

## BRADY B-417 THERMAL TRANSFER PRINTABLE TRANSLUCENT VINYL TAPE

TDS No. B-417

Effective Date: 4/29/2019

### Description:

#### GENERAL

**Print Technology:** Thermal Transfer

**Material Type:** Translucent vinyl

**Finish:** Provided in a self-laminated format with a white printable zone and a translucent overlaminating area.

**Adhesive:** Permanent acrylic adhesive

#### APPLICATIONS

B-417 is an excellent material for wire and cable identification. This material has good clarity, conformability and is self-extinguishing. B-417 has outstanding water and oil resistance.

B-417 is recommended for application onto small diameter wires with low surface energy wire jacketing materials.

#### RECOMMENDED RIBBONS

Brady Series R4300 black and R4500 colored (red, blue) for thermal transfer printing.

#### REGULATORY/AGENCY APPROVALS

For information on the Weee-RoHS compliance status for a Brady Product go to one of the following websites:

In Canada: [www.bradycanada.ca/weee-rohs](http://www.bradycanada.ca/weee-rohs)

In Europe: [www.bradyeurope.com/rohs](http://www.bradyeurope.com/rohs)

In Japan: [www.bradycanada.ca/products/labelsuse/rohs](http://www.bradycanada.ca/products/labelsuse/rohs)

All other regions: [www.bradycanada.ca/weee-rohs](http://www.bradycanada.ca/weee-rohs)

### Details:

| PHYSICAL PROPERTIES                                        | TEST METHODS                                                                                | AVERAGE RESULTS                                                                                                  |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Thickness                                                  | ASTM D 1000<br>-Total Thickness                                                             | 0.0042 inch (0.107 mm)                                                                                           |
| Adhesion to:<br><br>-Stainless Steel<br><br>-Polypropylene | ASTM D 1000<br><br>20 minute dwell<br>24 hour dwell<br><br>20 minute dwell<br>24 hour dwell | <br><br>48 oz/in (53 N/100 mm)<br>55 oz/in (60 N/100 mm)<br><br>54 oz/in (59 N/100 mm)<br>63 oz/in (69 N/100 mm) |
| Tack                                                       | ASTM D 2979<br>Polyken™ Probe Tack<br>(1 second dwell, 1 cm/sec separation)                 | 25.0 oz (710 g)                                                                                                  |
| Tensile Strength and Elongation                            | ASTM D 1000<br>-Machine                                                                     | 12 lbs/in (210 N/100 mm), 174%                                                                                   |
| Flammability                                               | ASTM D 1000<br>Average Burn Time                                                            | ABT less than 10 seconds                                                                                         |

Performance properties tested with white printable zone of B-417 printed with Brady Series R4300 black thermal transfer ribbon. Samples wrapped around 0.080" OD TFE wire in a self-laminating format.

| PERFORMANCE PROPERTIES   | TEST METHODS                                                   | TYPICAL RESULTS                                                                                 |
|--------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| High Service Temperature | 30 days at 158°F (70°C)                                        | No visible effect at 158°F (70°C). Moderate discoloration at 193°F (90°C) but still functional. |
| Low Service Temperature  | 30 days at -94°F (-70°C)                                       | No visible effect                                                                               |
| Humidity Resistance      | 30 days at 100°F (37°C), 95% R.H.                              | No visible effect                                                                               |
| UV Light Resistance      | ASTM G155, cycle 1, Dry<br>30 days in Q-Sun Xenon Test Chamber | No visible effect                                                                               |
| Weatherability           | ASTM G155, Cycle 1<br>30 days in Xenon arc Weather-Ometer®     | No visible effect                                                                               |

| PERFORMANCE PROPERTIES | CHEMICAL RESISTANCE |
|------------------------|---------------------|
|------------------------|---------------------|

White printable zone of B-417 was printed with Brady Series R4300 black thermal transfer ribbon. Samples wrapped around 0.080" OD TFE wire in a self-laminating format. Except where noted, testing was conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of a 10 minute immersion in the specified test fluid followed by a 30 minute recovery period.

| CHEMICAL REAGENT                     | SUBJECTIVE OBSERVATION OF VISUAL CHANGE |                     |
|--------------------------------------|-----------------------------------------|---------------------|
|                                      | SUBSTRATE/ADHESIVE                      | SERIES R4300 RIBBON |
| <b>Cleaners and Solvents</b>         | No visible effect                       | No visible effect   |
| Isopropyl Alcohol                    | No visible effect                       | No visible effect   |
| Mineral Spirits                      | Slight edge lift                        | No visible effect   |
| Northwoods™ Buzz Saw Terpene Cleaner | No visible effect                       | No visible effect   |
| Formula 409®                         | No visible effect                       | No visible effect   |
| Deionized Water                      | No visible effect                       | No visible effect   |
| <b>Fuels, Oils and Lubricants</b>    |                                         |                     |
| Gasoline                             | Moderate unwrap                         | No visible effect   |
| Brake Fluid                          | No visible effect                       | No visible effect   |
| SAE 20/50 WT Oil at 70°C             | No visible effect                       | No visible effect   |
| Yellow 77® Wire Pulling Lubricant    | No visible effect                       | No visible effect   |
| <b>Aerospace Related Fluids</b>      |                                         |                     |
| JP-8 Jet Fuel                        | Slight edge lift                        | No visible effect   |
| MIL-H-5606 Oil                       | No visible effect                       | No visible effect   |

B-417 is not recommended for use in harsh organic solvents such as methyl ethyl ketone, acetone, or 1,1,1-trichloroethane.

Shelf Life and Fitness for Use: Product testing, customer feedback, and history of similar products, support a customer performance expectation of one year from the date of receipt for this product as long as this product is stored in its original packaging in an environment below 80°F (27°C) and 60% RH. However, it remains the responsibility of the user to assess the risk of using such product. We encourage customers to develop functional testing protocols that will qualify a product's fitness for use, in their actual applications.

**Trademarks:**

ASTM: American Society for Testing and Materials (U.S.A)

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Northwoods™ is a trademark of the Superior Chemical Corporation

Polyken™ is a trademark of Testing Machines Inc.

SAE: Society of Automotive Engineers (U.S.A.)

Weather-Ometer® is a registered trademark of Atlas Material Testing Technology LLC

Yellow 77® is a registered trademark of Ideal Industries, Inc.

**Note:** All values shown are averages and should not be used for specification purposes.

Test data and test results contained in this document are for general information only and shall not be relied upon by Brady customers for designs and specifications, or be relied on as meeting specified performance criteria. Customers desiring to develop specifications or performance criteria for specific product applications should contact Brady for further information.

**WARRANTY**

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Brady North America | 6555 W. Good Hope Road | Milwaukee, WI 53223 | USA | Tel: 414-358-6600 | Fax: 800-292-2289