

# Considerations when Building a Shielded Room

## 1. What needs to be shielded?

If specialised equipment is to be shielded, what is the uppermost acceptable level of field it can be exposed to? I.e. what field attenuation is required? What access is needed to the room? Do you need a large door, or perhaps access for ventilation equipment or electrical cables?

## 2. How big is the room?

Determine the size of the room to be shielded. For most large rooms we would recommend additional shielding layers to attain the desired attenuation level. Our rooms consist of an aluminium frame onto which sheets of highly permeable  $\mu$ Metal are secured. The benefit of this design is that should the shielding requirements of the room change, further layers of  $\mu$ Metal can be added to the structure with minimal difficulty.

## 3. Where is the room located?

Think about the surrounding environment. Rooms being installed in a university building will likely be exposed to fields from equipment in surrounding rooms. If there is equipment in the building that produces field, when is this equipment in use? External sources of fields such as those from nearby electric railways lines could cause interference and areas of unusually high field in the room. We have specialist measuring equipment and will fully assess the magnetic field within the room so that we can identify regions of high field and classify their frequencies.

## 4. Do you have any special requirements?

Our shielded rooms have a great variety of purposes.

If you require radio frequency shielding we can incorporate copper or aluminium into the design.

Does the purpose of the room require strong lighting, or will there be any other electrical components added to the room? If so, these additions must be carefully considered as they will produce their own field within the room. We can source low magnetic field lighting. Would you like the walls to have a surface coating, such as blackout paint?

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