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BRADY
WHEN PERFORMANCE MATTERS MOST

Technical Data Sheet

BRADY B-489 THERMAL TRANSFER PRINTABLE LABEL STOCK

TDS No. B-489
Effective Date: 10/03/2006

Description:

GENERAL

Print Technology: Thermal transfer
Material Type: White polyester
Finish: Matte white
Adhesive: Permanent rubber based

APPLICATIONS

B-489 is designed for high adhesion to textured metals and low surface energy plastics

RECOMMENDED RIBBONS

Brady Series R4300
Brady Series R6200

REGULATORY/AGENCY APPROVALS

UL: B-489 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with Brady Series R4300 and R6200 ribbon. See UL file MH17154 for specific details. UL information can be accessed on line at *UL.com*. Search in *Certifications* area.
CSA: B-489 is CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standard when printed with Brady Series R4300 and R6200 ribbon. See CSA file 041833 for specific details. CSA information can be accessed online at directories.csa-international.org.
Brady B-489 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.
SPECIAL FEATURES
B-489 is specifically designed to adhere to powder coated surfaces.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000	
	-Total (substrate and adhesive)	0.0044 inch (0.112 mm)
Adhesion to:	ASTM D 1000	
-Stainless Steel	20 minute dwell	145 oz/in (159 N/100 mm)
	24 hour dwell	146 oz/in (160 N/100 mm)
-Textured ABS	20 minute dwell	45 oz/in (49 N/100 mm)
	24 hour dwell	43 oz/in (47 N/100 mm)
-Polypropylene	20 minute dwell	80 oz/in (88 N/100 mm)
	24 hour dwell	108 oz/in (119 N/100 mm)
-Painted Enamel	20 minute dwell	133 oz/in (146 N/100 mm)
	24 hour dwell	142 oz/in (156 N/100 mm)
-Powder Coated Metal	20 minute dwell	78 oz/in (86 N/100 mm)
	24 hour dwell	78 oz/in (86 N/100 mm)
Tack	ASTM D 2979	
	Polyken™ Probe Tack	Greater than 35 oz (1000 g)[1]
	0.5 second dwell	

[1]Tacks exceeded the equipment testing range of 1000 grams. Performance properties tested on B-489 printed with alphanumerics, and a 5 mil and 10 mil minimum X dimension barcode using Series R4300 and R6200 ribbons and a BradyPrinter™ THT 300X Thermal Transfer Printer. Printed samples of B-489 were laminated to aluminum before exposure to the indicated environmental condition. Results the same for both ribbons unless noted otherwise.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
Long Term High Service Temperature	30 days at 248℉ (120℃)	No visible effect
Long Term Low Service Temperature	30 days at -40℉ (-40℃)	No visible effect
Humidity Resistance	30 days at 100℉ (37℃), 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	No visible effect
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, (Fed.Std.191A, Method 5306) 500g/arm, 100 cycles	Print still legible after 100 cycles

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Samples were printed with Series R4300 and R6200 ribbons using a Brady 300X printer, laminated to flat aluminum panels and allowed to dwell 24 hours prior to test. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical followed by 30 minute recovery periods. After the final immersion the flat samples were rubbed 10 times with cotton swabs. Testing was conducted at room temperature.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	R4300	R6200
Methyl Ethyl Ketone	Slight adhesive ooze	Slight smear when rubbed	Severe smear when rubbed
1,1,1-Trichloroethane	No visible effect	Moderate smear when rubbed	Slight smear when rubbed
Toluene	No visible effect	Moderate smear when rubbed	Moderate smear when rubbed
Freon® TMS	No visible effect	Slight smear when rubbed	Moderate smear when rubbed
Isopropyl Alcohol	No visible effect	No visible effect	No visible effect
Mineral Spirits	Slight adhesive ooze	Slight smear when rubbed	No visible effect
JP-8 Jet Fuel	No visible effect	Moderate smear when rubbed	No visible effect
ASTM Reference Fuel B	No visible effect	No visible effect	No visible effect
ASTM #3 Oil	Slight adhesive ooze	No visible effect	No visible effect
Mil 5606 Oil	No visible effect	Slight smear when rubbed	No visible effect
Skydrol® 500B-4	Slight adhesive ooze	No visible effect	Severe smear when rubbed
Super Agitene®	No visible effect	No visible effect	No visible effect
Deionized Water	No visible effect	No visible effect	No visible effect
3% Alconox® Detergent	No visible effect	No visible effect	No visible effect
10% Sodium Hydroxide Solution	No visible effect	No visible effect	No visible effect
10% Sulfuric Acid Solution	No visible effect	No visible effect	No visible effect

Product testing, customer feedback, and history of similar products, support a customerperformance 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 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.

Trademarks:
Alconox® is a registered trademark of Alconox Co.
BradyPrinter™ is a trademark of Brady Worldwide, Inc.
Freon® is a registered trademark of Du Pont de Nemours, E.I. and Company
Polyken™ is a trademark of Testing Machines Inc.
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.)
CSA: Canadian Standards Association
SAE: Society of Automotive Engineers (U.S.A.)
UL: Underwriters Laboratories, Inc. (U.S.A.)
All S.I. Units are mathematically derived from U.S. conventional units.

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