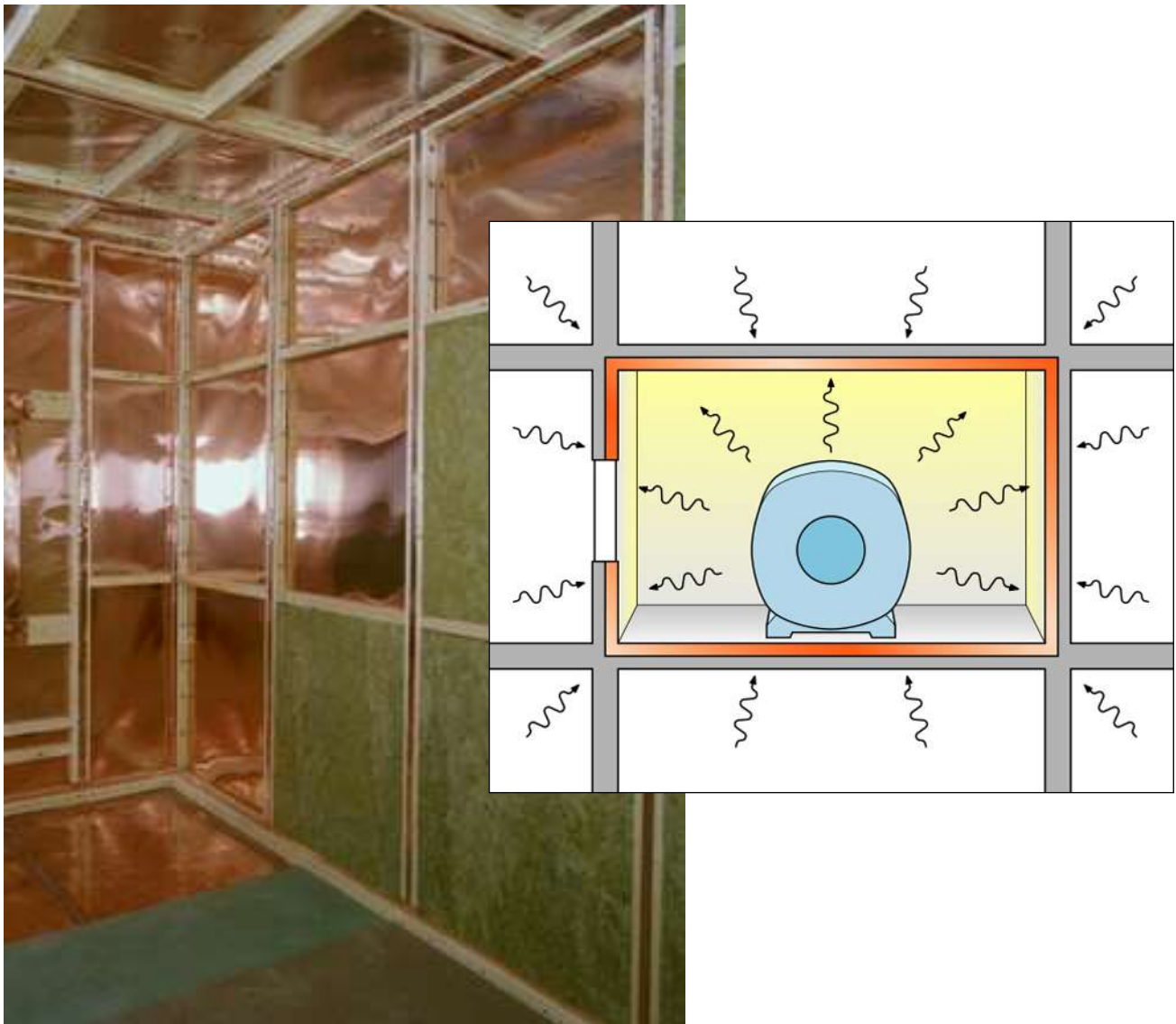


# IMEDCO® Shielding Products and Services



- Products and Services
- Attenuations and Testing
- R&D and project management
- IMEDCO Organisation
- Quality Management

Medical RF & Magnetic Shielding Specialists – Worldwide

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# Introduction

MRI equipment generates strong RF (radio frequency) interference which can disturb other electronic equipment in the hospital or in the vicinity. Conversely, external RF signals may be picked up by the MRI system's RF coils and adversely influence the accuracy of the imaging data. MRI scan rooms therefore have to be effectively shielded to prevent RF interference from leaving or entering.

IMEDCO specialises in the development and manufacture of shielding products for hospital equipment and treatment rooms containing devices either sensitive to, or that generate electromagnetic interference. We offer the experience gained from the installation of over 6000 enclosures in more than 50 countries for all types of MRI equipment.

IMEDCO is a healthy, growing company which pursues a policy of ongoing technological development. The company owners are involved in its day-to-day running and therefore highly motivated. Since shielding is our sole concern, we are fully committed to providing the highest quality that will perform reliably far beyond the warranty period. IMEDCO currently has a workforce in excess of 100 and cooperates with 11 partner companies in Europe, Asia and North America. The company's quality management system is certified according to ISO 9001 and its products have been approved by all the leading MRI manufacturers.

## Table of Contents

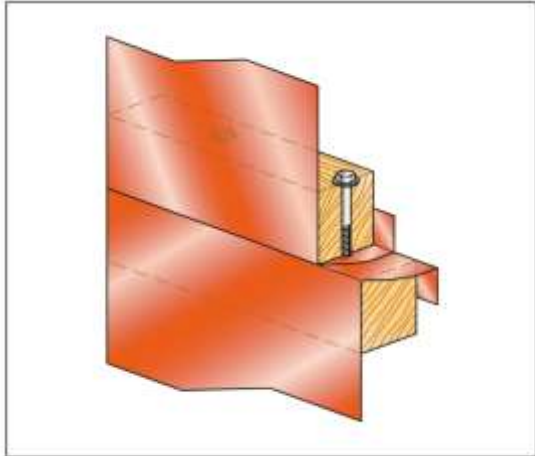
Product Highlights .....	3
IMEDCO Copper RF Enclosure .....	4
RF Doors and Windows .....	6
RF Filters .....	7
RF Attenuation and RF Testing .....	8
Noise Suppression .....	9
RF Enclosure Finishes .....	10
Colour Schemes .....	12
Fittings .....	13
Lighting 230 V .....	14
Low Voltage LED Lighting .....	15
Options .....	16
Special Products .....	17
Active Compensation .....	18
Services .....	19
Production and Logistics .....	20
R & D, Project Management and Engineering .....	21
The IMEDCO Company .....	22
Quality and Warranty .....	23

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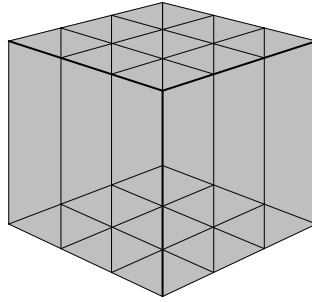
# Product Highlights

- ✓ Shielding of copper for best long-term performance (aluminium and galvanised steel for low frequency shielding also available).

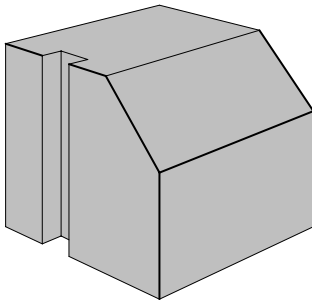


- ✓ All construction and internal fittings of nonmagnetic materials to ensure an homogeneous MRI field.
  - ✓ Non-clogging honeycomb (not wire netting) air filters.
  - ✓ Choice of materials and application of the highest design standards to achieve the specified performance.
  - ✓ RF enclosure to user's specification supplied to site in prefabricated modules.
  - ✓ No preparation of existing wall surfaces necessary.
  - ✓ Installation by IMEDCO or IMEDCO trained personnel.
  - ✓ Provision for routing electrical cables, medical gas pipes and other supplies inside walls.
  - ✓ Possibility to subsequently open the enclosure for upgrading or replacing MRI equipment.
  - ✓ Records of all changes and additions kept throughout the life of the enclosure.
  - ✓ IMEDCO works quality management certified according to ISO 9001.
- ✓ 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 nickel-plated aluminium frame provides for ease of opening and good RF contact (superior to stainless steel).
  - ✓ Optional SilentSHIELD™ sound-proofing of door, window, walls, floor and ceiling (U.S. Patent Nos. 6,519,899 and 6,626,264 and 7,117,640 B2).
  - ✓ High RF attenuation (meets requirements for all 3.0 Tesla and 7.0 Tesla MRI's).

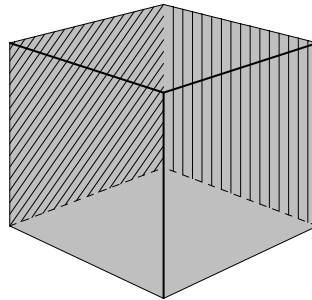
# IMEDCO Copper RF Enclosure



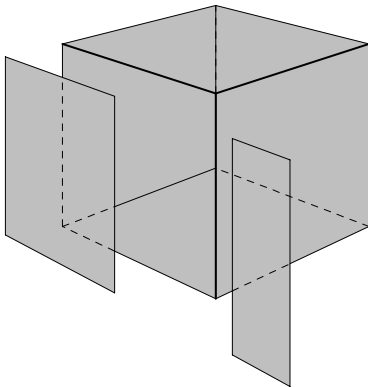
The self-supporting structure of pre-fabricated wall elements makes them independent of the surrounding walls, greatly simplifying assembly and installation.



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.



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.



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

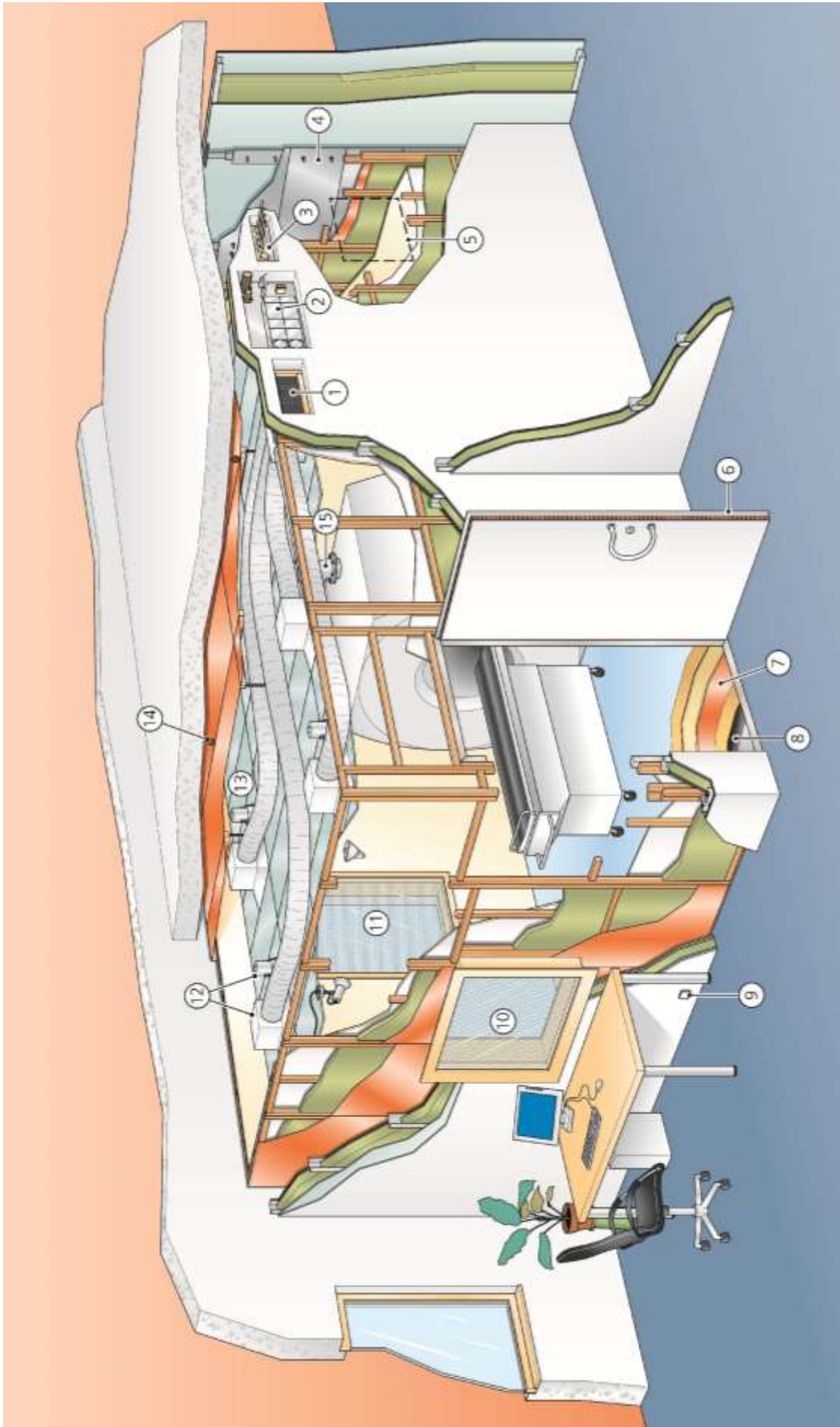
The IMEDCO RF enclosure is basically a Faraday cage constructed of panels of high-quality copper foil. These are clamped together such as to ensure the integrity of the shielding throughout the life of the enclosure. Electrical cables, medical gas pipes and other supplies are routed out of sight in the 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 nonmagnetic 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
- 2. Penetration panel with filters, wave-guides and ground terminal for electric power and other supplies
- 3. Medical gas filters
- 4. Magnetic shielding (where necessary)
- 5. Penetration panel for MRI connections
- 6. RF door
- 7. RF floor
- 8. Dielectric insulation
- 9. Wave-guide for various non-conductive connections
- 10. RF observation window
- 11. RF daylight window
- 12. Nonmagnetic ventilation and nonmagnetic lamps
- 13. Nonmagnetic suspended ceiling
- 14. Dielectric insulator for RF ceiling
- 15. Helium quench pipe

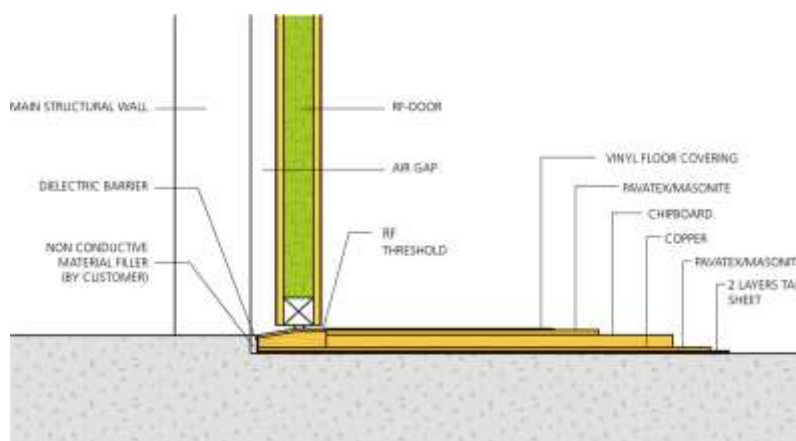


# RF Doors and Windows



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 frame provides for ease of opening and good RF contact. Worn contact fingers around the edge of the door can be replaced without difficulty with the door in situ. They are mounted such that damage due to passage through the doorway is scarcely possible. The threshold is designed to permit easy passage with a gurney, wheelchair or trolley. 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. Regardless of whether a door is locked or not, it can always be opened from the inside for safety.

RF windows are double-glazed with a special tempered safety glass that incorporates two layers of bronze mesh as the RF shield. The bronze mesh is blackened to avoid reflection and the layers are positioned to minimise moiré patterns. The transparency of the windows is excellent and they afford an unhindered view of the scan room. The standard observation window has a viewing area of 1.2 m x 0.9 m. Other sizes are optionally available for observation and daylight windows and skylights.



Apart from its copper shield, the floor has to carry the weight of the magnet, insulate the enclosure electrically from ground and provide a suitable surface upon which to lay the floor covering.

Two layers of tar sheet under the masonite act as a damp course and provide electrical insulation. The overlapping highly pure copper foil strips are soldered together to form a single uninterrupted copper sheet.

# RF Filters

The choice of wave-guide depends on the medium (medical gases, liquids etc.) and local regulations.

Wave-guide penetrations for inserting non-conductive pipes.



Wave-guide penetrations for connecting metal pipes.



Penetration and wave-guide for the introduction of non-conducting temporary services (e.g. anesthetic, patient monitoring etc.).



All air ducts have interposed honeycomb brass wave-guides. Which are soldered to provide uninterrupted shielding in the IMEDCO wall or ceiling panels. Wooden flanges dielectrically insulate the filters from the customer's external air ducts.

All power and signal circuits entering the MRI 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  $2 \times 0.6$  mA and conforming to the ENEC IEC / EN 60939 and UL 1283 standards. Electrical filters are available from IMEDCO with a rated current up to 20 A. Other filters for signal and control circuits are also available. A ground terminal is located close to the filters.

IT signals are normally converted to optical signals and transferred via optical fibre cables run in brass conduits.



# RF Attenuation and RF Testing

The best MRI results can only be obtained in an environment which is free of electromagnetic interference. IMEDCO has mastered this problem and that is why they have become the preferred supplier all over the world. With an IMEDCO RF enclosure you are assured of unsurpassed shielding characteristics, the basis of consistently high long-term diagnostic quality and all-round operational reliability.

## Standard attenuations for copper foil RF enclosure

Magnetic field	10 MHz	90 dB
	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.

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.

RF tests are conducted according to

- IEEE Standard 299-2006 or
- (• NSA 94-106)

Test equipment measuring ranges

- E field: 10 kHz...30 MHz
- H field: 10 kHz...30 MHz
- Plane wave: 30 MHz...1 GHz



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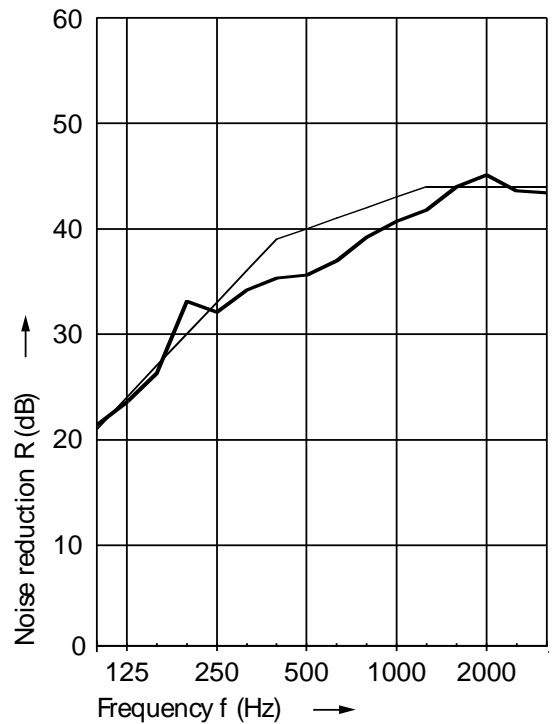


# Noise Suppression

The power of MRI equipment is increasing continuously to meet the demand for better and faster imaging and this trend is expected to continue. The more powerful equipment generates more audible noise. IMEDCO has therefore developed its optional SilentSHIELD™ series of soundproofed doors, windows, walls, floor and ceiling for its RF enclosures. Most SilentSHIELD™ RF components are covered by U.S. Patent Nos. 6,519,899 and 6,626,264 and 7,117,640 B2. Please request the corresponding leaflets.

## IMEDCO SilentSHIELD™ RF door characteristics

Attenuation of door including frame	$R_{f1600} = 44 \text{ dB}$ $R_w = 40 \text{ dB}$
Permissible variation	4.4 dB at 500 Hz



### Noise reduction in relation to frequency

- Measured noise reduction R
- Displaced reference curve acc. to ISO 140/717



SilentSHIELD™ double shell door with weighted and decoupled shell, nickel-plated aluminium frame, double-sided acoustical seal and contact fingers.

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# RF Enclosure Finishes

The user is free to choose the interior finish of the RF enclosure. Should he prefer to finish the interior himself it is important to note that all materials must be nonmagnetic, easy to clean hygienically and should be relaxing for the patient.



It is especially agreeable for the patient to fit a skylight if the building permits.



The size of the enclosure skylight is usually chosen the same as the building skylight. It has to have longitudinal or transverse struts such that the pane area does not exceed 1.5 m<sup>2</sup>. Motor driven sunblinds can be installed above the enclosure skylight.



Klinik Siloah, Gümligen, Switzerland

A generously sized MRI examination room fitted with a LED ceiling and wall panels, the latter being without visible joints but simple to remove should it be necessary.

Inselspital,  
Universitätsspital, Bern, Switzerland

In the Inselspital's new intensive care, emergency and surgical unit special attention was paid to providing an agreeable relaxing atmosphere in the MRI rooms. The LED mood lighting and virtual window create a reassuring ambience and help patients to relax.



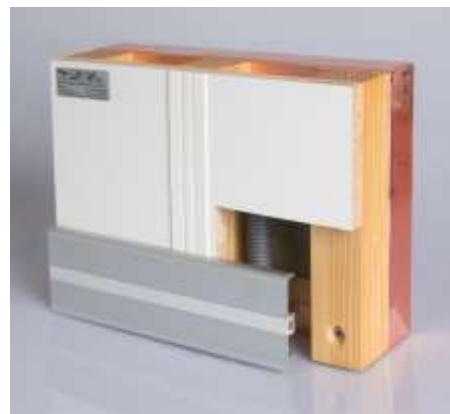
Klinik Stephanshorn, St. Gallen, Switzerland

Ceiling LED's and back-lighted photo panel, well suited to the location on the northern slopes of the Alps.

# Colour Schemes

IMEDCO offers a variety of finishes that are nonmagnetic and specifically designed for MRI rooms.

The standard 16 mm wall panels have a white melamine finish. They are held in place by vertical anodised aluminium rails with a decorative light grey plastic trim and extend from the finished floor up to the suspended ceiling. They can be easily removed for access if necessary. Other wall finishes such as alternative colours or wood imitations are optionally available.



Kronoswiss wall panels are available in a variety of designs and colours. The melamine coated surface is durable, fully washable and resistant to diluted acids and lyes.

Various colours and wood imitations available.

For colours, designs and samples please go to [www.kronospan.ch](http://www.kronospan.ch)

Should you not find to suit your needs here, it is also possible to fit panels from other manufacturers.



Forbo ColoRex® floor coverings are homogeneous pressed tiles. Due to the high vinyl content and the high-pressure manufacturing process, the tiles have excellent resistance to wear and indentation. The smooth non-porous surface exhibits good resistance to chemicals and is easy to clean.

Samples can be viewed at [www.forboflooringna.com](http://www.forboflooringna.com).



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# Fittings

Below are two possibilities for fitting the door and window frames in the control room wall. The standard version on the left requires that the customer's builder to fill in the gap between the parent room and the enclosure. Where this is not possible, IMEDCO can supply a frame as shown on the right.



Ventilation grills can be installed either in the ceiling or the walls.

In the case of the ceiling, white PVC diffuser outlets are fitted in the ceiling.

The standard size is 300 mm x 300 mm.

The suspended ceiling comprises aluminium panels 400 mm wide which are perforated over 13% of their area. Fleece is glued on top for noise suppression. Usually sufficient space is provided above the suspended ceiling for installing services.



Where the ventilation grills are in the walls, adjustable louvers enable the flow to be directed both horizontally and vertically. There are four standard IMEDCO sizes:

400 mm x 200 mm

500 mm x 200 mm

600 mm x 200 mm

600 mm x 300 mm

Other sizes are available on request.

To achieve a homogeneous MRI field, all parts of the construction and internal fittings are of nonmagnetic materials. The prefabricated wall panels are of modular design which minimises erection time and avoids excessive noise on site.

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# Classic Lighting 230V and its LED Alternatives

All lighting systems were especially developed for IMEDCO. They are nonmagnetic and do not generate interference or voltage spikes.

IMEDCO can also supply an emergency escape sign for the RF enclosure comprising also a standby battery with a minimum capacity of one hour.



## Surface mounted nonmagnetic spotlights

The spotlights have an aluminium case and can be pointed in all directions.

Halogene bulb: 50W/10° E27 230V 90x63 mm.

### Alternative: 230 Volt LED bulb

Also for replacement.



## Recessed ceiling lights

Ceiling lamps are recessed and have a beam angle of 30°. They are of a die-cast white powder painted aluminium construction with an E27 porcelain and brass bulb fitting.

Filament or halogene bulb: PAR38 80W/30° E27 230V 137x122 mm.

### Alternative: 12 Volt LED System

With power supply, dimmer and shielded cables.



## Indirect lighting

The wall lamp in this case is directed along the walls and at the ceiling. Their effect is best in rooms at least 2.60 m high. Note that the illumination provided by indirect lighting is limited. Filament or halogene bulb: 40W (or equivalent) E27 240V 97x55 mm

# New LED Lighting Solutions

## Dimmable LED Lighting 42V

These new LED light panels from IMEDCO provide a very comfortable light in your MR room. The dimmer allows to adapt the brightness according to your needs.



## Non dimmable LED 230V

This LED lighting can be retrofitted in a minimum of time and at little cost in existing MR rooms with IMEDCO lighting.



## Relaxing LED Light

This new LED lighting solution for MR rooms allows variation in light colour and intensity and therefore helps patients relax by creating a comforting ambience during the imaging process.



## LED Virtual Light Window

The LED wall and ceiling windows for MRI enhance the atmosphere in MR rooms and reduce patient stress and anxiety. Relaxing pictures of the outside world help to distract and calm claustrophobic patients.



Please request the special brochures on LED solutions for MR rooms.

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# Options



## FerrAlert™ metal detector

FerrAlert™ is a passive sensing device which detects only those objects that are attracted to a magnet. The product's purpose and goal is to reduce the risk of accidents occurring in the MR environment.

An intelligent control system gives advanced visual warning of metal objects and pinpoints their location. Alarm status is continuously indicated both inside and outside the MRI room. Patented technology prevents false tripping without impairing sensitivity. Continuous magnetic interference is monitored.

Metal detectors fitted in frame of RF door indicate the approximate height of the ferromagnetic item. A photoelectric barrier ensures that the detectors are only active when a person enters the room.

Staff instruction and initial set-up by trained personnel.

Please request the special brochure.

## IMEDCO Frictionless RF Door

This pneumatic RF-door impresses with its unique operating comfort. This is made possible by opening and closing the door without resistance. The RF attenuation shielding is ensured due to a fine-meshed seal net. All-round foam seals supply a high sound reduction. You can expect a nearly maintenance-free door, since door contact fingers are no longer necessary.

Please request the special brochure.



## Shielding for strong magnetic fields

Magnetic shielding may be necessary to limit the fringe field of the MRI magnet at certain sites or to comply with health and safety regulations.

IMEDCO has developed a special technique for magnetic shielding. The shielding necessary for a particular project is designed at the works and the parts are prefabricated. On site, the sheet metal shielding panels are mounted on a strip metal frame on the walls or the concrete ceiling. This procedure shortens the installation time and achieves an accurately assembled shield. The required thickness is built up by fitting several layers of panels which are rolled and also overlap in the direction of the flux. The overlapping of the panels and the pressure applied at the points of contacts ensure a homogeneous shielding effect which has a positive influence on the homogeneity of the MRI field.

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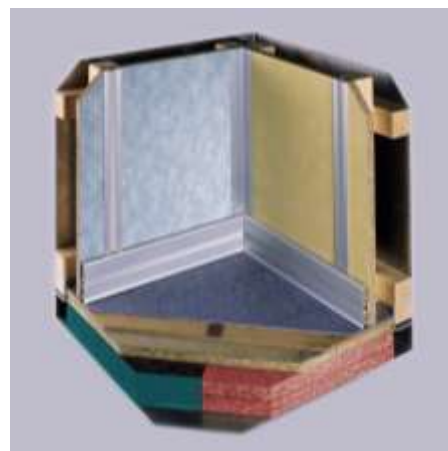
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# Special Products

## Alternative RF shielding materials

Aluminium or galvanised steel can be supplied instead of copper. These are chosen mainly for low-field magnets because of their better magnetic shielding characteristics at low frequencies and/or on sites with fluctuating spurious magnetic fields. Copper, on the other hand, is superior for medium and high-field magnets and has an almost unlimited operational life.

The specification including precise dimensions, shape, penetrations, corners etc., must be available well in advance for aluminium and galvanised steel shielding, because of the gauge and design of the panels changes can scarcely be accommodated afterwards.



## Magnetic shielding for special applications

We develop and manufacture magnetic shielding for special applications such as attenuating fields generated by the 50/60 Hz public power supply or DC or 16  $\frac{2}{3}$  Hz railway supply systems etc. Nickel-iron alloys are used where the maximum attenuation in a wide frequency range is required.

## Magnetically Shielded rooms (MSR) for weak magnetic fields

Rooms used for biomagnetic applications and research purposes have to be completely shielded to exclude fluctuating low frequency magnetic fields.

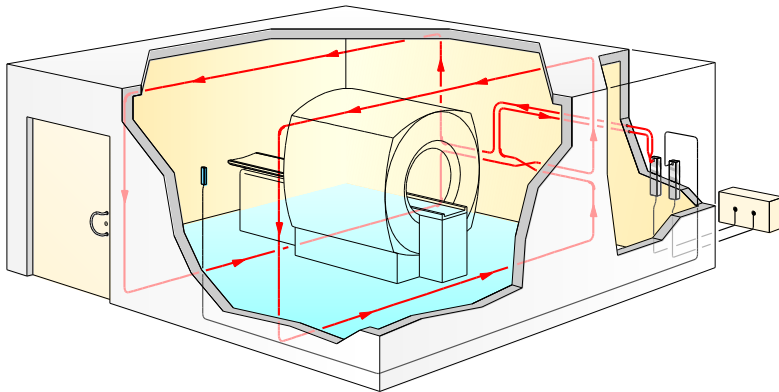
MSR's are necessary in medical processes that use highly sensitive sensors to detect and measure minute biomagnetic signals radiated from various parts of the human body. An MSR improves the strength of the useful signal by excluding the background magnetism and other spurious magnetic fields. It is an enclosure with a shell comprising layers of a high permeability metal and layers of aluminium as good electrical conductor. This attenuates (absorbs) the spurious magnetic and electrical fields emanating from various sources. IMEDCO MSR's have achieved some of the best attenuation levels measured worldwide.



# Active Compensation

## Introduction

MRI installations, not only those with exposed low-field magnets, are sensitive to fluctuating spurious magnetic fields. These can originate from electric DC trains, elevators, large moving ferromagnetic masses etc., and in cities with underground train and tram services can exceed the levels permitted for MRI equipment. Since passive magnetic shielding is less effective at low frequencies, other ways have to be found to reduce field fluctuations to an acceptable level, otherwise it may be impossible to use a proposed site. One such way is to actively compensate them.



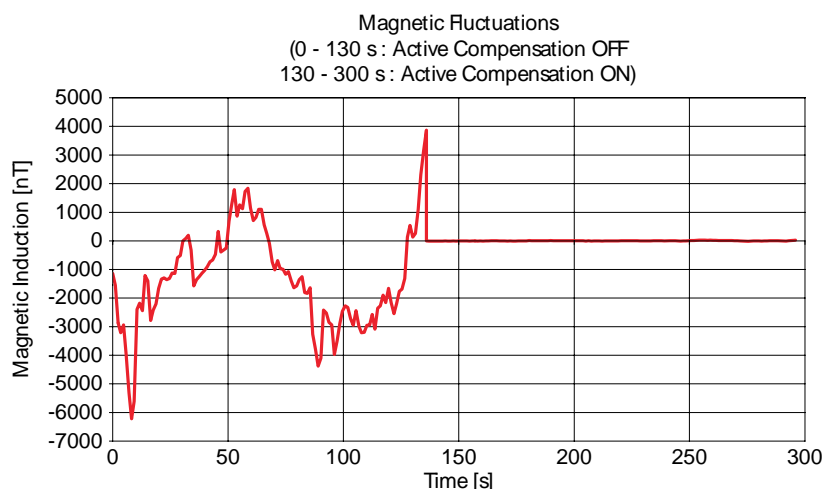
## Operating principle

An active compensation system measures the fluctuations of the magnetic field. Based on the measurements, a current flows through so-called "Helmholtz" coils and generates an equivalent opposing magnetic field. The vectors of the spurious field and the opposing field are added and will cancel.

The IMEDCO active compensation system consists of a magnetic field sensor, the controller and the "Helmholtz" coils. The sensor and the coils are placed inside the RF enclosure and the controller outside. The interconnecting cables pass through filters to the inside of the RF enclosure.

To facilitate setting the controller, the magnetic field at the isocentre of the MRI has to be measured. This measurement is necessary to determine the transfer function and check the adjustment of the controller at the end of the installation.

During operation, the active compensation system updates itself. Therefore no maintenance or recalibration is necessary as long as the positions of the sensor and coils remain unchanged.



## Performance

Low frequency magnetic field fluctuations up to  $20 \mu\text{TPP}$  (200 mGaussPP) can be reduced to less than  $0.1 \mu\text{TPP}$  or 100 nTPP (1 mGaussPP). Magnetic fluctuations below 100 nTPP (1 mGaussPP) are permissible according to the specifications of most MRI equipment manufacturers.

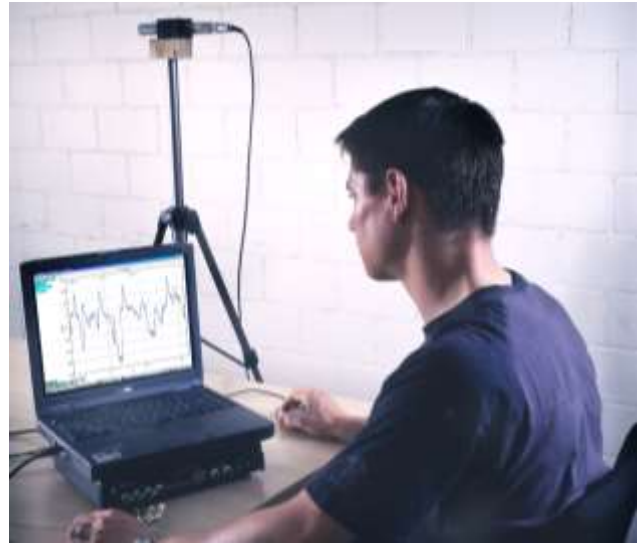


# Services

## Magnetic survey and vibration measurements on site

Before finally deciding on the location of an MRI room, a magnetic survey and vibration measurements generally need to be carried out. The fluctuations of magnetic fields are measured in all three axes using a fluxgate sensor in a frequency range extending from DC (0 Hz) to 1000 Hz. The sensor has a range of  $\pm 1$  mT and a typical noise level of  $<10$  pTRMS.

Vibration is measured in the floor of the magnet room in a frequency range of 0.2 Hz to 5 kHz depending on the sensor used. The sensitivity of the vibration measuring instrument (sensor and FFT analyser) is 10 V/g and the resolution 1  $\mu$ g.



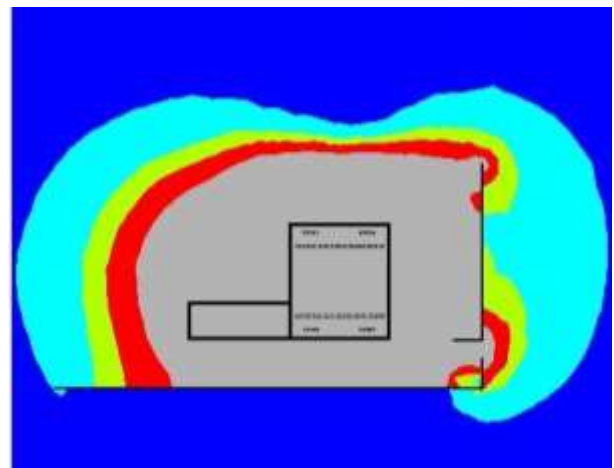
## Fringe field and DC field measurements

IMEDCO AG is fully equipped to measure fringe magnetic fields. This can be necessary for subsequently checking the effectiveness of a magnetic shield or to record the lines of force to which other equipment is subjected. Three independent sensors of the Hall effect-type designed to measure DC fields of the kind generated by MRI equipment are embedded in the probe and individually connected to the evaluation equipment.

Generally, the 0.5 mT and 0.1 mT fringe field contours are of interest.

## Magnetic field simulation program Vector fields OPERA

The program includes models of the fringe fields generated by the main types of magnets available. The geometry of the magnetic shield is entered using the integrated CAD program. The system then applies the finite element method to calculate the leakage field around the shield and prints a plot of the lines of force. Two and three-dimensional calculations can be performed.



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# Production and Logistics



The production facility was built as part of the new company headquarters with a view to future expansion. It provides an excellent working environment for high-quality products. The RF shielding panels are manufactured on a production line embodying the latest technologies. Much of the equipment and the production machines were developed and constructed specifically for our process.

The capacity of the production facility is several hundred enclosures per year.



A new 3000 m<sup>2</sup> heated warehouse completed in 2007 provides the best possible storage conditions for raw materials such as wood and also for semi-finished products. The new stores enable us to supply shielding components ex stock and therefore offer customers short deliveries.

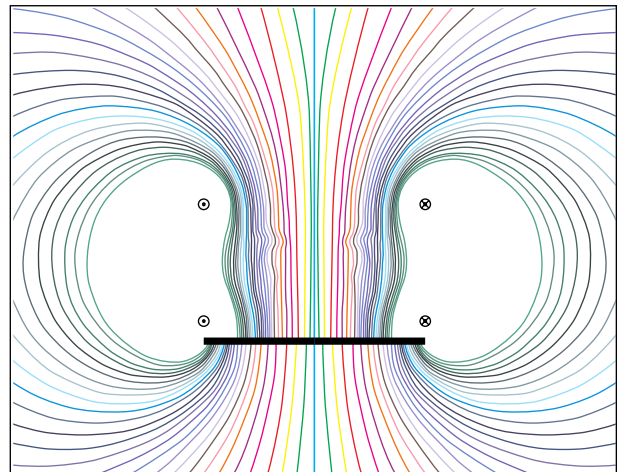
# R & D, Project Management and Engineering

As MRI technology evolves and new processes are being applied, on going research and development is necessary to provide adequate shielding at minimum investment. Our aim is state-of-the-art innovation to the benefit of our customers. Examples of this in recent years are **SilentSHIELD™** noise suppression, active com-pensation systems and magnetically shielded rooms (MSR's). New shielding materials and techniques also have to be continuously evaluated.



We offer complete project management for RF and magnetic shielding including consulting, architectural assistance, evaluation, design, engineering, manufacture, installation and acceptance testing.

These services are provided locally by IMEDCO and our partner companies. IMEDCO sales and project managers are fluent in more than 10 languages. From their offices around the world they communicate directly with you to determine your needs and ensure that the enclosure performs as you expect. All are technically qualified and are kept abreast of the latest developments by on going training and when they need it they receive full technical support from the specialists in Switzerland.

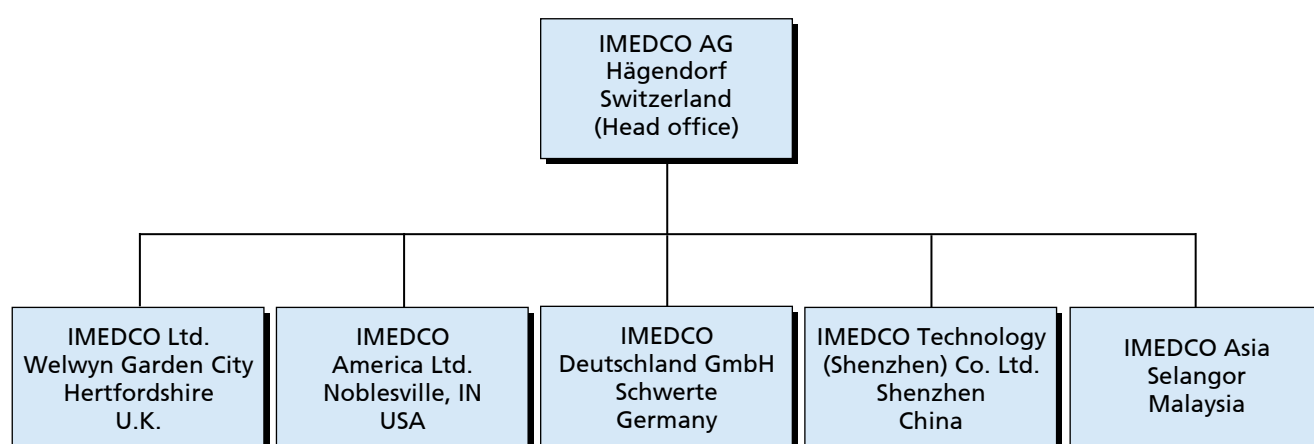


IMEDCO shielding products are engineered and designed to the customer's specifications at AutoCAD® work stations. Most of the basic elements are pre-engineered modules stored in an electronic library.

We are fully experienced with all MRI systems of the major manufacturers, study and keep the respective manuals and site planning guides up-to-date and maintain the highest standard of training of our staff.

# The IMEDCO Company

IMEDCO AG develops and manufactures shielding products for restricting RF radiation and electromagnetic fields. Shielding enclosures are needed primarily for medical equipment such as magnetic resonance imaging (MRI), magnetic source imaging (MSI), bio-magnetic examinations, electroencephalography (EEG), electrocardiography (ECG), hyperthermia chambers and certain industrial and other special applications. The range of products also includes all the associated accessories and versions with incorporated noise suppression.



The company was founded in 1987 and is today still a privately owned Swiss company. IMEDCO's head office and factory are located on an industrial estate at Hägendorf within easy reach of both Zurich and Basle. IMEDCO has pursued a policy of steady expansion to keep pace with its growing needs and resources and, in addition to the wholly owned subsidiaries shown in the company structure above, now has sales, installation and customer support facilities throughout Europe, Asia and North America. Some of our wholly owned subsidiaries also manufacture our products for their national markets. Our customers include hospitals, universities, private radiologist practices and manufacturers of medical diagnostic equipment.



# Quality and Warranty

Quality management is the cornerstone of IMDECO company philosophy and strategy and this is especially important in such sensitive areas as hospitals. The entire IMDECO production process was originally audited for conformity with ISO 9001 in 1997 and is re-audited every three years. Every shield we supply has to be designed and manufactured according to the ISO quality standard.

IMDECO's sole aim is to provide our customers with products of the highest quality that reflect the latest state-of-the-art technology and serve the customer's purpose in the best possible way.



Generally our shielding products are guaranteed to perform according to specification for a period of five years, providing they are used for the purpose for which they are intended and are properly maintained. Ancillary devices and systems such as pneumatic doors, LED lighting equipment etc., have a standard warranty period of one year

IMDECO quality management also applies to spares which have to be available for 15 years following delivery of an enclosure. Project documents are kept on file for at least 15 years.

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# IMEDCO AG Switzerland

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).



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 6000 IMEDCO shielded enclosures of various sizes, incorporating many specific user features.

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