For the joints you can use a 50 mm overlap. For extra high performance you can fully solder the joints or use a seaming /copper tape with a conductive self-adhesive to apply over the joints.

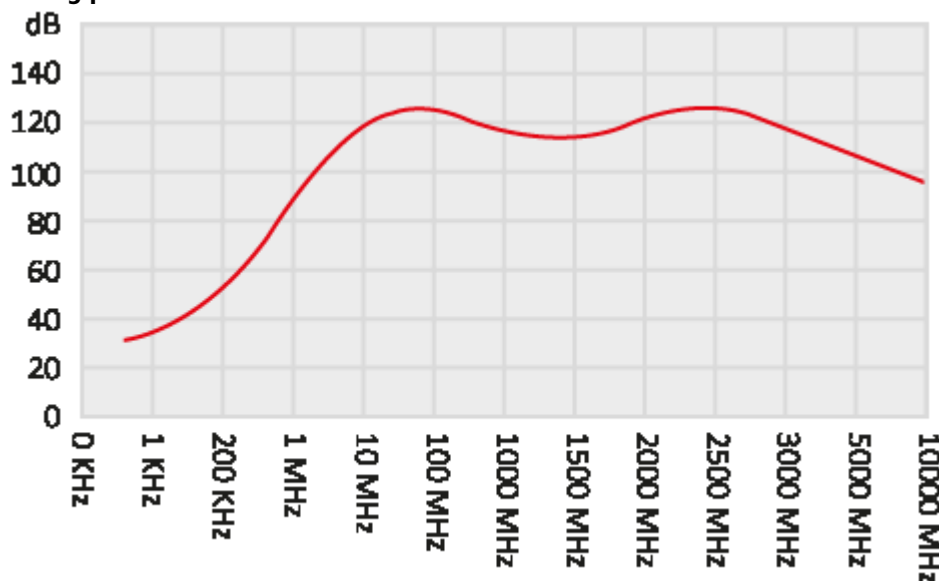


Mu-copper wallpaper overlap options

Advantages

- Cost-effective / takes up little space
- Light weight / high floor load
- Can be constructed with local labour
- Standard interior finish possible like plasterboard
- Can be delivered with 10 year guarantee
- Maintenance free
- Delivery with turnkey measurement report

Shielding performance



Mu-copper Faraday cage shielding performance

Basic values for the material and Mu-copper cage

These values are measured under laboratory conditions.

In other situations, results may differ; please read our Guarantee.

Mu-copper Faraday cages

Field	Frequency	Mu-copper
H	1 kHz	22 dB
H	10 kHz	33dB
H	200 kHz	68 dB
E	10 kHz	99 dB
E	200 kHz	127 dB
E	1 MHz	125 dB
E	18 MHz	101 dB
P	400 MHz	120 dB
P	1 GHz	110 dB
P	10 GHz	120 dB

Shielding performance of mu-copper foil 0.12 mm thick

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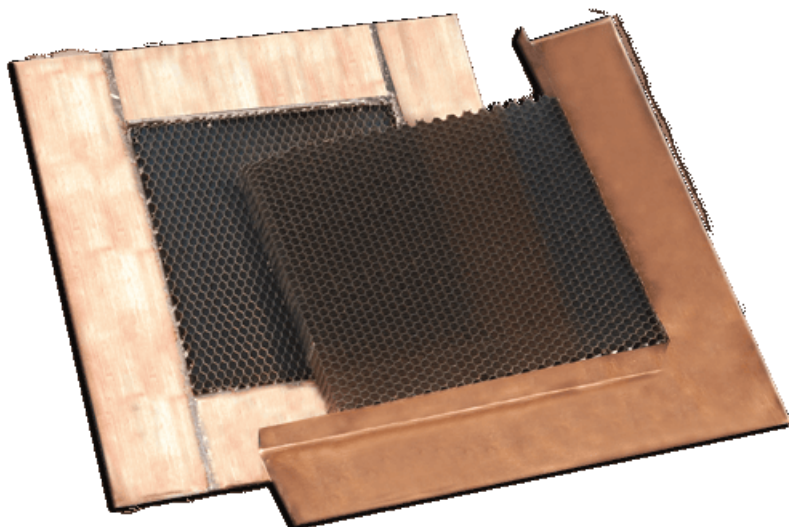
Measurements according to **MIL STD 285** and the following situation:

- Mu-copper foil 0.12 mm thick, fully soldered
- Dimensions 10 x 6 x 4 m
- 1 Door 0.9 x 2.1 m
- 2 Ventilation panels
- 4 Power filters

You can create a Faraday cage with high shielding performance yourself in an economic way, using local labour. This is possible in existing buildings as well as in new ones, without loss of space. Depending on the quality of the doors, vent panels, filters and/or windows used, attenuation levels up to 80-100 dB in the E-field can be realized. When more layers are applied, it is possible to achieve over 120 dB.

Ventilation

For ventilation we have developed honeycomb ventilation panels. Especially for the Mu-copper Faraday cages we can deliver honeycomb vent panels with aMu-copper flap around the edges. It is easy to solder these into the Mu-copper Faraday cage.



Honeycomb ventilation panels with Mu-copper flap

For other honeycomb ventilation panels, see our Honeycomb ventilation webpage.

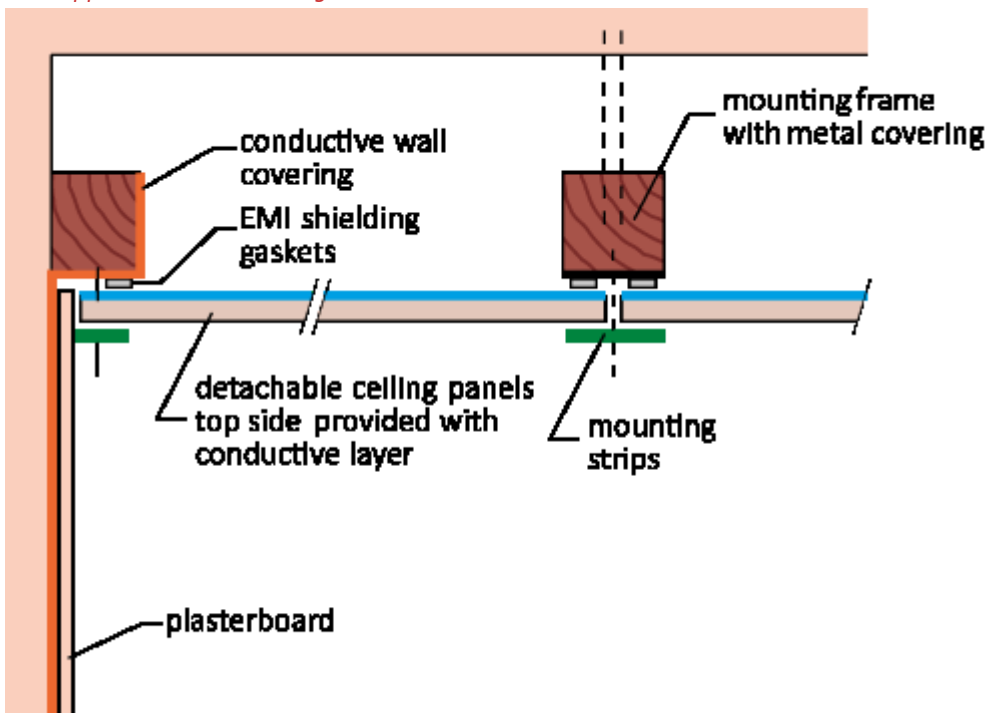
Ceiling

The system can be used with a detachable or fixed ceiling to separate existing ducts and cables from the shielded room.

Mu-copper Faraday cages



Mu-copper detachable ceiling



Mu-copper detachable ceiling construction

Applications



EMI shielded server room

Mu-copper Faraday cages



EMI shielded MRI room

- Server rooms
- EMC test rooms
- Computer rooms
- Medical examination rooms
- MRI, EEG, EMG EVP
- Rooms for physiotherapy
- Radar protection/Airport
- TEMPEST Sites
- Military EMC protection
- Board room shielding
- Industrial espionage/ Secure room
- Buildings for intelligence agencies



For more information, please download the datasheet "Medical solutions"

Modified RF shielded door



Shielding Faraday cage sliding door

When a lower performance of e.g. 40-60 dB is acceptable, we can retrofit your existing door. The door is then equipped with gaskets at the top and sides, and with a conductive copper brush and doorstep at the bottom.

Both swinging and sliding doors are suitable for being shielded this way.

Mu-copper Faraday cages

For heavy duty applications we can supply Faraday cage doors that offer up to 140 dB reduction.

For more information see our Faraday cage doors webpage

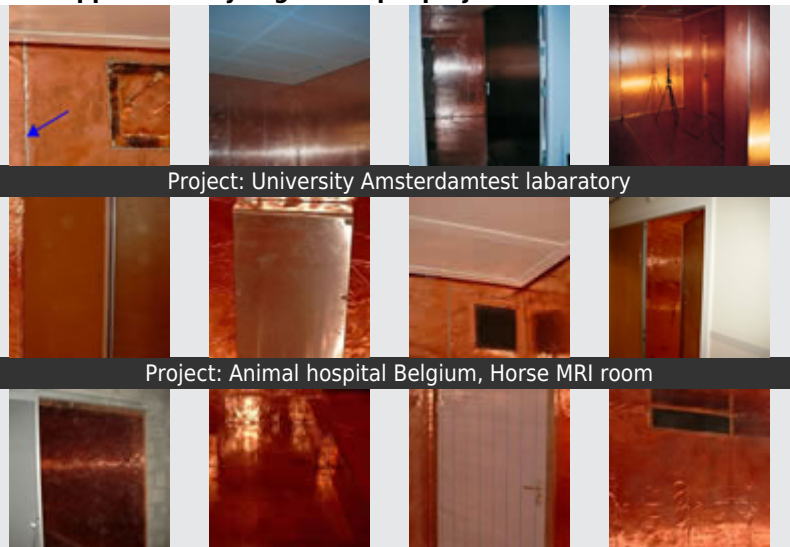
Components

In addition to EM shielded doors and windows, the screened rooms can be equipped with the following components:

- Shielded doors (see webpage)
- Shielded windows (see webpage)
- Shielded ventilation panels (see webpage)
- Power and signal filters (see webpage)

We also offer shielding solutions for water pipes, medical gases, and ventilation when needed.

Mu-copper Faraday cage example projects



Mu-copper (M2)	Adhesive	Solder
Indicate how many square meters Mu-copper foil you need	Select an option: WA : With adhesive NA : No adhesive	Select an option: WS : With solder NS : No solder