

Automotive

Technical Data Sheet

3M™ Thinsulate™ Acoustic Insulation

TC1803

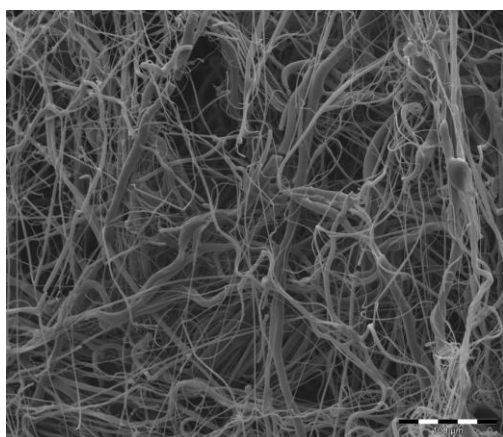
General Description

Thinsulate TC Series is a High Performance Compressible Acoustic Insulation. It fits a wide range of applications where varying thickness is highly desired, such as door trim panels and body side trim panels.

The products uniquely high performance and its low density are ideal for mass reduction applications.

General Construction

The web is composed of 50% polyester staple fibres, and 50% polypropylene fibres. The polypropylene fibres are extremely fine, producing the high-energy absorption characteristic with the low weight. The polyester fibres are added to strengthen the web. The scrim attached to both sides is a 100% polypropylene non-woven fabric.



Magnified image of Thinsulate™ Acoustic Insulation showing fine PP and larger PET fibres.



Thinsulate™ Acoustic Insulation TC1803 material

Special Characteristics

Suitable for applications in vehicle cabin, headliners, trim panels, luggage compartment interiors and exterior applications like bumpers and wheelarch liners. It is conformable to accommodate the irregular spaces behind trim panels. TC1803 fills voids to help reduce unwanted noise from travelling throughout the vehicle.

Attaching to trim panels is recommended, preferably using ultrasonic or heat spot welding, but adhesives (double sided pressure sensitive tapes or hot melt) may also be used. It can be processed by conventional techniques such as die-cutting and heat sealing. Not recommended for applications where temperatures will be continuously above 120°C.

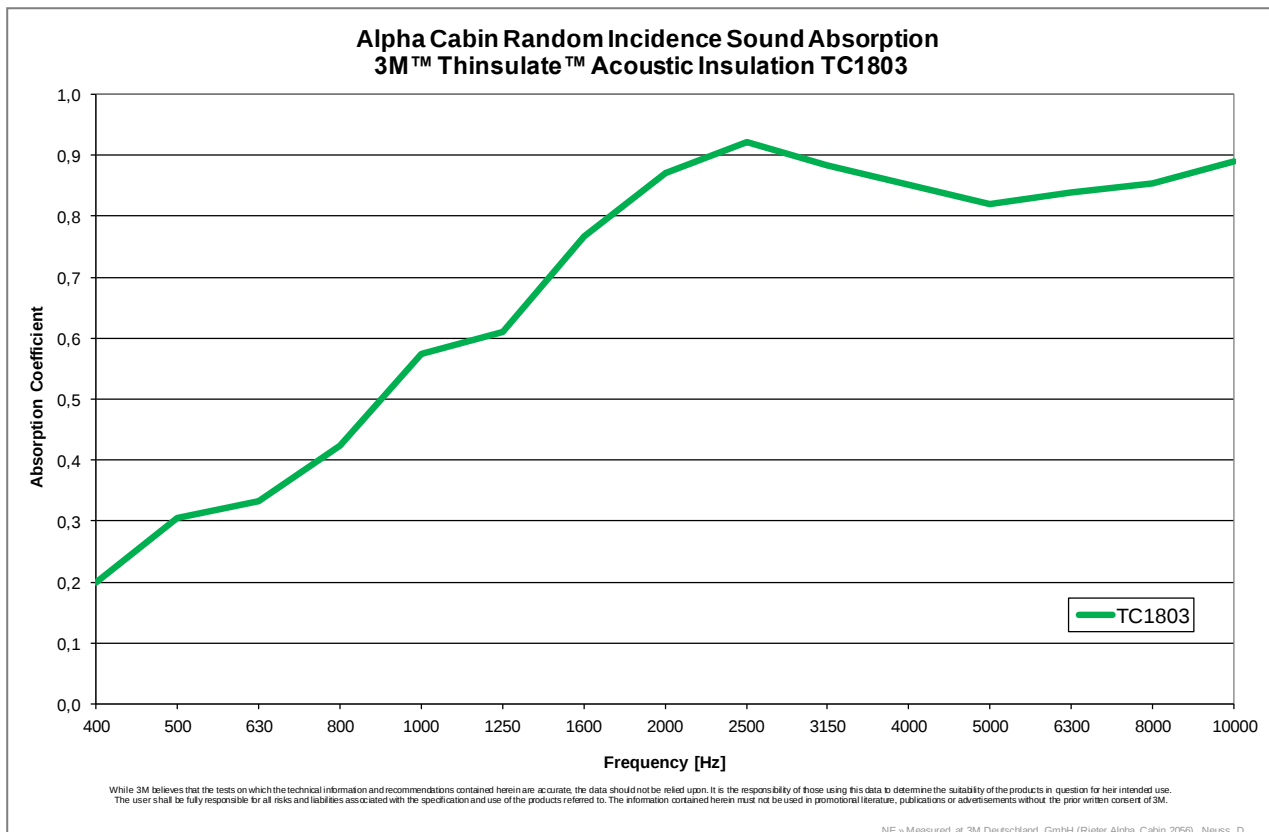
Properties

General properties (typical values)	
Composition web	50% polypropylene, 50% polyester
Composition scrim	100% polypropylene
Construction and colour	White web with white scrim on both sides
Material Thickness	21 mm (tested after 6 weeks on roll according SAE J1355 @ 0,002psi (14N/m ²))
Surface weight	185 g/m ² (web and scrim; tested on 315 x 315 mm samples)
Density	7,7 kg/m ³
Flammability	Self-Extinguishing (SE) as per SAE J369 (FMVSS 302, ISO 3795, DIN75200)
Temperature resistance	120°C (tested for 2000 hours)
Storage	Rolls need to be stored upright.
Availability	die cuts as per customer requirement - plain cut, hot trim edge or sealed edge - available with adhesive

Acoustical Properties – Alpha Cabin

Alpha Cabin Measurement with 1,2m² sample measuring Random Incidence Sound.

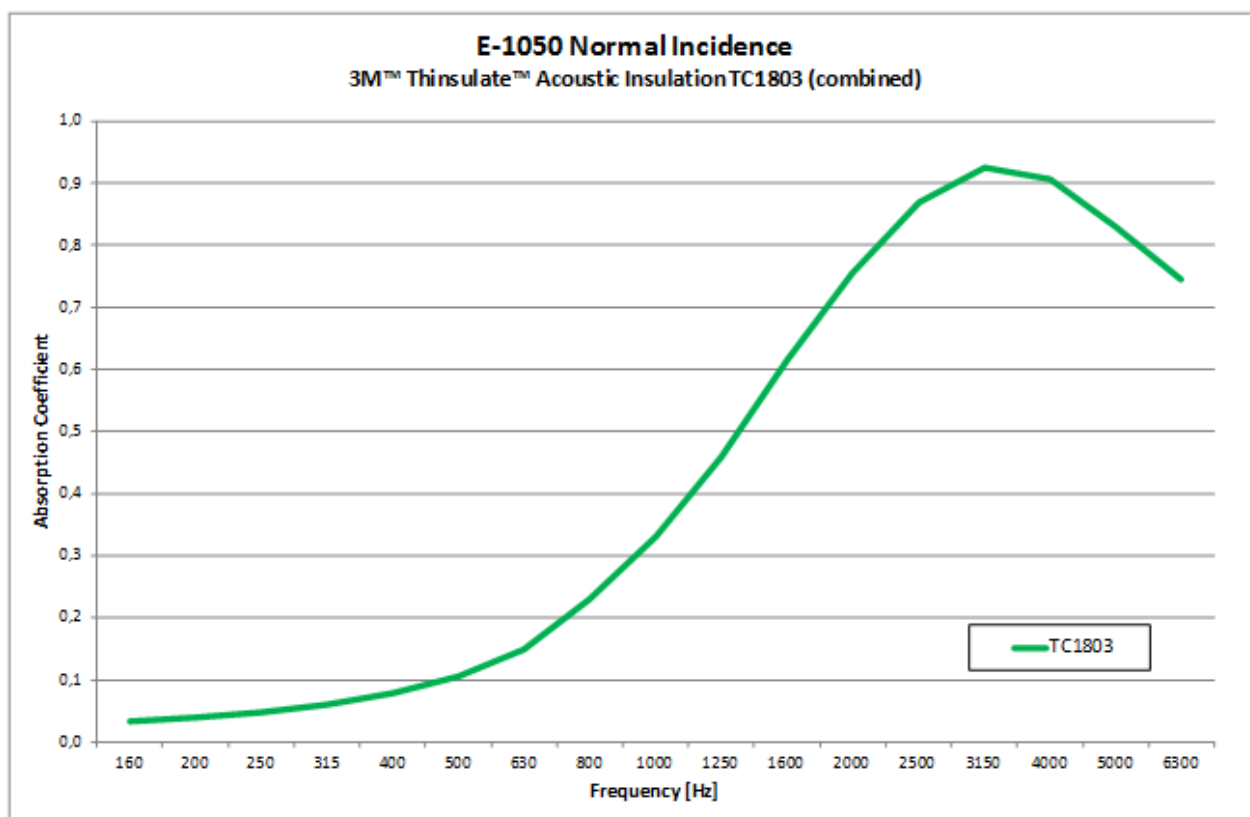
Result is average of 30 samples, tested after 6 weeks on roll (24hrs conditioning @ RT), average up & down and 20mm frame used (acc. 3M TMAE 017 (Rieter standard Alpha Cabin test) at 3M Germany in Neuss)



Acoustical Properties – Impedance Tube

Dual Microphone Impedance Tube Method that measures Normal Incidence Sound.

Combined result average of min 5 samples (100mm & 29mm tube), on nominal weight samples and thickness set at nominal 6 weeks thickness based upon 7N/m² pressure due to high compressibility of TC1803. (acc. 3M TMAE 016 (based on ASTM E-1050))



Additional Information This data sheet contains typical information specific to the product. This information should not be used to determine a product specification. Samples and further information on the use of the product are available separately.

Important notice to purchaser All statements, technical information, and recommendations herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. Please ensure before using our product that it is suitable for your intended use. All questions of liability relating to this product are governed by the Terms of Sale subject, where applicable, to the prevailing law.



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