



Technical Data Sheet

3M™ Ultra High Temperature 100 HT Adhesive Transfer Tape 9082

Product Description

3M™ Ultra High Temperature 100HT Adhesive Transfer Tape 9082 utilizes a high performance and low outgassing adhesive system having excellent heat resistance in high temperature environments. Not only does it have excellent holding power, but also its adhesion strength is significantly higher than typical pressure sensitive tapes. This adhesive transfer tape is ideal for use in many industrial applications subjected to higher temperature environments. Typical examples are for automotive under-hood applications that require both higher processing and operating temperatures. Other areas include printed circuit boards and heat sink bonding in many electronics applications subjected to high solder reflow temperatures.

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
Adhesive Type	Acrylic Adhesive System	
Liner	55# Densified Kraft	
Liner Thickness	0.08 mm	
Color	Clear	
Liner Color	White, with green “3M” print	View
Test Name: Primary		
Total Tape Thickness (mil)	2 mil	View
Test Method: ASTM D3652		
Total Tape Thickness (mm)	0.05 mm	View
Test Method: ASTM D3652		
Density	0.98 g/cm³	

Density	0.04 lb/in³
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Liner Print	3M
Liner Thickness	3.2 mil

Typical Performance Characteristics

Property	Values	Additional Information
180° Peel Adhesion	8.8 N/cm	View 

Test Method: ASTM D3330
Temp C: 23C Temp F: 73F Backing: 2 mil Aluminum Foil
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

180° Peel Adhesion	80 oz/in	View 
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Test Method: ASTM D3330
Temp C: 23C Temp F: 73F Backing: 2 mil Aluminum Foil
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

180° Peel Adhesion	7 N/cm	View 
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Test Method: ASTM D3330
Temp C: 107C Temp F: 225F Backing: 2 mil Aluminum Foil
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

180° Peel Adhesion	64 oz/in	View 
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Test Method: ASTM D3330
Temp C: 107C Temp F: 225F Backing: 2 mil Aluminum Foil
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

180° Peel Adhesion	6.1 N/cm	View 
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Test Method: ASTM D3330
Temp C: 149C Temp F: 300F Backing: 2 mil Aluminum Foil

Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

180° Peel Adhesion	56 oz/in	View 
Test Method: ASTM D3330		
Temp C: 149C Temp F: 300F Backing: 2 mil Aluminum Foil		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
180° Peel Adhesion	5.3 N/cm	View 

Test Method: ASTM D3330		
Temp C: 177C Temp F: 350F Backing: 2 mil Aluminum Foil		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		

180° Peel Adhesion	48 oz/in	View 
Test Method: ASTM D3330		
Temp C: 177C Temp F: 350F Backing: 2 mil Aluminum Foil		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
180° Peel Adhesion	2.6 N/cm	View 

Test Method: ASTM D3330		
Temp C: 230C Temp F: 450F Backing: 2 mil Aluminum Foil		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		

180° Peel Adhesion	24 oz/in	View 
Test Method: ASTM D3330		
Temp C: 230C Temp F: 450F Backing: 2 mil Aluminum Foil		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
Normal Tensile	345 kPa	View 

Test Method: ASTM D897		
Test Name: T-Block Substrate: Aluminum		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		

Normal Tensile	50 lb/in²	View 
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Test Method: ASTM D897

Test Name: T-Block
Substrate: Aluminum

Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

Normal Tensile	100 kPa	View	^
Test Method: ASTM D897			
Test Name: T-Block Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			

Normal Tensile	15 lb/in²	View	^
Test Method: ASTM D897			
Test Name: T-Block Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			

Normal Tensile	100 kPa	View	^
Test Method: ASTM D897			
Test Name: T-Block Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			

Normal Tensile	15 lb/in²	View	^
Test Method: ASTM D897			
Test Name: T-Block Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			

Normal Tensile	70 kPa	View	^
Test Method: ASTM D897			
Test Name: T-Block Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			

Normal Tensile	10 lb/in²	View	^
Test Method: ASTM D897			
Test Name: T-Block Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			

Normal Tensile	70 kPa	View	^
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Test Method: ASTM D897

Test Name: T-Block
Substrate: Aluminum

Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

Normal Tensile	10 lb/in²	View ^
Test Method: ASTM D897 Test Name: T-Block Substrate: Aluminum Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
Short Term Temperature Resistance	540 °F	
Short Term Temperature Resistance	280 °C	
Long Term Temperature Resistance	177 °C	
Long Term Temperature Resistance	350 °F	
Static Shear	1000 g	View ^
Test Method: ASTM D3654 Substrate: Aluminum Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
Static Shear	1000 g	View ^
Test Method: ASTM D3654 Substrate: Aluminum Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
Static Shear	1000 g	View ^
Test Method: ASTM D3654 Substrate: Aluminum Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		
Static Shear	1000 g	View ^
Test Method: ASTM D3654 Substrate: Aluminum		

Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

Static Shear	1000 g	View	^
Test Method: ASTM D3654			
Substrate: Aluminum			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	620 kPa	View	^
Test Method: ASTM D1002			
Substrate: Stainless Steel			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	90 lb/in²	View	^
Test Method: ASTM D1002			
Substrate: Stainless Steel			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	240 kPa	View	^
Test Method: ASTM D1002			
Substrate: Stainless Steel			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	35 lb/in²	View	^
Test Method: ASTM D1002			
Substrate: Stainless Steel			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	210 kPa	View	^
Test Method: ASTM D1002			
Substrate: Stainless Steel			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	30 lb/in²	View	^
Test Method: ASTM D1002			
Substrate: Stainless Steel			
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.			
Overlap Shear Strength	140 kPa	View	^

Test Method: ASTM D1002

Substrate: Stainless Steel

Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.

Overlap Shear Strength	20 lb/in²	View 
Test Method: ASTM D1002		
Substrate: Stainless Steel		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		

Overlap Shear Strength	100 kPa	View 
Test Method: ASTM D1002		
Substrate: Stainless Steel		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		

Overlap Shear Strength	15 lb/in²	View 
Test Method: ASTM D1002		
Substrate: Stainless Steel		
Notes: Adhesion performance generally increases with lower temp. At temps lower than -40°F [-40°C], the ability to absorb impact energy is reduced. Note: Samples were conditioned at the desired temperature for two minutes before testing at that temperature.		

Available Sizes

Property	Values	Additional Information
Note	Subject to Minimum Order Requirements	
Standard Roll Length	54.9 m	
Standard Roll Length	60 yd	
Maximum Length	54.9 m	View 
Width: 1/2 in width		
Maximum Length	60 yd	View 
Width: 1/2 in width		
Maximum Length	110 m	View 
Width: 1/2 in to 1 in widths		

Maximum Length	120 yd	View 
Width: 1/2 in to 1 in widths		
Maximum Length	110 m	View 
Width: 1 in to 3 in		
Maximum Length	120 yd	View 
Width: 1 in to 3 in		
Maximum Length	165 m	View 
Width: 3 in and wider		
Maximum Length	180 yd	View 
Width: 3 in and wider		
Normal Slitting Tolerance	± 0.8 mm	
Normal Slitting Tolerance	± 1/32 in	

Electrical and Thermal Properties

Property	Values	Additional Information
Insulation Resistance	>1 x 10^6 MΩ/in²	View 
Test Method: ASTM D1000		
Dielectric Strength	1200 V	View 
Test Method: ASTM D149		
Dielectric Strength	870 V	View 
Test Method: ASTM D149		
Dielectric Strength	770 V	View 
Test Method: ASTM D149		
Thermal Conductivity	0.16 W/m/K	View 
Test Method: ASTM C177		

Thermal Conductivity	1.1 (btu-in)/(h-ft²-°F)	View 
Test Method: ASTM C177		

Additional Performance Characteristics

770 x 10^-6

Weight Loss and Outgassing Performance

Property	Values	Additional Information
Isothermal TGA Analysis	0.64 %	View 

Notes: Testing used constant temp Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp ramp at highest rate and maintained for 3.5hr. Results: % weight loss at desired temp.

Isothermal TGA Analysis	1.09 %	View 
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Notes: Testing used constant temp Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp ramp at highest rate and maintained for 3.5hr. Results: % weight loss at desired temp.

Ramped TGA Analysis	0.15 %	View 
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Notes: The testing is done using a constant temperature Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp 70 to 1,000°F (537°C), 10°C/min. Results: % weight loss at desired temp.

Ramped TGA Analysis	0.21 %	View 
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Notes: The testing is done using a constant temperature Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp 70 to 1,000°F (537°C), 10°C/min. Results: % weight loss at desired temp.

Ramped TGA Analysis	0.26 %	View 
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Notes: The testing is done using a constant temperature Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp 70 to 1,000°F (537°C), 10°C/min. Results: % weight loss at desired temp.

Ramped TGA Analysis	0.61 %	View 
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Notes: The testing is done using a constant temperature Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp 70 to 1,000°F (537°C), 10°C/min. Results: % weight loss at desired temp.

Ramped TGA Analysis	1 %	View 
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Notes: The testing is done using a constant temperature Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp 70 to 1,000°F (537°C), 10°C/min. Results: % weight loss at desired temp.

Ramped TGA Analysis	5 %	View 
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Notes: The testing is done using a constant temperature Thermogravimetric Analysis (TGA). TA Instruments 2950 HI-RES Modulated Thermogravimetric, air atmosphere, standard mode. Temp 70 to 1,000°F (537°C), 10°C/min. Results: % weight loss at desired temp.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.
If stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

Bottom Matter

3M
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Trademarks

3M is a trademark of 3M Company.

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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Handling/Application Information

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve bond strength.

To obtain optimum adhesion, the bonding surfaces must be clean, dry, and well unified. Some typical surface cleaning solvents are isopropyl alcohol/water mixture or heptane.*

Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

*Note: Be sure to follow the manufacturer’s precautions and directions for use when using solvents.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40065916/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9082

Family Group

Link Tags:

- 9082

• 9085

• 9085UV

Products	Adhesive Type	Liner	Liner Thickness	Color	Liner Color	Total Tape Thickness (mm)	Short Term Temperature Resistance	Long Term Temperature Resistance
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9085	Acrylic Adhesive System	55# Densified Kraft	0.08 mm	Clear	White, with green “3M” print	0.13 mm	280 °C	350 °F
9082	Acrylic Adhesive System	55# Densified Kraft	0.08 mm	Clear	White, with green “3M” print	0.05 mm	280 °C	350 °F
9085UV	Acrylic Adhesive System	58# Polycoated Kraft	0.1 mm	Clear	Brown	0.13 mm	280 °C	350 °F

ISO Statement

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

Information

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