

Technical Data Sheet

3M™ High Strength Double Coated Tape 93020LE

Product Description

Finite Element Analysis (FEA) data is available for this product at: [3m.com/FEA](https://www.3m.com/FEA)

3M™ Double Coated Tapes with 3M™ High Strength Acrylic Adhesive 300LSE provides a high bond strength to most surfaces, including many low surface energy plastics such as polypropylene and powder coated paints. The acrylic adhesive also provides excellent adhesion to surfaces contaminated with oil typically used with machine parts.




Product Features







- This tape has a film carrier which can add dimensional stability to foams and other substrates and also makes it easier to handle the tape during slitting and die-cutting.
- The bond strength of 3M™ Acrylic Adhesive 300LSE increases as a function of time and temperature, and has very high initial adhesion.

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 Type	300LSE	View 
Test Name: Faceside		
Notes: Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.		
Adhesive Type	300LSE	View 
Test Name: Backside		
Notes: Backside adhesive is on the exterior of the roll, exposed when liner is removed.		
Adhesive Carrier	Clear Polyester	
Liner Color	Tan	View 
Test Name: Primary		
Liner	58# Polycoated Kraft Paper (PCK)	

Liner Thickness	0.11 mm	
Liner Print	300LSE	
Carrier Thickness	0.012 mm	
Total Tape Thickness (mil)	7.9 mil	View 
Test Method: ASTM D3652		
Total Tape Thickness (mm)	0.2 mm	View 
Test Method: ASTM D3652		
Adhesive Thickness	0.095 mm	View 
Test Name: Backside		
Notes: Backside adhesive is on the exterior of the roll, exposed when liner is removed.		
Adhesive Thickness	3.7 mil	View 
Test Name: Backside		
Notes: Backside adhesive is on the exterior of the roll, exposed when liner is removed.		
Adhesive Thickness	0.095 mm	View 
Test Name: Faceside		
Notes: Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.		
Adhesive Thickness	3.7 mil	View 
Test Name: Faceside		
Notes: Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.		
Carrier Thickness	0.5 mil	
Liner Thickness	4.2 mil	

Typical Performance Characteristics

Property	Values	Additional Information
180° Peel Adhesion	17 N/cm	View 


Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: Aluminum Foil

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

180° Peel Adhesion

155 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: Aluminum Foil

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

180° Peel Adhesion

18.1 N/cm

View 


Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polycarbonate (PC)
Backing: Aluminum Foil

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

180° Peel Adhesion

165 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polycarbonate (PC)
Backing: Aluminum Foil

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

180° Peel Adhesion

15.9 N/cm

View 


Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: ABS
Backing: Aluminum Foil

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

180° Peel Adhesion

145 oz/in

View 

Test Method: ASTM D3330


Dwell/Cure Time: 15.0

Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: ABS
Backing: Aluminum Foil

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

180° Peel Adhesion

17 N/cm

View 

Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)
Backing: Aluminum Foil

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

180° Peel Adhesion

155 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)
Backing: Aluminum Foil

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

180° Peel Adhesion

18.6 N/cm

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: Aluminum Foil

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

180° Peel Adhesion

170 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: Aluminum Foil

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

180° Peel Adhesion

19.7 N/cm

View 

Test Method: ASTM D3330


Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F

Environmental Condition: 50%RH
Substrate: Polycarbonate (PC)
Backing: Aluminum Foil

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

180° Peel Adhesion

180 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polycarbonate (PC)
Backing: Aluminum Foil

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

180° Peel Adhesion

17 N/cm

View 


Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: ABS
Backing: Aluminum Foil

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

180° Peel Adhesion

155 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: ABS
Backing: Aluminum Foil

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

180° Peel Adhesion

19.2 N/cm

View 


Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)
Backing: Aluminum Foil

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

180° Peel Adhesion







175 oz/in

View 





Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)
Backing: Aluminum Foil


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

Short Term Temperature Resistance	300 °F	View 
Test Condition: Short Term (minutes, hour)		
Short Term Temperature Resistance	149 °C	View 
Test Condition: Short Term (minutes, hour)		
Long Term Temp C	93 °C	View 
Test Condition: Long Term (day, weeks)		
Long Term Temp F	200 °F	View 
Test Condition: Long Term (day, weeks)		
Static Shear	>10,000 min	View 
Test Method: ASTM D3654		
Test Condition: 1000 g @ Room Temperature		
Notes: 1 in ² sample size		
Static Shear	>10,000 min	View 
Test Method: ASTM D3654		
Test Condition: 500 g @ 70°C (158°F)		
Notes: 1 in ² sample size		


Available Sizes

Property	Values	Additional Information
Note	Subject to Minimum Order Requirements	
Maximum Length	164 m	View 
Width: 1/2 in to 63/64 in		
Maximum Length	180 yd	View 
Width: 1/2 in to 63/64 in		
Maximum Length	329 m	View 
Width: 1 in to 3 in		
Maximum Length	360 yd	View 


Width: 1 in to 3 in

Maximum Length	329 m	View 
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Width: 3 in to 48 in

Maximum Length	360 yd	View 
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Width: 3 in to 48 in

Maximum Length	329 m	View 
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Width: 48 in to 54 in

Maximum Length	360 yd	View 
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Width: 48 in to 54 in

Normal Slitting Tolerance	± 0.8 mm	
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Normal Slitting Tolerance	± 1/32 in	
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Core Size (ID)	76.2 mm	
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Core Size (ID)	3 in	
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Electrical and Thermal Properties

Property	Values	Additional Information
Breakdown Voltage	7500 V	

Typical Environmental Performance

Humidity Resistance: High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for 7 days at 90°F (32°C) and 90% relative humidity.

UV Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by exposure.

Water Resistance: Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.

Temperature Cycling Resistance: High bond strength is maintained after cycling four times through:

4 hours at 158°F (70°C)

4 hours at -20°F (-29°C)

4 hours at 73°F (22°C)

Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids, and alkalis.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.

If stored under proper conditions, these products retain their performance and properties for 24 months from date of manufacture.

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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Trademarks

3M is a trademark of 3M Company.

Industry Specifications

This product might be suitable for use in indirect food contact applications. Please see the applicable Regulatory Data Sheet for more information relating to FDA compliance.

Handling/Application Information

Application Examples

- Foam to powder coated painted surfaces.
- Low surface energy plastic adhesion.

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 or heptane.*

*Note: Carefully read and follow the manufacturer's precautions and directions for use when using solvents. 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.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40072050/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=93020LE

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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