

**BRADY B-319 BRADYSLEEVE MARKER**

TDS No. B-319  
Effective Date: 02/21/2000

**Description:**

B-319 BradySleeve™ Marker is a non-shrinkable polyolefin wiremaker sleeve material that demonstrates outstanding legend permanence and smudge resistance.

B-319 BradySleeve™ Marker is used in manufacturing, construction, and maintenance activities to identify electrical wires and cables where specifications or environments require the use of sleeves.

B-319 BradySleeve™ Markers are dot matrix printable sleeves supplied in various configurations. B-319 can also be printed with a typewriter or permanent marking pen. The Brady R5000 Series and R2000 Series high performance ribbons are recommended for best dot matrix print performance.

**Details:**

PROPERTIES	TEST METHOD	TYPICAL RESULTS
Total Sleeve Thickness (at welds)	ASTM D 1000	0.018 inch (0.46 mm)
Sleeve Wall Thickness	ASTM D 1000	0.006 inch (0.15 mm)
Tensile and Elongation of Sleeve Film	ASTM D 638 Machine direction, 20 in/minute crosshead speed	22 lb/inch (385 N/100 mm) 520% elongation
High Service Temperatures	5 minutes at 160°C (320°F) 24 hours at 160°C (320°F) 30 days at 130°C (266°F)	No visible effect to sleeve or printing. Sleeves distort and shrink at above 160°C.
Low Service Temperature	30 days at -65°C (-85°F)	No visible effect
Weatherability *	30 days in Xenon-Arc Weatherometer (ASTM G155, Cycle 1)	Very slight print fade
UV Light Resistance	30 days in UV Sunlighter™ 100	No visible effect
Humidity Resistance	30 days at 100°F/95% RH	No visible effect
Salt Fog	30 days at 5% Salt Spray	No visible effect
Marking Permanence	20 eraser rubs with hard hand pressure.	Slight print smear but still easily legible
MIL-M-81531 20 erasure rubs	3 cycles of 3 minute immersions in specified fluids followed by toothbrush rub after each immersion.	Slight print fade but still easily legible in all three test fluids
MIL-STD-202, Method 215J Solution A		
Solution C Solution D		

\* B-319 BradySleeve™ Marker is not recommended for extended outdoor application.

Samples tested printed with R2000 and R5000 Series dot matrix ribbon. Results the same with both ribbons unless stated otherwise.

Solution A: 1 part isopropyl alcohol, 3 parts mineral spirits

Solution B: Deleted from MIL-STD-202, Method 215J

Solution C: BIOACT® EC-7R™ terpene defluxer

Solution D: 42 parts water, 1 part propylene glycol monomethyl ether, 1 part monoethanol amine at 70°C

PROPERTIES	SOLVENT RESISTANCE
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Samples dot-matrix printed using Brady R2000 and R5000 Series ribbon then placed on appropriate size wires. Test conducted at room temperature after 24 hour dwell. Testing consisted of five cycles of 10 minute immersions in the specified chemical reagent followed by 30 minute recovery periods. Samples rubbed with cotton swab after final immersion.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATIONS OF VISUAL CHANGE	
	TUBING AND PRINTING WITHOUT	PRINTING WITH SWAB RUB

	SWAB RUB	
Methyl Ethyl Ketone	No visible effect	Severe print fade
1,1,1-Trichloroethane	No visible effect	Moderate print fade, still legible
Isopropyl Alcohol	No visible effect	No visible effect
Gasoline	No visible effect	Total print removal
JP-8 Jet Fuel	No visible effect	Severe print removal
Kerosene	No visible effect	Severe print fade
Mil 5606 Oil	Tubing stained red	Slight print fade
Mil 7808 Oil	No visible effect	No visible effect
Speedi Kut Cutting Oil 332	No visible effect	Moderate print removal
Skydrol® 500B4	No visible effect	Moderate print removal
Propylene Glycol	No visible effect	No visible effect
Rust Veto® 377	Tubing stained brown	Moderate print removal
Super Agitene®	No visible effect	Total print removal
3% Alconox® Detergent	No visible effect	No visible effect
Deionized Water	No visible effect	No visible effect
BIOACT® EC-7R™ Terpene Cleaner	No visible effect	Total print removal
5% Salt (NaCl) Solution	No visible effect	No visible effect

Product testing, customer feedback, and history of similar products, support a customer performance expectation of at least **two years from the date of receipt** for this product as long as this product is stored in its original packaging in an environment *below 104 degrees F (40 degrees C) and 40-50% RH*. We are confident that our product will perform well beyond this time frame. 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:

Alconox® is a registered trademark of Alconox Co.  
 BIOACT® is a registered trademark of Petroferm, Inc.  
 BradySleeve™ is a trademark of Brady Worldwide, Inc.  
 EC-7R™ is a trademark of Petroferm Inc.  
 Rust Veto® is a registered trademark of the E.F. Houghton & Co.  
 Skydrol® is a registered trademark of the Monsanto Company  
 Sunlighter™ is a trademark of the Test Lab Apparatus Company  
 Super Agitene® is a registered trademark of Graymills Corporation  
 ASTM: American Society for Testing and Materials (U.S.A.)  
 All S.I. Units (metric) are mathematically derived from the U.S. Conventional Units.

**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.

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