

Technical Data Sheet

3M™ High Temperature Aluminum Foil Tape 433

Product Description

3M™ High Temperature Aluminum Foil Tape 433 has a silicone adhesive that can be used in many high temperature applications. Also comes in an easy-release film liner (3M™ High Temperature Aluminum Foil Tape 433L).




Product Features


- Flame resistant – meets requirements of FAR 25.853(a).
- 3M™ High Temperature Aluminum Foil Tape 433L can easily be die-cut into special sizes or shapes.
- Best results obtained when applied to a clean surface above 32°F (0°C), but tape can be applied from 0°F to 200°F (-18°C to 93°C).
- Performance range from -65°F to over 600°F (-54°C to over 316°C). Adhesive will gradually thermoset at high temperatures. As it thermosets, the adhesive mass becomes firm and gradually loses its pressure sensitivity but will continue to hold the tape in place.

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

Property	Values	Additional Information
Backing	Aluminum Foil	
Adhesive Type	Silicone (clear)	
Color	Silver	
Backing Thickness (mm)	0.05 mm	View 
Test Method: ASTM D3652		
Total Tape Thickness (mil)	3.6 mil	View 
Test Method: ASTM D3652		
Total Tape Thickness (mm)	0.09 mm	View 
Test Method: ASTM D3652		

Backing Thickness	2 mil	View 
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Test Method: ASTM D3652

Approximate Weight	4.4 g/m/24 mm
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Approximate Weight	0.0094 lb/yd/in
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Typical Performance Characteristics

Property	Values	Additional Information
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Tensile Strength	35 N/cm	View 
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Test Method: ASTM D3759

180° Peel Adhesion	4.4 N/cm	View 
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Test Method: ASTM D3330

Notes: 12 in/min (300 mm/min)


180° Peel Adhesion	40 oz/in	View 
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Test Method: ASTM D3330


Notes: 12 in/min (300 mm/min)

Tensile Strength (lb/in)	20 lb/in	View 
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Test Method: ASTM D3759

Elongation at Break (%)	3.5 %	View 
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Test Method: ASTM D3759

Long Term Temp C	316 °C	View 
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Test Condition: Long Term (day, weeks)

Minimum Long Term Temperature Resistance	-54 °C	View 
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Test Condition: Long Term (day, weeks)

Long Term Temp F	600 °F	View 
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Test Condition: Long Term (day, weeks)

Minimum Long Term Temperature Resistance	-65 °F	View 
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Test Condition: Long Term (day, weeks)

Temperature Use Range	-54 - 190 °C	View 
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Test Condition: Removable Application

Temperature Use Range	-65 - 375 °F	View 
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Test Condition: Removable Application

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.

Industry Specifications

FAR 25.853(a)

Automotive Disclaimer

Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, including, but not limited to, automotive electric powertrain battery or high voltage applications. This product does not fully adhere to typical automotive design or quality system requirements, such as IATF 16949 or VDA 6.3. This product may not be manufactured in an IATF certified facility and may not meet a Ppk of 1.33 for all properties. The product may not undergo an automotive production part approval process (PPAP). Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's automotive application and for conducting incoming inspections before use of the product. Failure to do so may result in injury, death, and/or harm to property. No written or verbal statement, report, data or recommendation by 3M related to automotive use of the product shall have any force or effect unless in an agreement signed by the Technical Director of 3M's Automotive Division. Customer assumes all responsibility and risk if customer chooses to use this product in an automotive electric powertrain battery or high voltage application, and 3M will not be liable for any loss or damage arising from or related to the 3M product or customer's use of the product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity or recall costs), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability. In no event shall 3M be liable for any damages in excess of the purchase price paid for the product.

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Bottom Matter

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Handling/Application Information

Application Examples

- Moisture barrier around doors and windows to help prevent fogging of glass.
- To hold insulation on hot air ducts in industry.
- Cover resistance wire heating elements to distribute the heat.
- Splice jumbo rolls of aluminum foil or holding the last lap of narrow width rolls in preparation to annealing the rolls.
- Ideal as a heat reflective wrap along or over insulations, applied to tubes, engine support structures, missile ground handling equipment, or as a protector from other heat source areas such as hot areas in steel mills.
- Good holding, splicing, patching or general protecting tape on many applications involving high temperatures.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40067935/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=433

ISO Statement

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

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