BRADY
WHEN PERFORMANCE MATTERS MOST™

Technical Data Sheet

BRADY B-338 HIGH TEMPERATURE CABLE MARKER

TDS No: B-338
Effective Date: August 13, 2018

GENERAL PRODUCT DESCRIPTION:

Print Technology: Thermal Transfer
Material Type: Polyvinylidene fluoride
Available Colors: White

APPLICATIONS:

B-338 cable markers are designed for wire identification in areas where high temperature performance is needed. They are designed as a high performance wire bundle and cable identification tag for use in harsh environments.

RECOMMENDED RIBBON

Brady R6000 halogen free series black ribbon

REGULATORY APPROVALS

Brady B-338 is RoHS compliant.

SPECIAL FEATURES

B-338 markers are suitable for applications that require an extreme temperature rating. The product is characterized by low vacuum outgassing.

Labels are supplied in roll form designed for use with thermal transfer printers. The unique design has smooth edges which minimize the risk of abrasion to wire and cable jackets.

Details:

PHYSICAL-PROPERTIES	TEST METHODS	TYPICAL RESULTS
Thickness		0.020 +/- 0.003 inches
Tensile Strength	ASTM D882, 20”/min speed	>3000 psi
Ultimate Elongation	ASTM D882, 20”/min speed	>100 %
Vacuum Outgassing	ASTM E595	<1.0% Total Mass Loss
Vacuum Outgassing	ASTM E595	<0.10% Collected Volatile Condensable Material (CVCM)
Surface Flammability	ASTM E162	< 35
Optical Density of Smoke (Ds)	ASTM E662, Flaming and Non-flaming modes	< 100

TEMPERATURE PROPERTIES	TEST METHODS	TYPICAL RESULTS
Heat shock	4 hours @ 275°C	Tag darkens but is legible, no cracking when bent over mandrel
Heat aging	168 hours @ 225°C	Tag darkens but is legible, no cracking when bent over mandrel
Low temperature flexibility	4 hours @ -70°C	No visible effect, no cracking when bent over mandrel
Operating temperature		-55°C to 200°C
Copper mirror corrosion	ASTM D 2671, Procedure A	No corrosion
Weatherability	ASTM G155 Cycle 1 1000 hours in Xenon Arc Weatherometer	Label darkens slightly, no visible effect to printing
UV Light Resistance	ASTM G155 Cycle 1 dry 1000 hours	No visible effect to label or printing
Humidity Resistance	1000 hours at 100°F/95% RH	No visible effect to label or printing
Salt Fog	1000 hours at 5% Salt Spray	No visible effect to label or printing

B-338 Markers exhibit the following performance when printed using the Brady i7100 (300 dpi) with R6000 halogen free series black ribbon.

PERFORMANCE PROPERTY	TEST METHODS	TYPICAL RESULTS
Print Adherence per SAE-AS5942 (sec 4.1)	20 eraser rubs with 2 lb pressure	Print legible, no visible effect
Solvent Resistance per SAE-AS81531 (Sec 3.4.3) Solution A Solution C Solution D	MIL-STD-202G, Method 215K 3 cycles of 3 minute immersions in specified fluids followed by toothbrush rub after each immersion	Pass, no visible effect to print after rubs

Solution A: 1 part isopropyl alcohol, 3 parts mineral spirits
Solution C: BIOACT® EC-7R™ terpene defluxer
Solution D: 42 parts water, 1 part propylene glycol monomethylether, 1 part monoethanolamine at 70°C

Chemical resistance

Samples were thermal transfer printed with Brady R6000 halogen free series black ribbon. Tests were conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by 30 minute recovery periods. After the final immersion, the samples were removed from the test fluid and the printed image was rubbed 20 (10 double rubs) times with a cotton swab saturated with the test fluid.

CHEMICAL REAGENT	R6000 PRINTING WITHOUT RUB	R6000 PRINTING WITH RUB
Isopropyl alcohol	1	4
Methyl Ethyl Ketone	1*	5
Gasoline	1	4
Diesel Fuel	1	1
MIL 5606 Oil	1	1
20W Oil	1	1
Skydrol ® 500 B-4	1	5
JP-8 Jet Fuel	1	1
10% NaCl	1	1
Deionized Water	1	1

*Swelling of the tag was observed

PRINT EFFECT
1 = No visible effect
2 = Slight smear or print removal, detectable but minimal smear
3 = Moderate smear or print removal (print still legible)
4 = Severe smear or print removal (print illegible or just barely legible)
5 = Complete print removal
NP = print removed prior to rub

Shelf life is five years from the date of receipt for this product as long as this product is stored in its original packaging in an environment at 32-95 degrees F (0-35 degrees C). It remains the responsibility of the user to assess the risk of using this product. We encourage customers to develop 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.)
BIOACT® is a registered trademark of Petroferm, Inc.
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Note: All values shown are typical 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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