



SPI COATINGS

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Super Therm® — Vibration Damping Performance

ASTM E756 · VTEC Laboratories Report #100-9046 · Tested June 11, 2026

Super Therm® was tested by VTEC Laboratories under **ASTM E756** using the Oberst cantilever-beam method to measure how effectively the coating dissipates vibrational energy. The governing metric is the **Material Loss Factor (MLF)** — the higher the value, the more vibration energy the coating converts to heat and removes from the panel. Applied as a thin 0.1-inch layer, Super Therm delivered an MLF of **0.134 to 0.224** across all seven resonant modes tested (at 69.9°F), with damping strengthening as frequency rose. Any MLF above roughly 0.1 is considered effective damping, so the coating performed well across the entire range.

Mode	Frequency (Hz)	CLF	E (psi)	MLF
2	115.6	0.016	9.85E+04	0.134
3	324.2	0.020	9.77E+04	0.165
4	636	0.024	9.93E+04	0.197
5	1053.8	0.025	1.00E+05	0.203
6	1576	0.028	1.05E+05	0.217
7	2209.2	0.028	1.03E+05	0.222
8	2954.6	0.030	1.11E+05	0.224

CLF = Composite Loss Factor · MLF = Material Loss Factor

WHERE THIS MAKES A DIFFERENCE

- **Data centers.** Fan-driven CRAC/CRAH units, ductwork, and generator/UPS enclosures resonate and radiate noise as capacity scales. A thin coat of Super Therm on this sheet metal reduces panel “drumming,” cutting radiated noise and easing property-line and OSHA worker-exposure pressure.
- **EV & battery systems.** Near-silent electric drivetrains make panel resonance stand out. Damping battery enclosures, motor housings, and body panels improves NVH in one of the fastest-growing manufacturing sectors.
- **HVAC & mechanical equipment.** Rooftop units, air handlers, and chiller housings — damping the sheet metal lowers radiated noise and reduces vibration-driven fatigue on panels and welds.
- **Renewable energy.** Wind-turbine nacelles and solar/battery inverter and transformer cabinets carry constant vibration; damping controls noise near occupied areas and extends component life.
- **Industrial & transportation.** Machine guards, hoppers, conveyor panels, and rail-car and marine bulkheads are classic damping targets for noise control and durability.

Scope: ASTM E756 measures structure-borne vibration damping (panel and enclosure resonance) — not airborne sound absorption or room echo. Companion ASTM E90/E413 transmission-loss testing (VTEC #100-2251) documents Super Therm’s contribution to airborne transmission loss, giving a two-part acoustic story: damp the source panels (E756), and block the airborne path (E90).

ASTM E756
FOR
SUPERIOR PRODUCTS INTERNATIONAL II, INC
ON
SUPER THERM
VTEC #100-9046
TESTED: JUNE 11, 2026



VTEC Laboratories Inc.

June 11, 2026

Client: Superior Products International II, Inc.
10835 W 78th Street
Shawnee, KS 66214

Attention: Juli Pritchett

Subject:

Measure vibration-damping properties of materials per ASTM E756 specification.

Test Details:

Unit Option:	English (in - lb - sec)
Test Procedure:	Cantilevered
Beam Type:	Oberst
Boundary Conditions:	Cantilevered
Length (in):	10.03
Width (in):	0.5
Material Classification:	Metal

Disclaimer:

This test result alone does not assess the fire hazard of the material, or a product made from this material, under actual fire conditions. Consequently, the results of this test alone are not to be quoted in support of claims with respect to the fire hazard of the material or product under actual fire conditions. The results when used alone are only to be used for research and development, quality control and material specifications.

NOTICE: VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability of fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

VTEC #100-9046

SUPERIOR PRODUCTS INTERNATIONAL II, INC.

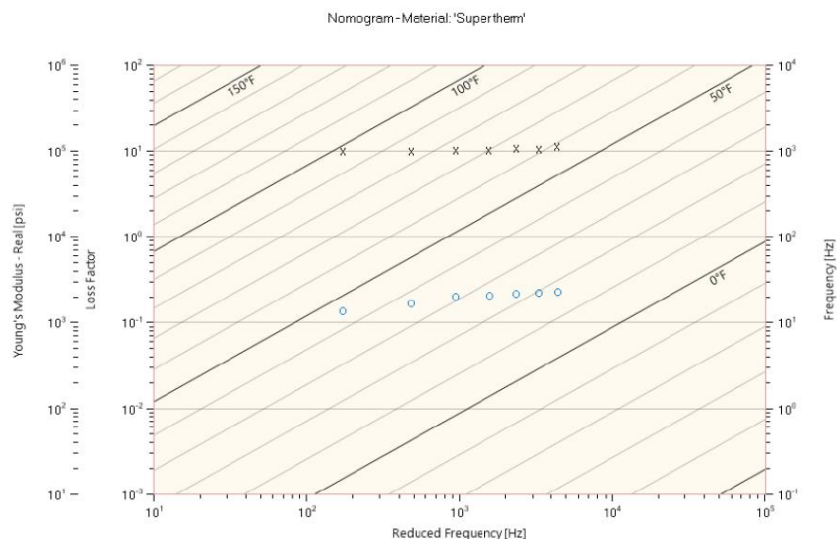
ASTM E756

Test Results:

Beam Layer	Type	Thickness (in)	Material	Density (lb/in ³)
1	Viscoelastic	0.1	Super Therm®	0.0369
2	Constraining (base beam)	0.0633	128539	0.284

Temperature (°F)	Mode	Frequency (Hz)	CLF	E (psi)	MLF
69.9	2	115.6	0.016	9.846E+04	0.134
69.9	3	324.2	0.020	9.766E+04	0.165
69.9	4	636	0.024	9.926E+04	0.197
69.9	5	1053.8	0.025	1.001E+05	0.203
69.9	6	1576	0.028	1.046E+05	0.217
69.9	7	2209.2	0.028	1.033E+05	0.222
69.9	8	2954.6	0.030	1.107E+05	0.224

*Note: CLF = Composite Loss Factor and MLF = Material Loss Factor



Neil Schultz

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Executive Director

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Super Therm® — Airborne Sound Transmission (STC) Performance

ASTM E90 / E413 · VTEC Laboratories Report #100-2251 · Tested November 22, 2005

Super Therm® was evaluated by VTEC Laboratories under **ASTM E90** (airborne sound transmission loss), with results classified per **ASTM E413** as a **Sound Transmission Class (STC)** rating — a measure of how well a wall assembly blocks airborne sound from passing through it; the higher the number, the more sound is stopped. Three sheetrock-and-steel-stud wall assemblies were tested, differing only in how much Super Therm was applied. STC rose from **38 to 41** as coating coverage increased, confirming that Super Therm adds measurable transmission loss to a wall assembly. For reference, STC 40 is roughly the point at which loud speech through a wall is reduced to a faint murmur.

VTEC Report	Wall Configuration	STC
#100-2251-1	Sheetrock coated on one side	38
#100-2251-2	Sheetrock coated on exterior faces	39
#100-2251-3	Sheetrock coated on both sides	41

How to read this: STC belongs to the complete wall assembly (sheetrock + steel studs + Super Therm). The coating is a documented contributor, adding roughly 3 STC points as coverage increased.

WHERE THIS MAKES A DIFFERENCE

- **Data-center mechanical rooms.** Coated partition and enclosure walls help contain CRAC/chiller and generator noise so it doesn't cross into white space, offices, or reach the property line.
- **Compressor & genset buildings.** Coated cladding assemblies reduce airborne noise breakout to the fenceline, where community and permit limits apply.
- **Equipment-adjacent occupied spaces.** Coated partitions between mechanical rooms and control rooms, offices, or nearby residences raise the barrier's transmission loss.
- **Industrial equipment enclosures.** Coated barrier panels around pumps, blowers, and compressors help keep airborne noise contained inside the enclosure.

Scope: ASTM E90/E413 measures airborne transmission loss through a wall assembly — not structure-borne vibration damping or room absorption. Companion ASTM E756 testing (VTEC #100-9046) documents Super Therm's source-side vibration damping, giving a two-part acoustic story: damp the source panels (E756), and block the airborne path (E90). STC values reflect the complete coated assembly. Provided for project submittal and product-acceptance use.