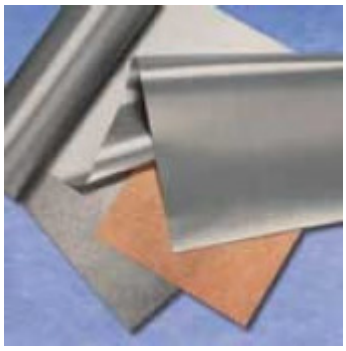
RF SHIELDED ENCLOSURES Architectural Shielding Material

ETS-Lindgren's Architectural Shielding Material is made using Flectron® materials, which are metallized fabrics whose primary application is electromagnetic interference (EMI) shielding.



ETS-Lindgren's Architectural Shielding Material is made using Flectron materials, which are metallized fabrics whose primary application is electromagnetic interference (EMI shielding. Flectron Nickel/Copper Polyester Non-woven is a unique fabric, manufactured using a patented proprietary technology. The base layer is highly conductive copper, with an outer layer of nickel for corrosion resistance. This technology combines the properties of these metals with the lightweight, permeability and flexibility of a non-woven. Nickel/Copper Polyester Non-woven offers excellent surface conductivity, shielding effectiveness, and corrosion resistance for a variety of applications.

Flectron metalized non-woven fabrics are inherently flexible and can therefore accommodate complex contours and shapes. The fibrous nature of Flectron helps avoid EMI leakage when encountering seams, connections and terminations. When two mats are properly overlaid, the fibers from each blend with the other, thus effectively eliminating any open slots. Flectron materials also create a tight EMI seal when mated with metals and metal foils. With proper installation, non-conductive adhesives are all that is necessary. The materials are also available with a thin coating which enables the fabric to meet the UL 94 VTMO flame rating.

Key Features

Features

Materials

Flectron metalized non-woven fabrics are random formations of individual fibers, unlike woven fabrics. They offer multiple layers of protection with no specific mesh opening size.
The material is easy to handle. It is sold in continuous rolls that are a long as 500 yards. The material cuts with scissors and is hung with wallpaper paste, like any wall covering. The fabric is lightweight, flexible and breathable.
Unlike sheet metal, the fabric allows a shielded room to “breath,” helping to minimize the buildup of humidity and condensation that could damage electronic devices. Flexibility of the fabric allows the room to vibrate, as from tremor or earthquakes, and not suffer damage-causing loss of shielding at corners and seams.

Properties and Applications

- Architectural shielding
- Gaskets
- Tapes
- Ribbon
- Used in Conjunction with Conventional Shielding Materials

Standard Construction

The material is applied over the contractor-provided drywall-covered walls and ceiling that have been painted or sealed. Vinyl-to-vinyl adhesive (or equivalent) is used to install the conductive fabric. The adhesive is applied to all wall and ceiling surfaces by roller, brush or by spraying. Where material is overlapped, excess adhesive is removed then a hard roller, under pressure, should be rolled over the lap joint. Corner heels are applied to all corners of the room. The corner fabric will overlap the corner heel fabric by a minimum of 7.62 cm (3 in). The floor shielding material is installed to a minimum of 7.62 cm (3 in) up on all existing room walls, thus forming a “pan” configuration on the floor. Multiple layers of Flectron material can be used around mechanical penetrations such as door frames, filters, and vents for a gasket effect. For best results, all surfaces should be smooth and clean before the application of the Flectron product.

Specifications

Electrical Specifications

Property	Units	Value
Surface Resistively	Ω	≤0.07
Far-field Shieldingtd>	Effectivenesstd>	(Typical)
At 100 MHz	dB	105
At 1 GHz	dB	90

Physical Specifications

Property	Value	Advantage
Substrate	Polyester Non-woven	Flexible, Breathable
Metal	Ni/Cu	Corrosion Resistant, Highly Conductive
Basis Weight	1.8 to 3.0 oz/yd^2	Lightweight
Thickness	0.41 mm (0.016 in)	Provides Excellent Shielding
Metal Weight	0.58 to 1.40 oz/yd^2	Excellent Electrical Properties
Max Short Duration Temp	210° C (410° F)	Allows Thermal Processing