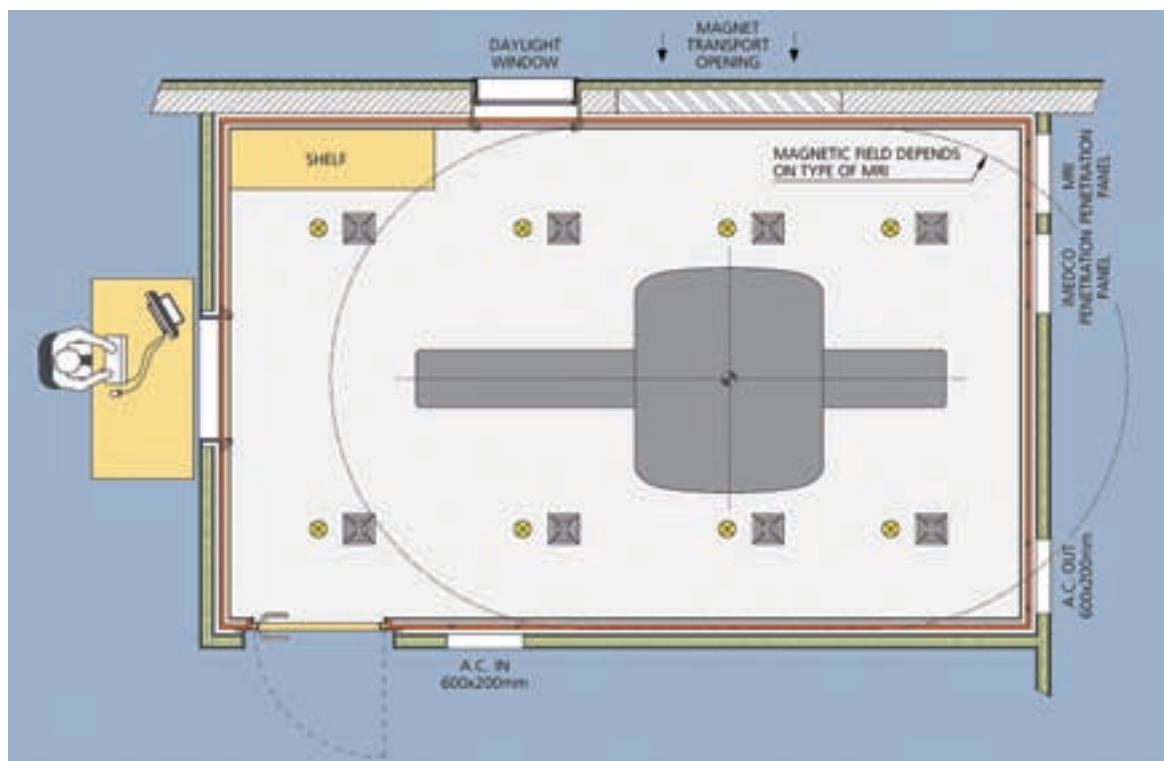


Radio-Frequency Shielding for MRI

Achieving the best results from MRI requires an environment which is free of Radio-Frequency interference – that's why radiologists all over the world prefer state-of-art technology engineered by IMEDCO®. With an IMEDCO-shielded enclosure you are sure of unsurpassed screening characteristics, the basis of consistently high long-term diagnostic quality and all-round operational reliability.



Features :

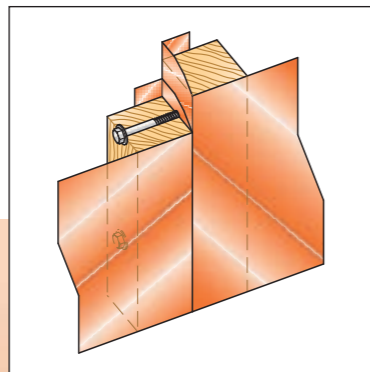
- ✓ Shielding of copper for best long-term performance (aluminium and galvanised steel for low frequency shielding also available).
- ✓ IMEDCO panel clamping system ensures RF shielding integrity for life of enclosure.
- ✓ RF windows of different sizes give a clear view of the examination room. Where feasible, windows in walls or ceiling can also provide daylight.
- ✓ IMEDCO door with high-quality brass frame provides for ease of opening and good RF contact (superior to stainless steel or aluminium).
- ✓ Optional **SilentSHIELD™** sound-proofing of door, window, walls, floor and ceiling (U.S. Patent Nos. 6,519,899 and 6,626,264, other patents pending).
- ✓ High RF attenuation (meets requirements for all 3.0 Tesla MRI's).
- ✓ All construction and internal fittings of nonmagnetic materials to ensure an homogeneous MRI field.
- ✓ Choice of materials and application of the highest design standards to achieve the specified performance.
- ✓ No preparation of existing wall surfaces necessary.
- ✓ Possibility to subsequently open the enclosure for upgrading or replacing MRI equipment.
- ✓ Installation by IMEDCO or IMEDCO trained personnel.
- ✓ Records of all changes and additions kept throughout the life of the enclosure.
- ✓ IMEDCO works quality management certified according to ISO 9001:2000.

Consult IMEDCO on all questions of RF, acoustical and magnetic shielding. A highly motivated team of experienced specialists is always on hand to discuss your site requirements. Take advantage of our expertise and experience gained from the installation of more than 3000 IMEDCO shielded enclosures of various sizes, incorporating many specific user features.

Medical RF & Magnetic Shielding Specialists – Worldwide

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IMEDCO panel clamping system ensures RF shielding integrity for life of enclosure.

Standard RF attenuations for enclosures made of copper

Magnetic field	15 MHz	100 dB
Electric field	10 kHz	100 dB
	30 MHz	100 dB
Plane waves	30 MHz	100 dB
	100 MHz	100 dB
	150 MHz	100 dB
Other levels of attenuation on request.		

The IMEDCO RF enclosure is basically a Faraday cage constructed of panels of high-quality copper foil. These are clamped together such as to ensure the integrity of the shielding throughout the life of the enclosure.

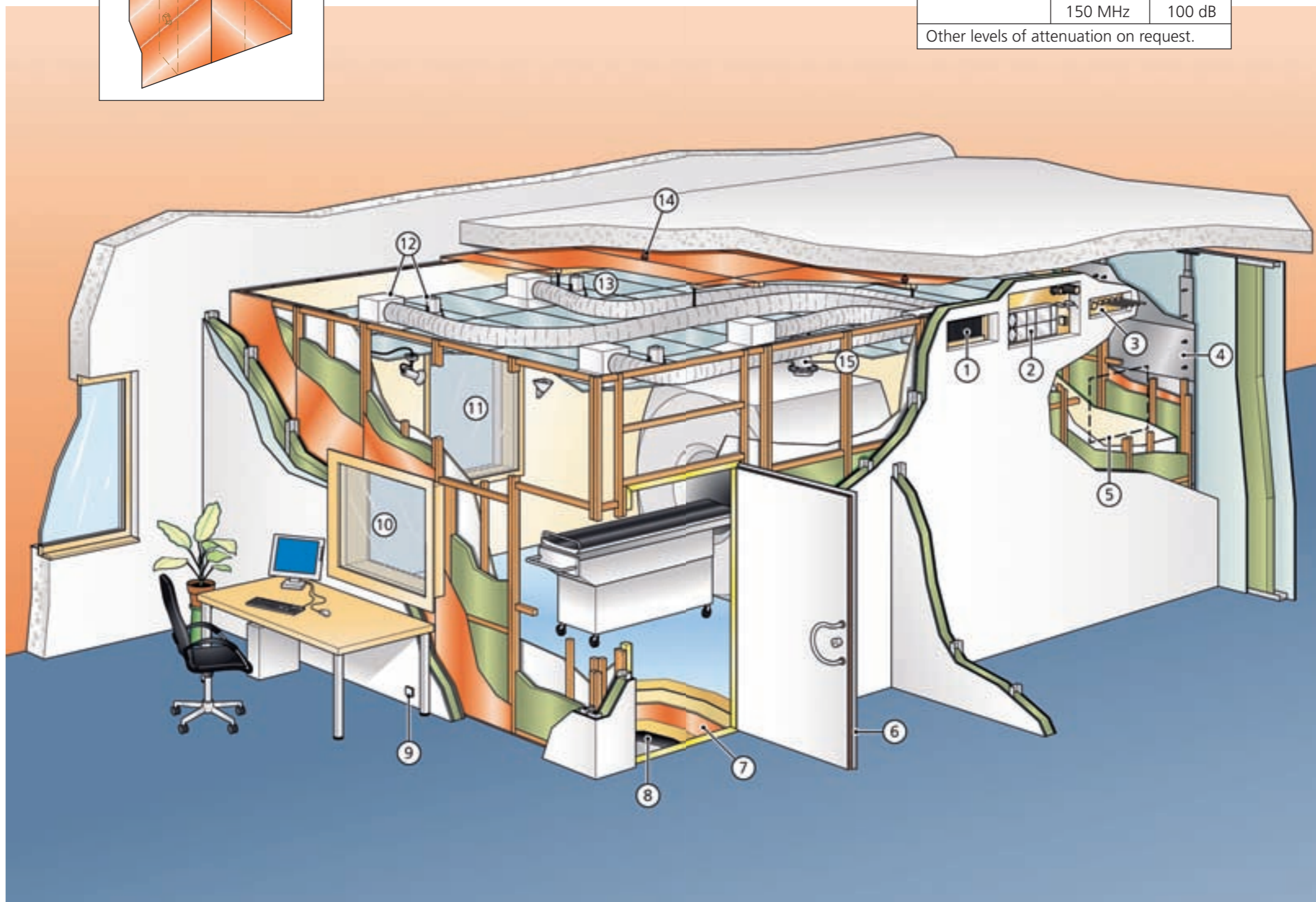
Electrical cables, medical gas pipes and other supplies are routed out of sight in the wall cavities.

This method of construction gives the architect full freedom of design and permits subsequent replacement or modification of the MRI equipment.

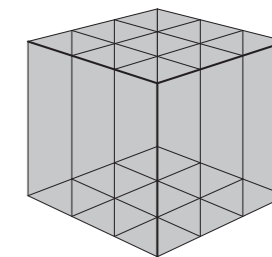
All fittings are of non-magnetic materials. Doors, windows and penetrations for supply services are also shielded or fitted with filters to prevent RF leakage. RF enclosures are dielectrically insulated from the rest of the building.

RF enclosures are delivered to site in prefabricated modules and assembled by IMEDCO or IMEDCO trained personnel.

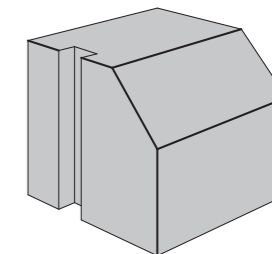
With the exception of the floor, the enclosure can be dismantled and erected at another location if necessary.



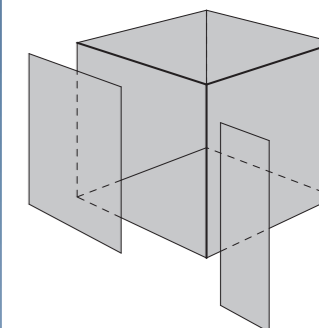
- | | | | |
|--|--|---|---|
| 1. Honeycomb air filter | 4. Magnetic shielding (where necessary) | 8. Dielectric insulation | 11. RF daylight window |
| 2. Penetration panel with filters, wave-guides and ground terminal strip for electric power and other supplies | 5. Penetration panel for MRI connections | 9. Wave-guide for various non-conductive connections | 12. Nonmagnetic ventilation and lamps |
| 3. Medical gas filter | 6. RF door (standard size 1.20 m x 2.10 m, other sizes on request) | 10. RF observation window (standard size 1.20 m x 0.90 m, other sizes on request) | 13. Nonmagnetic suspended ceiling |
| | 7. RF floor | | 14. Dielectrical insulator for RF ceiling |
| | | | 15. Helium quench pipe |



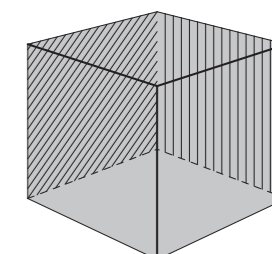
The self-supporting structure of prefabricated wall elements makes them independent of the surrounding walls, greatly simplifying assembly and installation.



Thanks to the high flexibility of the IMEDCO system, an optimum solution can always be found whether under sloping roofs or beams, or next to pillars.



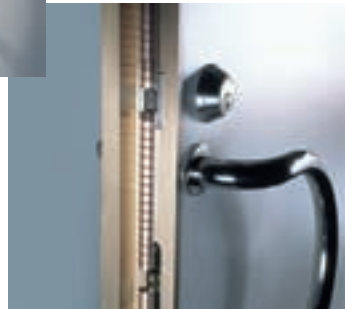
The modular construction of an IMEDCO enclosure enables it to be opened to upgrade or replace MRI equipment.



You can choose between engaging your own architect and local contractors to finish the inside of the enclosure or IMEDCO can do it for you.



European type safety lock



U.S. type pull handle/rollerlatch with dead bolt

To ensure long-term high quality, IMEDCO manufactures its own doors. Apart from being a good RF shield, the door of an MRI room also has to be easy and safe for medical staff to use and look attractive to reassure patients. IMEDCO RF doors are especially light and have ergonomically designed handles. A high-quality brass frame provides for ease of opening and good RF contact. The standard size is 1.20 m x 2.10 m and the outer surfaces are a white laminate, but other sizes and colours are available on request.



Air vents in walls or ceiling are fitted with RF-proof honeycomb filters. The air is distributed either through diffusers in the suspended acoustic ceiling or through aluminium grills with adjustable louvres.



Before handing over the installation to the user, the conformity of the entire enclosure with the requirements of the respective MRI manufacturer is verified by certified personnel using the most modern field measuring instruments and the results are recorded in a test report. The report is verification for the user of the characteristics of the RF enclosure and of performance of the contract.



All power and signal circuits entering the scan room are equipped with RF filters to prevent unwanted RF from being conducted into the enclosure. Filters are usually fitted in both phase and neutral power lines. To ensure patient safety, only approved types are used having a maximum leakage of 2 x 0.6 mA and conforming to the EN 133200 and UL 1283 standards.

Electrical filters are available from IMEDCO with a rated current up to 20 A. Filters for up to 50VAC/100VDC are also available for signal and control circuits. A ground terminal is located close to the filters.

Special wave-guides for medical gases are available.



Headquarters, manufacturing and logistic facility at Hägendorf, Switzerland (located 50 km south of Basle and 70 km west of Zurich at the motorway junction of the A1 and A2, exit Egerkingen).

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