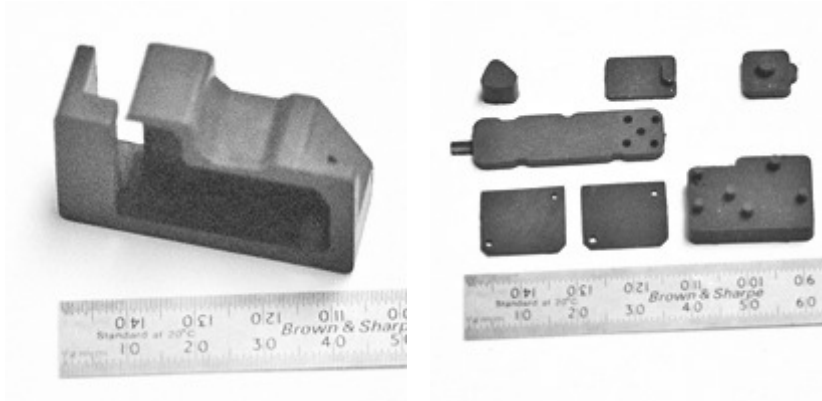


SRC PolyIron® Thin High Frequency Microwave Absorber



Applications for PolyIron Microwave Absorber

- Waveguide Loads
- EMI RFI Shielding
- Eliminate RFID Interference
- Absorbing Cavity Resonance
- Antenna Side Lobe Attenuation
- Vehicle Obstacle Avoidance Radar
- Stealth Radar Absorber and Electronic 'Silencing'
- Cell Phone and Handset RF EMI Suppression

Unlike common Salisbury shields or gaskets, PolyIron magram absorber works to attenuate EMI by absorbing it, not by reflecting it. The advantage is that in small enclosures high frequencies cause cavity resonance-something shields don't really address. This is particularly important in today's densely packed microwave devices where space is at a premium, because typically only 0.2mm to 4.5mm thickness of PolyIron is all that is required.

SRC's PolyIron consists of a 5 to 1 pure iron oxide powder mixed with various catalysts to form a flexible material that is non-conductive, so you may use it effectively even in the most confined of enclosures-say a handset or for small spaces surrounding vehicle avoidance radar or to reduce antenna

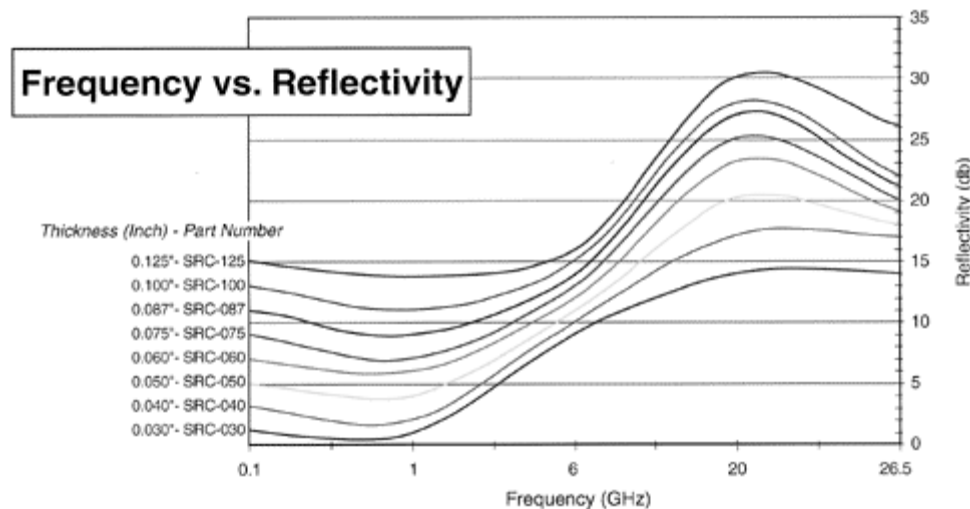
sidelobe interference. PolyIron was first used for military radar avoidance and stealth applications, but today PolyIron is increasingly used in the RF and microwave industry as operating frequencies continue to go up and design options to absorb unwanted microwaves and lower surface currents are harder to achieve. The typical range of frequencies our customers are addressing successfully is between .5 GHz to 40 GHz. Common commercial applications are for EMI/microwave shielding, eliminating cavity resonance in handsets, for waveguide loads, or to increase security by silencing noisy devices. Designs are limited only by your imagination or the demands of your test, microwave or military application.

What's more, the material is easy to work with. In sheet form, PolyIron can be easily cut by hand to fit even the smallest of enclosures. Higher frequencies require less thickness, so as your test instrumentation or microwave performance grows, you won't suddenly run out of options. SRC's proprietary binder formulation exhibits low outgassing, is not susceptible to mold and mildew, and the material can handle demanding temperature and environmental extremes.

PolyIron is manufactured in two ways. The most common is in sheet form of thickness of .030 to .125 inches. The form is punched out with a steel roll die per the customer's print. Standard available thickness are .030, .050, .060, .075, .087, .100, and .125. Standard sheet size is 6 by 14 inches. PolyIron is also available with a peel-and-stick adhesive backing. The second way is to mold the PolyIron in a custom mold. This way is ideal for small high volume parts or 3-dimensional parts that must have extremely precise tolerance for higher frequency devices or enclosures to handle cavity resonance and unwanted modulation. The mold can be made out of aluminum for lower cost and low volumes, or heat treated tool steel for durability on high volume parts.

SRC PolyIron® Microwave Absorber Attenuation Specs

Up to 30dB attenuation at 20GHz!



Resistivity: 1012 Ω-cm

Dielectric Strength: >500 V/cm

Impedance: >500 Ω

Permeability: 100 μ

Bulk Capacitance: 146-165 pF/cm

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