# Technical data sheet

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|---|---|
| Product: | 435 |
| Manufacturer: | 3M DEUTSCHLAND GMBH |
| Product group: | KLEBEBAND |
| Article group: | EINSEITIG |
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## 3M VIBRATION DAMPING TAPE 435



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# Technical Data Sheet

3M™ Vibration Damping Tape 435

Product Details

Regulatory Info/SDS

## Product Description

3M™ Vibration Damping Tapes are low temperature 3M™ Viscoelastic Damping Polymers coated on a dead soft aluminum foil constraining layer. They have pressure sensitive properties and are furnished in roll form and designed for direct, pressure sensitive application to metal and composite panels for vibration damping purposes. The combination of the low temperature 3M viscoelastic polymers and an aluminum constraining layer has proven to be an unique construction with exceptional ability to damp resonant vibrations in the temperature range of -76° to +68°F (-60° to +20°C), with survivability from -76° to +248°F (-60° to +120°C).

## Product Features

• Pressure sensitive construction for easy application.
• Excellent aging qualities of the 3M viscoelastic damping polymer type 830 provide long term performance and has excellent resistance to most hydrocarbon and/or aircraft type solvents.
• Wide temperature range for damping. Usable from -76° to 68°F (-60° to 120°C) at 100 Hz plus higher temperatures at higher frequencies.
• These linered products offer the user die-cut capability.

## 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 |
|---|---|---|
| Weight | ASTM D1000 | 0.675 g/m² (0.138 lb/in²) |
| Damping Polymer | | Synthetic |
| Damping Polymer Thickness | | 0.14 mm (5.5 mil) |
| Backing | | Dead Soft Aluminum Foil |
| Backing Thickness | | 0.2 mm (8 mil) |
| Total Tape Thickness | ASTM D3652 | 0.34 mm (13.5 mil) |
| Liner | | Polypropylene |
| Primary Liner Color | | Blue |
| Water Vapor Transmission | ASTM D3833 | 0.1 g/100 in²/24 h |

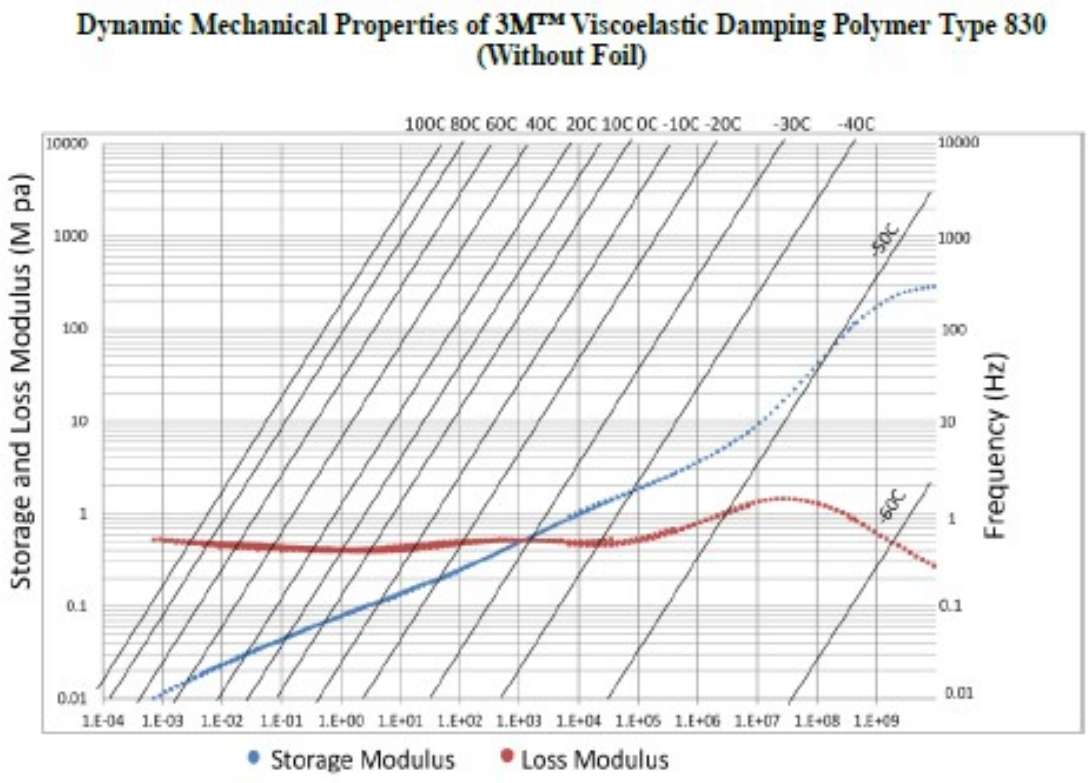
## Typical Performance Characteristics

| Attribute Name | Test Method | Temperature | Value |
|---|---|---|---|
| 180° Peel Adhesion | ASTM D3330 | 22 °C (72 °F) | 724 N/cm (65 oz/in) [1] |
| Elongation at Break | ASTM D3759 | | 12 % |
| Tensile Strength | ASTM D3759 | | 147 N/cm (1350 oz/in) |
| Long Term Temperature Resistance | | | 120 °C (248 °F) [2] |
| Minimum Long Term Temperature Resistance | | | -60 °C (-76 °F) [2] |
| Flammability Test | | | Pass FAR 25.853(a) |

[1] 12 in/min (300 mm/min)
[2] Long Term (day, weeks)

## Typical Damping Properties

**Note Regarding Dynamic Mechanical Properties:**
The shear storage modulus (G') and loss factor of a viscoelastic adhesive are two parameters used to partially define the damping performance when used in the form of a constrained layer damping treatment. The above curves illustrate these data as a function of frequency and temperature in the form of a reduced temperature nomograph.
While the damping performance of a constrained layer damping treatment depends largely on the dynamic mechanical properties of the viscoelastic adhesive alone, it is also dependent on other parameters. Namely the geometry, stiffness, mass and mode shape of the combination of the damper and the structure to which it is applied will also affect the damping performance.
**To determine the dynamic mechanical properties at the desired temperature and frequency proceed as follows:**
1. Locate the desired frequency on the right vertical scale.
2. Follow the chosen frequency horizontally to the desired temperature isotherm.
3. From the intersect, move vertically up and/or down until crossing both the modulus and loss factor curves.
4. Read the shear storage modulus and loss factor values from the left vertical scale.




## Handling/Application Information

**Application Examples**

• For lower temperature aerospace and industrial applications.
• Reduce unwanted resonant noise, vibration and fatigue in metal panels and support structures.
• Chutes, conveyors, bins, metal shop boxes and tables where metal contact with materials can result in unwanted vibration.

## Storage and Shelf Life

Store under normal conditions of 60° to 80°F (16° to 27°C) and 40 to 60% R.H. in the original carton. To obtain best performance, use this product within 24 months from date of manufacture.
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## Ordering Information

To obtain 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.

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## ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

## For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550 or visit www.3M.com/industrialtape. Address correspondence to: 3M Industrial Adhesives and Tapes Division, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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