

3M™ Flexile Acoustic Material

Product Overview

Taewook Yoo
Product Development Engineer
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3M Automotive NVH-T Solutions Roadmap

1990s - 2016

3M™ Thinsulate™ Acoustic Insulation TAI, SM, AU, TC Series

- High absorption performance
- Lightweight

3M™ Thinsulate™ High Temperature Acoustic Absorbers HT Series

- Higher thermal resistance for engine room applications (2016)

2018

Higher Value Absorbers 3M™ Thinsulate™ Acoustic Insulation TF Series

- Higher absorption performance per unit weight/thickness
- Save cost without sacrificing performance

2019

Expand Beyond Absorbers (and into Electric Vehicles)

3M™ Engineered Damping Material

- High damping performance per unit weight
- Flexible material with adhesive backing

3M™ Battery Enhancement Material

- FR rated thermal insulation to improve battery performance in EVs

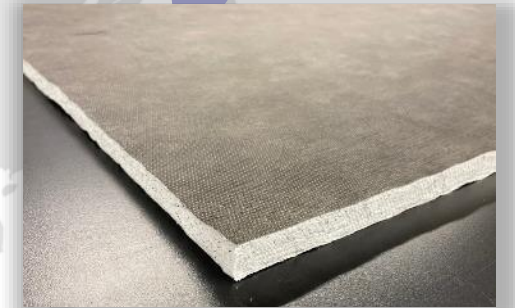
2020 and beyond

3M™ Flexile Acoustic Material

- High absorption performance (especially at mid frequency)
- Demonstrates transmission loss

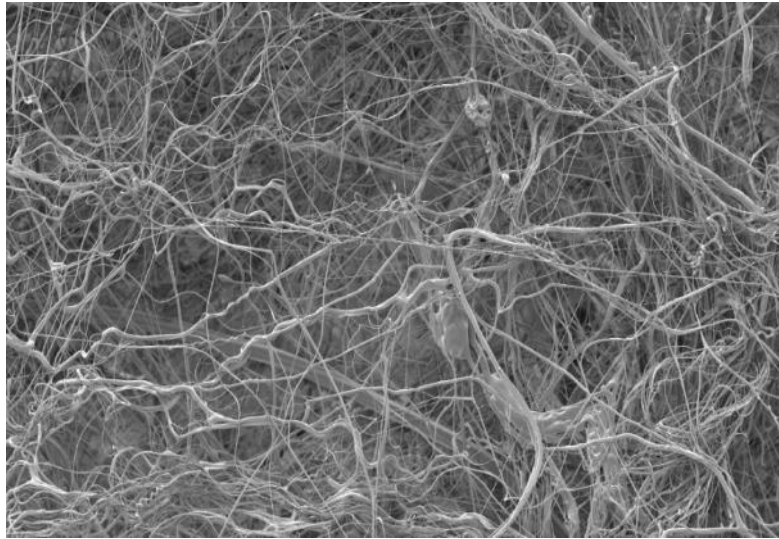


3M



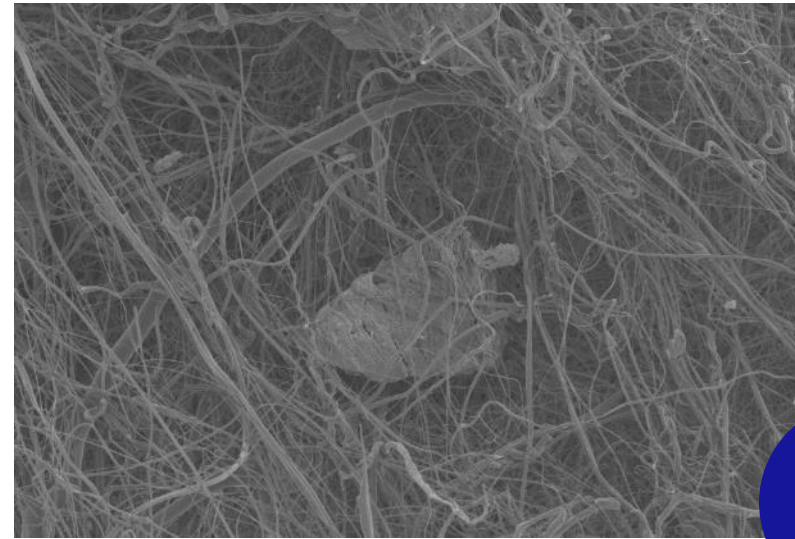
How Does 3M™ Flexile Acoustic Material Work?

Current Solution



~1 m² per gram

3M FAM



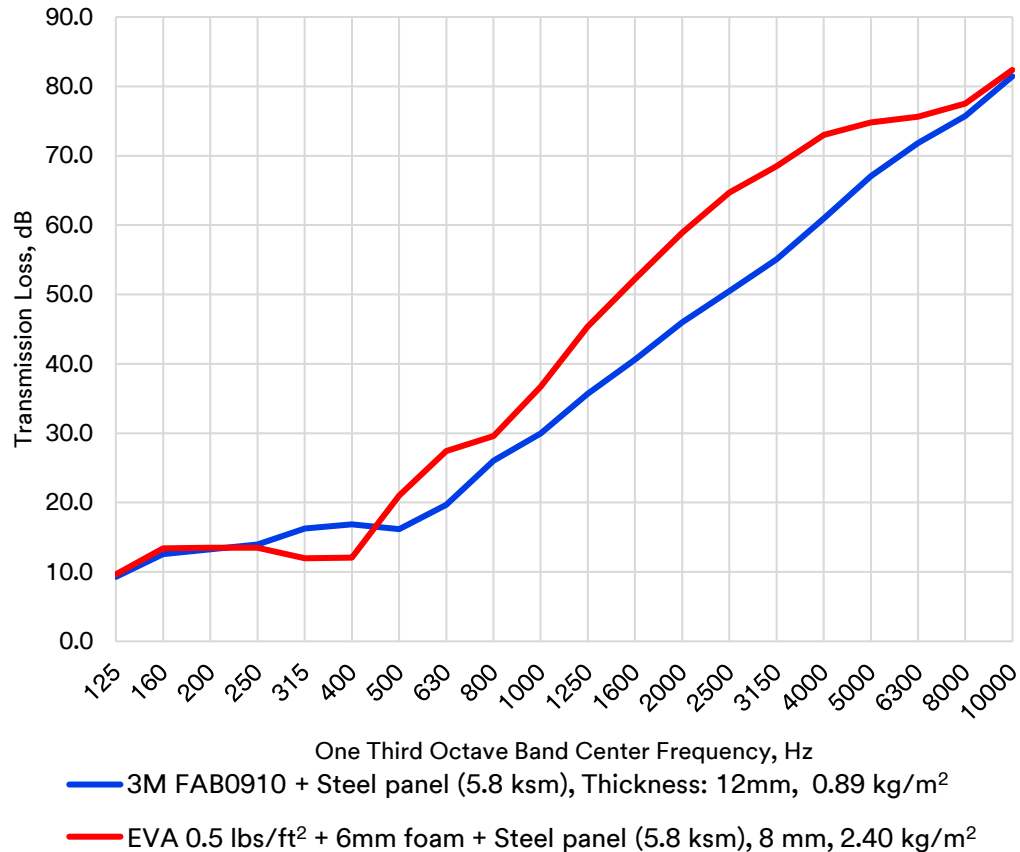
~250 m² per gram

>250X

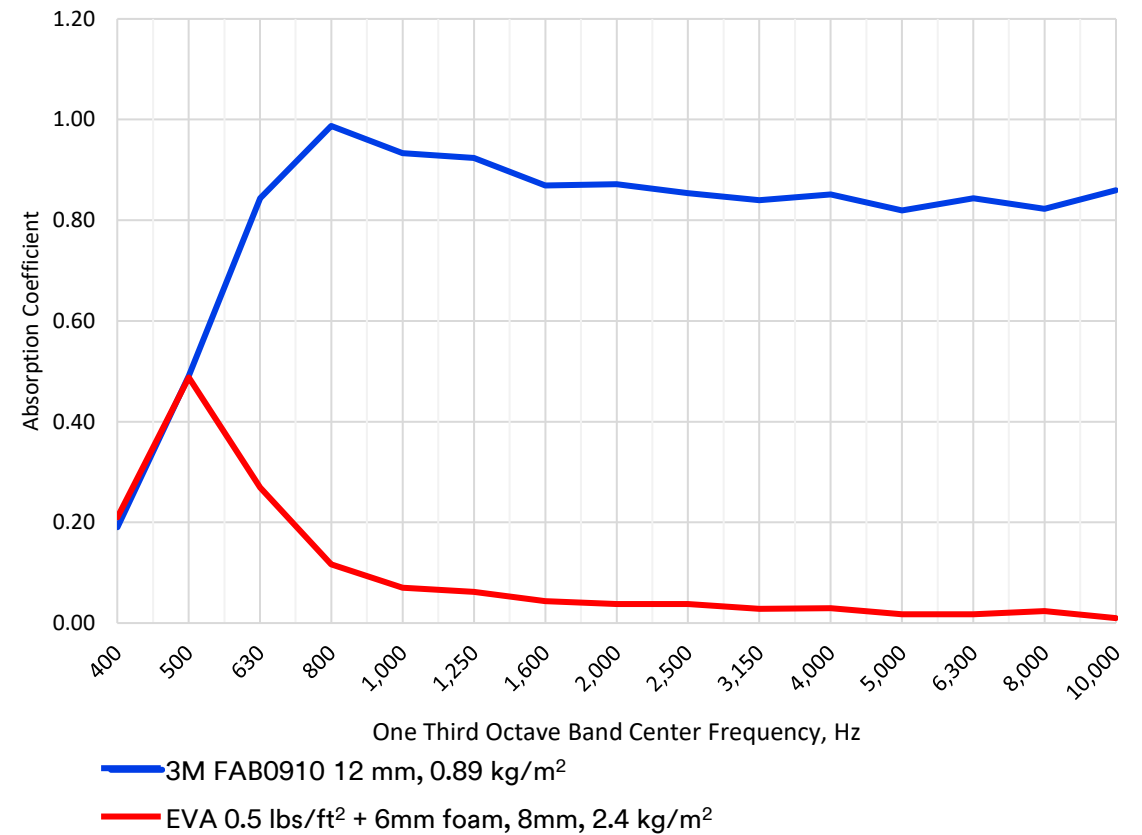
3M™ Flexile Acoustic Material has extremely high specific surface area and high airflow resistivity

Material Test: 3M FAB0910 vs. Typical Barrier Composite

Transmission Loss - SAE J1400



Alpha Cabin



Good barrier and excellent absorber performance at approx. 1/3 the weight of typical barrier composite

In-Vehicle Test Result on Wheelhouse in SUV



+



+



=

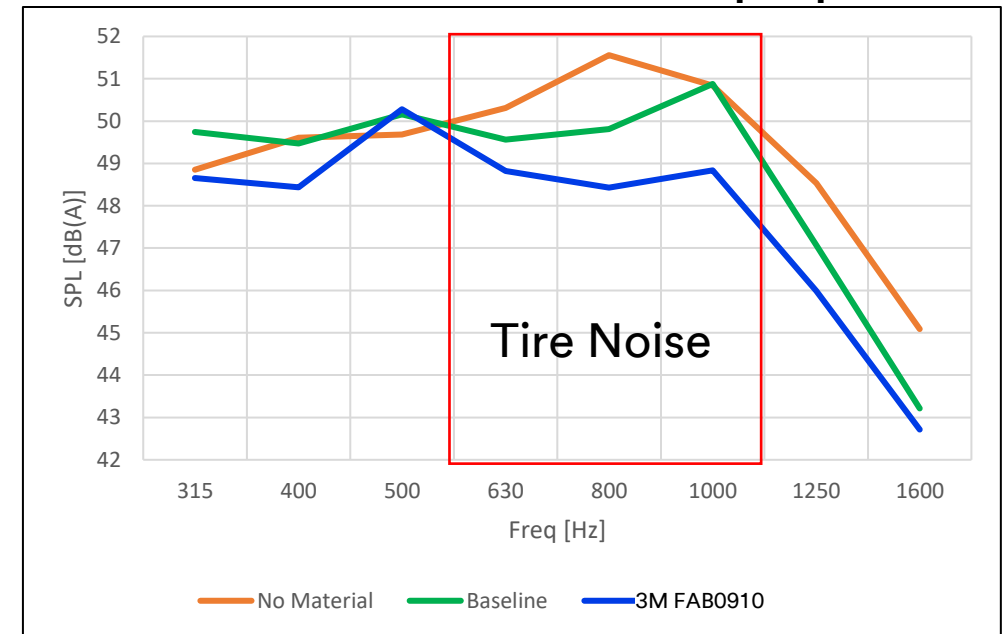
3M Flexile Acoustic Material
FAB0910, 12mm, 1.2 kg/m²



One part of 3M FAB0910
replaces three different parts
and has better performance
than baseline



SPL over 3 interior mics at 50 mph speed



3M FAB0910: Improved Performance, Added Benefits



Absorber and barrier performance in a non-molded single layer

Multifunctional/Simplification,
Eliminates molding costs,
Potential system cost reduction



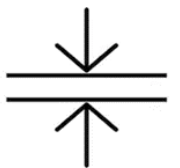
Lightweight system solution

Potentially Improves Fuel
Efficiency



Equivalent acoustic performance when attached to the body side or the trim side compared to current solutions

Business process
re-engineering



Thin product with high acoustic performance

Design flexibility and/or
increased cabin space

Thank you!

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Automotive and Aerospace Solutions Division
3M Center
St. Paul, MN 55144-1000
Phone: 1-800-328-1684
Web: www.3M.com/acousticsolutions

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