Technical Data Sheet

BRADY B-637 DOT MATRIX PRINTABLE LABEL STOCK

TDS No. B-637
Effective Date: 12/02/2013

Description:
GENERAL
Print Technology: Dot matrix
Material Type: Topcoated polyvinylfluoride
Finish: Matte
Adhesive: Permanent acrylic

APPLICATIONS
Cable and wire bundle identification and label applications where self-extinguishing properties are required.

RECOMMENDED RIBBONS
Brady Series R2000
Brady Series R5000

REGULATORY APPROVALS
Brady B-637 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES
B-637 has been judged to be self-extinguishing by laboratory testing and exhibits good solvent and heat resistance.

B-637 is available in white, yellow and various other colors.

B-637 meets the requirements of MIL-M-87958, Pressure Sensitive Adhesive Wire or Cable Marker and Identification specification.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	 0.0026 inch (0.066 mm) 0.0010 inch (0.025 mm) 0.0036 inch (0.091 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell	50 oz/inch (55 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	28 oz (800 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine	20 lbs/inch (350 N/100 mm), 150%
Dielectric Strength	ASTM D 1000	5000 Volts
Flammability	ASTM D 1000 Average Burn Time	Less than 10 seconds

Performance properties tested on B-637 printed with Series R2000 and R5000 ribbons. Printed samples were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environments. Unless noted, results are the same for both ribbons.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS
High Service Temperature	30 days at 275°F (135°C)	At 135ºC no visible effect to slight topcoat color fade (depending upon specific color). At 145ºC slight color fade all colors except yellow, which had severe color fade. No visible effect to print and labels well adhered at 135ºC and 145ºC. Slight shrinkage at 145ºC
Low Service Temperature	30 days at -94°F (-70°C)	No visible effect

Humidity Resistance	30 days at 100°F (37°C) and 95% R.H.	No visible effect
UV Light Resistance	30 days in UV Sunlighter™ 100	No visible effect
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Slight to moderate topcoat fade depending upon specific colors. All colors distinguishable. No visible effect to print.
Salt Fog Resistance	ASTM B 117 30 days in 5% salt fog solution chamber	No visible effect
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm, 100 cycles (Fed. Std. 191A, Method 5306)	R2000: Moderate print removal. Print still legible R5000: Moderage print removal. Print still legible

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Samples printed with Series R2000 and R5000 ribbons and laminated to aluminum panels and allowed to dwell 24 hours prior to testing. Test conducted at room temperature. Testing consisted of 15 minute and 24 hour immersions in the specified test fluid followed by rubbing on print 10 times with cotton swab saturated with test fluid.

15 MINUTE IMMERSION

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	R2000	R5000
Methyl Ethyl Ketone	Slight adhesive ooze and slight color fade on yellow with immersion	No visible effect to print without rub, complete print and topcoat removal with rub	No visible effect to print without rub, complete print and topcoat removal with rub
1,1,1-Trichloroethane	Slight adhesive ooze and slight color fade on yellow with immersion	No visible effect to print without rub, moderate print smear with rub	No visible effect to print without rub, severe print removal with rub
Isopropyl Alcohol	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Methyl Alcohol	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Gasoline	Slight adhesive ooze	No visible effect without rub, slight print removal with rub	No visible effect without rub, slight print removal with rub
JP-8 Jet Fuel	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Mineral Spirits	No visible effect	No visible effect with or without rub	No visible effect with or without rub
SAE 20 WT Oil at 70ºC	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Mil 5606 Oil	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Speedicut Cutting Oil	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Skydrol® 500B-4	Slight adhesive ooze	No visible effect without rub, moderate print removal with rub	No visible effect without rub, moderate print removal with rub
Deionized Water	No visible effect	No visible effect with or without rub	No visible effect with or without rub
5% Alconox® Detergent	No visible effect	No visible effect with or without rub	No visible effect with or without rub
10% Sodium Hydroxide Solution	No visible effect	No visible effect with or without rub	No visible effect with or without rub
10% Sulfuric Acid Solution	No visible effect	No visible effect with or without rub	No visible effect with or without rub

24 HOUR IMMERSION

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	R2000	R5000
Methyl Ethyl Ketone	Softening of adhesive. No to severe topcoat fade depending on color*	Print degradation with immersion, complete print and topcoat removal with rub	Complete print and topcoat removal with rub

1,1,1-Trichloroethane	Slight adhesive ooze. No to severe topcoat fade depending on color*	Print fade after immersion, slight print removal with rub	Print fade and bleed after immersion, slight print smear with rub
Isopropyl Alcohol	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Methyl Alcohol	Slight discoloration of green topcoat	No visible effect with or without rub	Slight print fade with immersion, no effect with rub
Gasoline	Slight adhesive ooze and topcoat discoloration on white label	No visible effect without rub, slight print removal with rub	No visible effect without rub, slight print removal with rub
JP-8 Jet Fuel	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Mineral Spirits	No visible effect	No visible effect with or without rub	No visible effect with or without rub
SAE 20 WT Oil at 70ºC	Slight topcoat discoloration on white label*	No visible effect with or without rub	No visible effect with or without rub
Mil 5606 Oil	Slight topcoat discoloration on white label	No visible effect with or without rub	No visible effect with or without rub
Speedicut Cutting Oil	No visible effect	No visible effect with or without rub	No visible effect with or without rub
Skydrol® 500B-4	Slight adhesive ooze	No visible effect without rub, moderate print removal with rub	No visible effect without rub, severe print removal with rub
Deionized Water	No visible effect	No visible effect with or without rub	No visible effect with or without rub
5% Alconox® Detergent	No visible effect	No visible effect with or without rub	No visible effect with or without rub
10% Sodium Hydroxide Solution	Moderate to severe topcoat discoloration or fade on all colors.	Complete print and topcoat removal with rub	Complete print and topcoat removal with rub
10% Sulfuric Acid Solution	No visible effect	No visible effect with or without rub	No visible effect with or without rub

*Yellow and green labels had moderate to severe fade or discoloration in this solvent, all other labels had no visible effect unless mentioned. Overall the green topcoat had slight to severe discoloration in the following chemicals: Methyl Ethyl Ketone, 1,1,1-Trichloroethane, Methyl Alcohol, Gasoline, Mineral Spirits, SAE 20 Wt Oil, Skydrol® 500B-4 and 10% NaOH.

Product testing, customer feedback, and history of similar products, support a customer performance expectation of at least ***three years from the date of receipt*** for this product as long as this product is stored in its original packaging in an environment *below 80 degrees F (27°C) and 60% 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.

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ASTM: American Society for Testing and Materials (U.S.A.)
SAE: Society of Automotive Engineers (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.
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