

## ABSORBER LOSSY FOAM BLOCK (EHP-LFBCL)



### LOSSY FOAM BLOCK

- Reduces reflections between 30 MHz and 100 GHz
- Absorbs 1/2 Watt per square inch
- Customizable for thickness and dimensions for any application

### ETS-Lindgren's Extra High Performance Lossy Foam Block Combustion Limiting (EHP-LFBCL)

broadband absorber is part of a line of combustion limiting polyurethane absorber made from urethane foam impregnated with a dielectrically matched conductive carbon, and cut into blocks to suit the application. LFB absorber effectively reduces reflections between 30 MHz to 100 GHz. ETS-Lindgren guarantees its EHP series absorber to absorb 1/2 Watt per square inch without material damage.

### Product Features

To produce our polyurethane absorber material, ETS-Lindgren uses a unique two-step impregnation process to maximize carbon distribution uniformity achieving higher performance consistency and better fire resistance. Urethane foam block is first compressed and submerged in a mixture of dielectrically-matched conductive carbon suspended with a mixture of neoprene latex. The foam absorbs the carbon-neoprene mixture, permeating the foam cells and ensuring complete distribution. The second step utilizes a solution of fire retardant ingredients. This two-step process allows us to uniformly impregnate the absorber, giving rise to its consistent RF performance over a broad frequency band.

### Non-Hygroscopic (Moisture-Resistant) Substrate

Traditionally, the most widely used fire-retardant salts are ammonium based compounds that are highly hygroscopic (strong tendency to absorb water molecules from ambient air humidity). Developments in chemical engineering have allowed ETS-Lindgren to utilize a non-hygroscopic, moisture-resistant substrate. ETS-Lindgren absorber experiences a mass increase of less than 3% when subjected to 95% relative humidity at 100 degrees Fahrenheit for at least 240 hours. This new fire-retardant formula also improves our absorber fire resistance with a lower level of fire retardant loading. The most critical aspect of the non-hygroscopic substrate is that the absorber performance is not adversely impacted by absorbed moisture from the surrounding air, which may affect overall system performance. This makes ETS-Lindgren chamber solutions preferred solutions when there are any doubts about the stability of the climatic conditions in the chamber or the parent facility.

### Optional FlexSorb™ Treatment

ETS-Lindgren's optional FlexSorb covering is engineered to provide enhanced protection and durability for absorber installations in active test environments while preserving critical RF performance. Applied over absorber surfaces, FlexSorb helps protect against mechanical wear from foot traffic, airflow, dust accumulation, and incidental contact during routine testing and maintenance. The flexible, lightweight material conforms closely to absorber geometry, maintaining absorber shape and effectiveness without introducing meaningful measurement degradation.

FlexSorb has little to no impact on RF performance at frequencies below 18 GHz, with only minimal performance variation observed at higher frequencies. In addition to extending absorber service life, FlexSorb supports improved safety and cleanliness within EMC and wireless test chambers, making it well suited for high-use laboratories where long-term performance, reliability, and reduced maintenance are essential.

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## Technical Specifications

### Electrical

Frequency Minimum	30 MHz
Frequency Maximum	100 GHz
Power Handling	0.5 W/in <sup>2</sup> (775 W/m <sup>2</sup> )

### Physical

Fire Retardancy	NRL Report 8093 (Tests 1, 2, and 3)
	MIT Lincoln Laboratory Specification MS-8-21 (1,2, and 3)
	UL 94-5VA and UL 94-5VB
	UL 94 HBF
	DIN 4102 Class B-2