

January, 2011

3M™ Double Coated Tape 96042

Product Description

3M™ Double Coated Tape 96042 with 3M™ Silicone Adhesive provide high bond strength to most silicones and difficult-to-bond to substrates, including many low surface energy plastics and select varnished leathers.



Product Features

- Single liner tapes with a stable differential release.
- Good initial quick stick and adhesion build over time.
- Adhesion to silicone rubbers and silicone foams.
- Excellent solvent resistance.
- Superior temperature performance.

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 | | Notes |
|------------------------------------|-----------------------|-------|---|
| Total Tape Thickness without liner | 0.13 mm | 5 mil | |
| Faceside Adhesive Thickness | 0.05 mm | 2 mil | Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed. |
| Backside Adhesive Thickness | 0.05 mm | 2 mil | Backside adhesive is on the exterior of the roll, exposed when liner is removed. |
| Carrier Thickness | 0.025 mm | 1 mil | |
| Adhesive Type | Silicone | | |
| Adhesive Carrier | Clear PET (Polyester) | | |
| Liner | PET | | |
| Liner Thickness | 0.05 mm | 2 mil | |
| Liner Color | White | | |

Typical Performance Characteristics

| 90° Peel Adhesion | | Substrate |
|-------------------|----------|--------------------|
| 4.4 N/cm | 40 oz/in | Stainless Steel |
| 4.4 N/cm | 40 oz/in | ABS |
| 4.4 N/cm | 40 oz/in | Polycarbonate (PC) |
| 3.8 N/cm | 35 oz/in | Polypropylene (PP) |
| 3.8 N/cm | 35 oz/in | Silicone Rubber |

Property: 90° Peel Adhesion
 Method: ASTM D3330
 Dwell/Cure Time: 24 hr @ Room Temperature

| Property | Values | | Method | Test Condition | Notes |
|----------|--------|--|--------|----------------|-------|
|----------|--------|--|--------|----------------|-------|

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Typical Performance Characteristics (continued)

| Property | Values | | Method | Test Condition | Notes |
|-----------------------------|---|---|------------|---------------------------|-------------------------------|
| Maximum Service Temperature | 149 (The PET carrier is the limiting factor) °C | 300 (The PET carrier is the limiting factor) °F | | | |
| Static Shear | >10,000 min | | ASTM D3654 | 1000 g @ Room Temperature | 1 in ² sample size |
| Static Shear | >10,000 min | | ASTM D3654 | 500 g @ 70°C (158°F) | 1 in ² sample size |
| Solvent Resistance | Excellent | | | | |

Available Sizes

| Property | Values | |
|---------------------------|---------------------------------------|----------|
| Note | Subject to Minimum Order Requirements | |
| Maximum Available Width | 48 in | |
| Normal Slitting Tolerance | ±0.8 mm | ±1/32 in |
| Core Size (ID) | 76.2 mm | 3 in |

| Maximum Length | | Width |
|----------------|--------|-----------------------|
| 66 m | 72 yd | 1/2 in to 1 in widths |
| 329 m | 360 yd | 3 in and wider |

Property: Maximum Length

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:

8 hours at 194°F (90°C)

16 hours at -40°F (-40°C)

8 hours at 100.4°F (38°C/100% RH)

16 hours at -40°F (-40°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.

Handling/Application Information

Application Ideas

- General purpose silicone bonding.
- Vibration damping.
- High temperature applications.
- Ideal for single liner applications.

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), will assist the adhesive in developing intimate contact with the bonding surface.

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

*Carefully read and follow the manufacturer’s precautions and directions for use when working with solvents. These cleaning recommendations may not be compliant with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

Application Equipment

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8).

For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.

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 one year from date of manufacture.

Trademarks

3M is a trademark of 3M Company.

References

| Property | Values |
|-------------------------|---|
| 3m.com Product Page | https://www.3m.com/3M/en_US/company-us/all-3m-products/-/3M-Double-Coated-Tape-96042?N=5002385+3291149428&rt=rud |
| Safety Data Sheet (SDS) | https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=96042 |

Family Group

| | 91022 | 96042 |
|---|----------|----------|
| Total Tape Thickness without liner (mm) | 0.05 | 0.13 |
| Adhesive Type | Silicone | Silicone |
| Liner | PET | PET |

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Family Group (continued)

| | 91022 | 96042 |
|----------------------|-------|-------|
| Liner Thickness (mm) | 0.05 | 0.05 |
| Liner Color | White | White |

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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