

## Features:

- 10 m High Performance Chamber Applications
- Numerically Optimized Design Achieves Superior Performance
- Ultra Broadband Frequency Range  
30 MHz - 18 GHz \*
- Greater Measurement Accuracy Reduces EMI Suppression Costs
- 200 V/m Power Handling Capability
- Fire Retardant  
Meets NRL 8093 Tests 1, 2 & 3, TI #2693066,  
MIT MS-8-21, UL 94 and DIN 4102-B2

Rantec FerroSorb<sup>TM</sup> FS-1500 is a numerically optimized hybrid that combines high performance carbon-loaded absorber with precision-manufactured ferrite tile designed specifically for use in 10 meter EMC chambers. This ultra broadband composite achieves superior levels of absorption and power-handling capability in a space-saving profile which is significantly less than the depth of traditional foam-only products.

FS-1500 is Rantec's top-of-the-line FerroSorb<sup>TM</sup> product. It is specifically designed to be a cost-effective solution for EMC chamber applications that call for very high performance requirements. Chambers designed with FerroSorb<sup>TM</sup> FS-1500 will exceed the +/- 4 dB normalized site attenuation requirements specified in ANSI C63.4 and EN 50147-2. With an optimized chamber design, site attenuation performance of +/- 3 dB deviation from theoretical normalized site attenuation is achievable. This results in improved measurement accuracy which can translate into significant savings by reducing a product's EMI suppression costs.



*High Performance Hybrid  
Ferrite Tile / Polyurethane Dielectric  
From 30 MHz – 18 GHz \**

\* Chambers lined with FerroSorb have been demonstrated to perform at frequencies extending to 40 GHz.

## Applications

FerroSorb<sup>TM</sup> FS-1500 and Rantec's FerroSorb FS-1000 are both designed to provide ultra broadband performance in 10 m EMC chamber applications.

FS-1000 is the absorber of choice in 10 m chambers that are built to comply with ANSI C63.4, EN 50147-2 regulations for Class A and Class B EUT testing.

FS-1500's special design is ideal for 10 m EMC chamber applications that call for very high performance requirements that exceed the +/- 4 dB normalized site attenuation requirements specified in ANSI C63.4 and EN 50147-2. FS-1500, in combination with an optimized chamber design, allows for site attenuation performance of +/- 3 dB or less deviation from theoretical normalized site attenuation. Other applications include IEC 61000-4-3 and MIL-STD 461/462D immunity testing.

## Description

FerroSorb<sup>TM</sup> FS-1500 is manufactured from high quality, low density polyurethane foam and undergoes 15 quality assurance checks during production. The manufacturing process begins with the foam being submerged and impregnated with a proprietary, conductive carbon formula. It is then inspected and force-dried. After drying, the foam is submerged and impregnated in a water-soluble salt solution and is again inspected and force-dried. This double-immersion process ensures FerroSorb's high levels of fire retardancy and resistance to moisture. The foam is then cut into a precise wedge configuration and an attractive, fire-retardant coating is applied for an added level of protection. The polyurethane dielectric is mounted on a specially formulated, precision-machined ferrite tile with a

**USA:**  
Tel +1.512.835.4684  
Fax +1.512.835.4729

**FINLAND:**  
Tel +358.2.8383.300  
Fax +358.2.8651.233

**ONLINE:**  
info@emctest.com  
http://www.emctest.com



tuned dielectric layer. To enhance high frequency performance, additional 15 cm (6 in) pyramidal absorbers are positioned at the base of the larger absorber.

## Features

FerroSorb<sup>TM</sup> FS-1500 has a unique composite construction that combines the best of ferrite tile technology with high performance anechoic absorber to achieve an ultra broadband operating frequency of 30 MHz to 18 GHz.\*

Absorption/reflectivity performance of FS-1500's 1500 mm (59 in) size is superior to dielectric material measuring more than twice its depth.

FS-1500 has excellent power handling capability for today's immunity standards testing, and can safely handle continuous exposure to fields up to 200 V/m.

The reduced size of the product, as compared to traditional foam-only absorber, means that overall room size can be reduced as well, resulting in significant total project cost savings.

FerroSorb<sup>TM</sup> FS-1500 is fire retardant and meets the standards of NRL 8093 Tests 1, 2 & 3, TI #2693066, MIT MS-8-21, UL 94, and DIN 4102-B2: Tests for Flammability.

Non-destructive reflectivity measurements are performed on every piece of FerroSorb. In the critical low frequency range of 30 MHz to 500 MHz, a vertical coaxial waveguide is utilized. Testing at higher frequencies is performed using the NRL Arch technique. These precise tests assure quality of the complete absorber, resulting in optimized chamber performance.

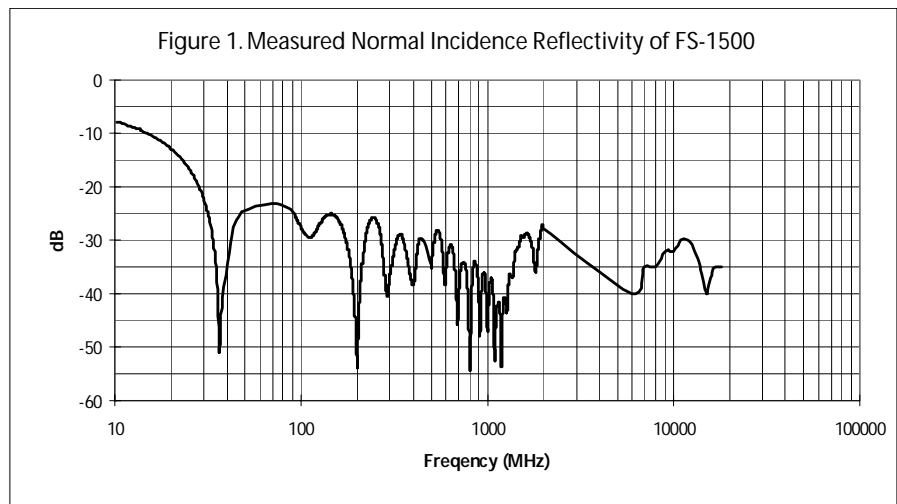
## Electrical Properties

PART #	FREQUENCY	POWER HANDLING
FS-1500	30 MHz-18 GHz*	200 V/m CW

\* Chambers lined with FerroSorb have been demonstrated to perform at frequencies extending to 40 GHz.

## Physical Properties

PART #	HEIGHT OVERALL	UNIT SIZE (SQUARE)	NOMINAL WEIGHT	MOUNTING	RATINGS: FIRE RETARDANT
FS-1500	1500.0 mm 59.0 in	600.0 mm 23.6 in	25 kg 54 lb	Mechanical Fastener	NRL 8093 Tests 1,2,3, TI #2693066, MIT MS-8-21, UL 94 and DIN 4102-B2



*FerroSorb FS-1500 features an ultra broadband frequency range of 30 MHz - 18 GHz.*