

# Magnetic Shields MuRoom®

Magnetically Shielded Rooms



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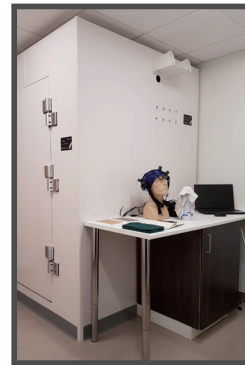
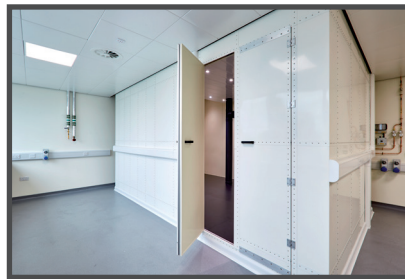
# MuRoom®

## What Makes Our Magnetically Shielded Rooms Unique

- Bespoke shielded rooms optimised for low frequency field attenuation
- High shielding factors in the 0Hz to 100Hz range
- Standard sizes available
- Modular system enables exact room size to be customised
- Wider MuMetal sheet reduces joints and enhances performance
- Heat Treatment completed in-house – process carefully controlled to enhance performance

## Our Experience

MSL have designed, built and installed a large number of MuRoom® systems



## Innovative Mu-Metal Shielded Room Design

The MuRoom® system is a modular system for magnetically shielded rooms

### Typical Applications

- MEG Devices (Optimised for Optically Pumped Magnetometers)
- Palaeomagnetism
- Electron microscopes (TEM devices such as FEI Titan)

MSL's standard range of MuRooms® (Compact, Standard, Grand and TEM) are shown in the table below  
MSL Bespoke rooms can be tailor made to suit specific shielding and size requirements

MuRoom®	MSL OPM Optimised Compact	MSL OPM Optimised Standard	MSL OPM Optimised Grand	MSL Bespoke	MSL TEM Optimised
Size internal incl finishing	1.3 x 1.3 x 2.0 metres	3.0 x 3.0 x 2.4 metres	4.0 x 3.0 x 2.4 metres	As required	6.3 x 5.8 x 4.4 metres
Cage Weight	2,000 kg	9,500 kg*	12,000 kg*	As required	28,500 kg
Wall Thickness	180mm	320mm	320mm	As required	300-500mm
Construction	Modular	Modular	Modular	Modular	Modular
Door type	Mechanical closure, swing door	Mechanical closure, swing door	Mechanical closure, swing door	As required	Swing door with latch
DC shielding factor	3500	3500	3500	As required	20nT peak to peak across frequency range
0,01Hz shielding factor	100	100	100	As required	
0,1Hz shielding factor	300	200	200	As required	
1Hz shielding factor	2,000	700	700	As required	
10Hz shielding factor	5,000	5,000	5,000	As required	
100Hz shielding factor	5,000	20,000	20,000	As required	

The standard rooms shown above provide a view of achievable shielding factors

\* A lighter option is available on request

# MuRoom®

## Shielded Room - Considerations

### Construction method

- Aluminium sub-frame with a recommended distance from the main room walls of 500mm to enable retrofitting of additional penetrations
- Can be built directly to outside edge of existing room but it is not recommended as the construction is more complex and the future proof nature of design is reduced

### Doors and access points

- Type of door required?
- Are other access points required?

### Measurement procedure

- Standard approach with coil outside room with set current and a Bartington Mag 03 probe to take measurements on a lattice grid every 500mm

### Lighting

- Standard is LED lights (which can be dimmable and various colours) we have other lighting options dependant on your requirement

### Finish

- We can provide a range of finishes dependant on requirements

### Lead-time

- 20 -25 weeks for standard rooms
- Initial step is to produce and approve production drawings, this normally requires 6 to 8 weeks
- Drawings will detail doors, cable ports and any other holes or access points along with lighting and other services required within the room

### Installation

- We will require 3 weeks for the OPM optimised compact and up to 16 weeks on site for larger rooms to install and measure the room
- Access is required from 8am to 8pm