Broadband pyramidal absorber with truncated TIP - AEP-26-TRN

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SECTION 1: general

Advanced ElectroMagnetics (AEMI) manufactures broadband radar absorbing materials used in the construction of anechoic chamber test facilities. This particular absorber part AEP-26-TRN is of the pyramidal variety and has useful performance over the range 80 MHz to 40 GHz. This ab-sorber is constructed from a 26" Pyramid, and a truncated tip reduces the overall height of the pyramid to 24".

SECTION 2: related documents

1. AEMI Quality Manual
2. MIL-STD-461/462D
3. RTCA DO 160

SECTION 3: applicability

This specifications shall be called up in all related documents when the need for this item arises. Any variation from this specification shall be cause to initiate a new part number and thus a new specification.

SECTION 4: proprietary statement

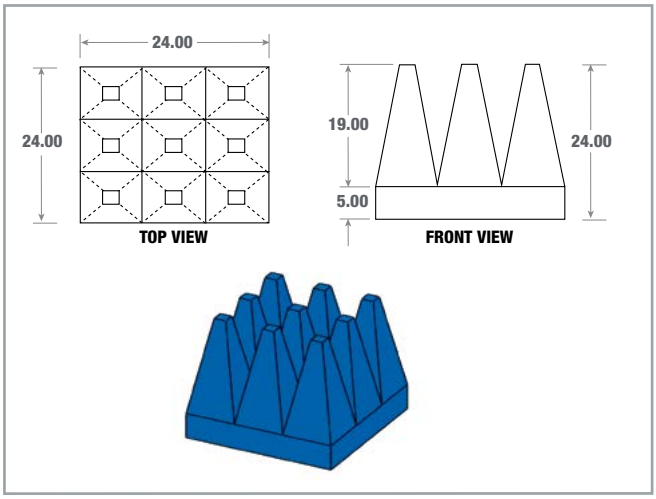
This specification, the material and the tests herein described are the property of advanced electromagnetics and are not to be divulged to any third party without written consent.

SECTION 5: properties

5.1. Mechanical

- Height: 24"
- Length: 24"
- Width: 24"
- Weight: 12 Lbs. +/- 10% Humidity Factor
- Std. Color: Light Blue
- Material Tensile Strength: 10 psi

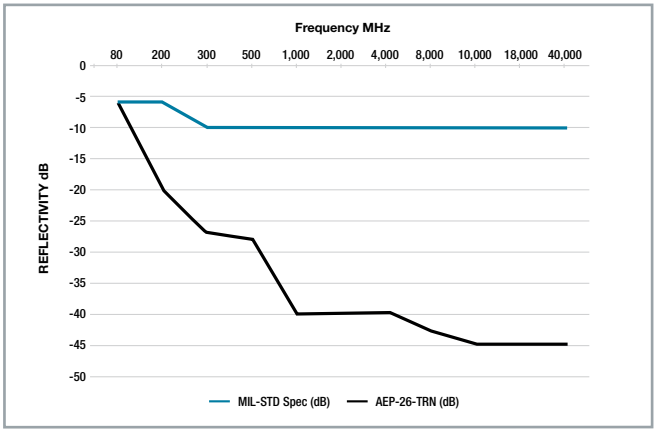
5.2. Drawings



5.3. Electrical

The absorbing property for radar waves is tabulated below:

FREQ (GHz)	.08	0.2	0.3	0.5	1.0	2.0	4.0	8.0	12.0	18.0	40.0
LOSS (DB)	-6	-20	-27	-28	-40	-40	-40	-43	-45	-45	-45



5.4. Flammability

This material has been extensively tested and is certified to meet the requirements of NRL Fire Test Standard 8093, Parts 1, 2, and 3. It is also manufactured to meet the requirements of DIN 4102 Class B2, TI #2693066, MIT MS-8-21, and UL-94.

5.5. Power handling

This material is capable of handling the following power levels in frequency range of 80 MHz to 40 GHz and field strengths:

- 1.5 KW.m^2
- 200 V/m continuous
- 600 V/m pulsed

Please note that the chamber normal operational temperatures must be maintained.

SECTION 6: **quality assurance**

6.1. Mechanical

- Overall height will be tested to 20" plus or minus 1/4"
- Side length shall be 24" plus or minus 1/4"
- Base height shall be 5" plus or minus 1/4"

The above parameters shall be checked on a sampling or lot basis. Any failures will be cause for increased inspection until control is re-established.

6.2. Electrical

To assure that materials meet the RF reflectivity requirements listed above, the electrical perfor-mance shall be checked using a coaxial waveguide fixture from 30 MHz to 0.5 GHz and an NRL Arch test facility at frequencies from 1-18 GHz.

This is a 100% check and every absorber shall pass this requirement.

SECTION 7: **records**

Records of all tests and inspections shall be maintained and kept for at least five years. Copies may be supplied to the customer if requested as part of the data.