SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
산업용 소재 · 건축자재
제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

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TECHNICAL DOCUMENTS

인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

추락방지 시스템

안전대부착설비 · 수평·수직 라이프라인
레일 시스템 · 리지드 포스트

밀폐공간 진입·구조 솔루션

데빗암 · 삼각대 · 구조용 윈치
윈치 안전블록 · 구조장비

산업안전 보호구

전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

산업용 소재·건축자재

산업용 테이프 · 접착제 · 기능성 소재
구조용 스크류 · 목조건축 자재

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홈페이지 바로가기 →
문서 라이브러리 바로가기 →
시공사례 바로가기 →
문의하기 →

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English-US

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Technical Data Sheet

3M™ Vibration Damping Tape 2542

Product Description

3M™ Damping Foil 2542 consists of a room temperature pressure sensitive viscoelastic polymer on dead soft aluminum foil and is designed for application to vibrating panels and support members. This combination of viscoelastic polymer and an aluminum foil backing (a constrained layer damper, or CLD) has proved to be a unique construction with exceptional ability to control resonant vibrations in the temperature range of 0° to 60°C (32° to 140°F). The adhesion characteristics of this material allow application to many substrates.

Product Features

• Excellent aging qualities of the acrylic viscoelastic damping polymer.
• Wide temperature range for damping. Usable from -32°to 80°C (-25°to 175°F) at 100 Hz; performs best at 0°to 60°C (32°to 140°F).
• Liner on products offer the user die-cut capability.
• Pressure sensitive adhesive for ease of application.

Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Physical Properties

Attribute Name	Test Method	Value
Viscoelastic Type		Acrylic Damping Polymer
Viscoelastic Thickness		0.13 mm (5 mil)
Backing		Aluminum
Backing Thickness	ASTM D3652	0.13 mm (5 mil)
Liner		58# Paper
Liner Thickness		0.1 mm (4 mil)

Typical Performance Characteristics

Attribute Name	Test Method	Temperature	Value
180° Peel Adhesion	ASTM D3330	23 °C (73 °F)	7.2 N/cm (65 oz/in) [1]
Elongation at Break	ASTM D3759		7 %
Tensile Strength	ASTM D3759		110.3 N/cm (63 lb/in)
Long Term Temperature Resistance			80 °C (175 °F) [2]
Minimum Long Term Temperature Resistance			-32 °C (-25 °F) [2]
Peak Damping Temperature Range			0 — 60 °C (32 — 140 °F)

[1] 304 mm/min (12 in/min)
[2] Long Term (day, weeks)

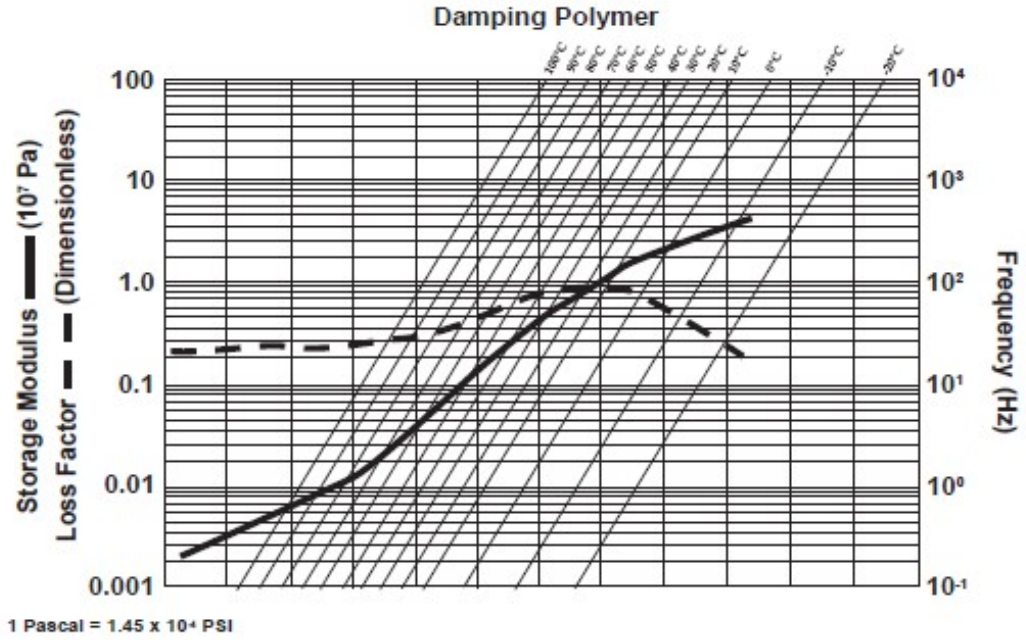
Typical Damping Properties

The high-energy dissipative polymer used in 3M damping foil 2542 can afford excellent control of resonance-induced vibrations. When applied to a vibrating structure, the polymer used in 3M damping foil 2542 converts vibration to

negligible heat. Vibration amplitudes and structure-borne noise can be consequentially reduced. The performance of most damping devices is highly dependent on the interaction between the device and the system to which it is applied. A constrained layer control system is no different than a typical damping device and its ability to provide the desired performance is affected by parameters other than temperature and frequency. Namely the geometry, stiffness and the structure to which the control system is applied will affect the performance.

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

The loss factor and shear (storage) modulus of a material are two dynamic properties that can define damping performance. These two properties identify a material's ability to convert vibratory energy to heat energy. The curve shows the performance of the Damping Polymer plotted against temperature and frequency in the form of a reduced temperature nomograph, illustrating both the high performance and the temperature- dependent qualities of this damping system.



Test Method: These properties were determined isothermally a teach temperature on a Polymer Laboratories Dynamic Mechanical Thermal Analyzer (DMTA). The strain amplitude used 8.47% peak to peak. Measurements were done at frequencies of 0.3, 1.0, 3.0, 10, and 30 Hz. Data at non-test frequencies and temperatures were determined from time-temperature superposition principles.
IMPORTANT: The oblique constant temperature lines are separated by non-uniform spacings. Hence a linear extrapolation of a temperature not explicitly shown cannot be used to obtain other temperature data.
To determine the damping properties at the desired temperature and frequency from the data graph, proceed as follows:
1. Locate the desired frequency on the RIGHT vertical scale.
2. Follow the chosen frequency line to the desired temperature isotherm.
3. From this intersect, go vertically up and/or down to intersect the shear (storage) modulus and loss factor curves.
4. From this intersect, follow horizontally to the LEFT vertical scale and read the shear (storage) modulus and loss factor values form the appropriate left vertical scale.

Handling/Application Information

Application Examples

- Automotive and industrial applications.
- Electronic equipment and appliances.
- Reduce resonant noise, vibration, and fatigue in metal and plastic panels on support structures.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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