MEDICAL SHIELDING MEDICAL SERIES 81 RF SHIELDED ENCLOSURE

MEDICAL SERIES 81

- **MRI RF Shielding**
- **"Hat & Flat" Clamping System for Shield Integrity**
- **Architectural, Electrical Options**
- **Manual, Automatic RF Door Options**
- **Standard and Custom Designs are Available**
- **Window Options**
- **Modular Panel Construction**

ETS-Lindgren's Medical Series 81 Radio Frequency Shielded Enclosures uses a time-proven design for superior MRI RF Shielding applications, with more than 1,000 installations worldwide. These MRI shielded enclosures have modular panels, creating a versatile shielding system that can be built to almost any dimensional configuration. We custom design configurations that best fits your needs, including solution options for RF doors, RF windows, waveguides, filtering and magnet OEM system requirements.

In the heart of the RF shielding system are the 1.9 cm (.75 in) thick dimensionally-stable cores, which are laminated on both sides with 28-gauge sheet steel (cores meet ANSI A208.1 specifications). The steel laminate provides the best attenuation to magnetic and electric fields and plane waves.

Panels are joined together with a 3.175 mm (.125 in) "hat & flat" clamping system. No special tools are required for construction. Enclosures can be erected, dismantled, and moved to another location as needed.

Features

Performance

ETS-Lindgren's Series 81 RF Shielding delivers outstanding RFI and EMI shielding effectiveness across a broad frequency spectrum, making it a trusted solution for critical shielding needs. Designed for versatility and reliability, Series 81 RF shielding complies with numerous stringent specifications, including:

- Federal Specification SS-A-118B: Flame Resistance Test
- ASTM E84-81-A: Surface Burning Characteristics of Building Materials
- ASTM E90-83: Laboratory Measurements of Airborne Sound Transmission Loss of Building Partitions

Additionally, Series 81 RF shielding meets Universal Building Codes (UBC) and is engineered for installation in even the most demanding seismic zones, ensuring both performance and adaptability.

Applications

Series 81 RF shielding is suitable for a wide range of critical applications, including:

- Magnetic Resonance Imaging (MRI) RF Shielding
- EMI Shielding
- Low Field Magnetic Field Attenuation
- Magnetic Shielding for Gauss Field Containment
- Medical Equipment and Instrumentation Protection
- Biomedical Engineering Laboratories

Shielding Construction

The modular design of the Series 81 RF Shielded Enclosure features shielded panel sections clamped together to form a self-supporting structure. Panels are constructed with 28-gauge galvanized steel sheets laminated to a 1.9 cm (0.75 in) high-density particleboard or plywood core. This robust design ensures resistance to airborne moisture-induced warping and delivers exceptional structural integrity.

The panels are joined using an extruded hat, flat, and cove clamping system, ensuring consistent pressure contact between mating surfaces. Zinc-plated structural clamping sections and self-tapping fasteners, spaced 10.16 cm (4.0 in) apart, resist corrosion and create a durable, secure shield. Precision-machined trihedral end caps reinforce the enclosure's corners for added stability.

Information presented is subject to change as product enhancements are made.
Contact ETS-Lindgren Sales Department for current specifications.

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Floor Design and Electrical Isolation

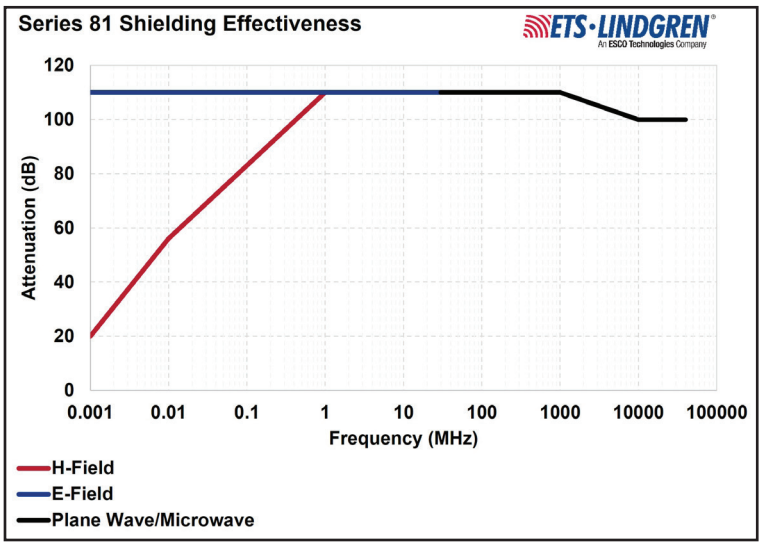
To maintain electrical isolation, the shielded floor incorporates a 6-mil dielectric vapor barrier and a 3.175 mm (0.125 in) dielectric underlayment beneath the panels. Counter-sunk screws ensure a smooth floor surface, while vinyl tiles adhered over the steel substrate provide a durable base for finished flooring applications.

Custom Adaptability

Series 81 RF Shielding panels can be tailored to meet unique shielding requirements in the MRI environment and beyond. This flexibility ensures a solution that is both versatile and effective, offering exceptional shielding performance in diverse applications.

Technical Specifications

Performance	
Magnetic	20 dB @ 1 KHz; 64 dB @ 10 KHz; 110 dB @ 1 MHz
Electric	110 dB from 1 KHz thru 30 MHz
Planewave	110 dB @ 30 MHz to 1 GHz
Microwave	100 dB @ 10 GHz



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