MAGNETIC SHIELD CORPORATION FAQs

Official MAGNETIC SHIELD CORPORATION Document

What do you suggest to shield a room?

The continually expanding use of electronics in our everyday environment has created the growing need for area shielding. Installations have been made in Office and Industrial Buildings, Manufacturing Facilities, Hospitals, Universities, Science and Research Labs all over the world.

The site survey is the first step needed to design a shield. It is necessary to establish the shape and strength of the magnetic field in order to make design decisions. Field strengths are mapped at intervals in each direction, from the floor to the ceiling and from one end of the wall to the other. The floor and ceiling are mapped the same way.

The resulting map (matrix) of the field will identify any "hot spots" and can then be used to calculate the type, and thickness of material to use in the shield. Once the level of Interference is plotted and the offending fields isolated, we develop a shield design that incorporates our proprietary Materials, the alloys NETIC® and CO-NETIC® which were developed by us specifically for this purpose.

Shield Design

The information gathered in the survey will dictate the shield's design. With knowledge of the fields we can determine what materials to use, their thickness and how many layers will be needed to achieve the desired level of mitigation. It is important to remember that magnetic fields cannot simply be blocked. They can only be redirected away from the object or area you are attempting to shield. Magnetic shielding materials offer a very high permeability path for magnetic field lines, directing the electromagnetic energy through the thickness of the alloy, and keeping the field from going where it is not wanted. The shield must offer a complete path for the field lines, so that they do not exit the material in a place where they will cause unintended interference.

Wall and room shields should not have uncovered seams. The sheets must be overlapped or butted with foil shielding material applied over the butt seams. Once the shield is installed an additional survey should be made to confirm the results. If necessary, adjustments can then be made to the shield application.

Unlike RF (Radio Frequency) shielded rooms, magnetic shielding does not usually require a full, six - sided enclosure with sealed doors in order to solve a problem in a room. The shielding alloys are typically applied on the surface (floor, wall or ceiling) between the interference source and the area to be protected. Small openings have little effect on the shielding performance.

Typical Specifications

Material:

CO-NETIC® AA Perfection Annealed Sheet
_____*____ inches thickness by 30 inches by 59 inches
*(typically 0.020" to 0.062" thickness)

Installation:

Sheets butted at seams, all seams flush and tight.

Fasteners:

CO-NETIC® AA sheets to be mounted to walls by non-magnetic fasteners. No magnetic fasteners are to penetrate the shielding sheets. Holes in the CO-NETIC® AA Alloy sheets for fasteners may be drilled with standard metal drills (cobalt steel drill bits provide longer drill life).
For special fastening applications (masonry, concrete, etc.) contact Hilti Corp. at 800-879-8000. Specify non-magnetic fasteners.

Seams:

All seams between sheets to be covered by CO-NETIC® AA foil, 0.010 inches thick, by 4 inches wide, with factory-supplied PST backing. Apply foil centered over the sheet seams, and press down tightly.
NOTE: Factory PST is for TEMPORARY positioning. If foil will not be held in place by finish coverings, secure with industrial duct tape covering or equivalent.

Finishing:

The CO-NETIC® AA metal has a natural shiny, silver colored finish, and will not rust. If desired, GWB (drywall) or other materials can be applied over the CO-NETIC® AA sheets, after seams are covered. No magnetic fasteners are to penetrate the CO-NETIC® AA sheets.

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Source:

Procure from:
Magnetic Shield Corporation
740 North Thomas Drive
Bensenville, Illinois 60106
Fax: 630-766-2813
Phone: 630-766-7800

Suggestions:

For maximum shielding effect, sheets should extend vertically and from side to side well beyond both the source of magnetic field and the sensitive equipment.

	59"	
30"		

Installation

Shielding material that is carefully packed can, and has, been sent throughout the world. Proper installation techniques can be conveyed through a variety of means; either on-site or from a distance, if necessary. Where language is an issue, translation services can be procured.

We believe that a local contractor, experienced with local building codes, local best practices and local labor costs should handle installation. Magnetic Shield Corp personnel are available to oversee the installation and complete the final testing on a consulting basis. This results in a more cost efficient final product.