Technical Data Sheet

BRADY B-425 THERMAL TRANSFER PRINTABLE POLPROPYLENE LABEL STOCK

Description:

GENERAL

Print Technology: Thermal Transfer
Material Type: White polypropylene
Finish: Matte white
Adhesive: Acrylic

APPLICATIONS

Labeling applications requiring excellent solvent resistance and print performance.

RECOMMENDED RIBBONS

Brady Series R4300, R6200 and R6400 black and R4500 colored (red, blue and green). The Brady Series R6400 ribbon exhibits the best overall chemical resistance.

CERTIFICATIONS

UL: B-425 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with Brady Series R4300, R6200, R6400 and R7961 ribbon. See UL file MH17154 for specific details. UL can be accessed on line at *UL.com.* Search in *Certifications* area.
CSA: B-425 is CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standards when printed with the Brady Series R6200, R6400 and R7961 ribbons. B-425 is approved to Type A. See CSA file 041833 for specific details. CSA information can be accessed online at*directories.csa-international.org*
DIN VDE: Brady B-425 meets the requirements of a halogen-free material per DIN VDE 0472 part 815. (Statement based on the review of product construction and confirmatory halogen content test run at an independent test laboratory).

Based on the results of testing using recognized analytical methods performed by a third party, independent laboratory, B-425 label stock is RoHS compliant to EU Commission Directive 2002-95/(EC) (RoHS) for cadmium (< 100 ppm), lead (< 1000 ppm), hexavalent chromium (< 1000 ppm), mercury (< 1000 ppm), polybrominated biphenyls (PBB's < 1000 ppm) and polybrominated diphenyl ethers (PBDE's < 1000 ppm).

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.0036 inch (0.0889 mm) 0.0010 inch (0.0254 mm) 0.0046 inch (0.1143 mm)
Adhesion to: -Stainless Steel -Textured ABS -Polypropylene	ASTM D 1000 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell	35 oz/inch (38 N/100 mm) 35 oz/inch (38 N/100 mm) 8 oz/inch (9 N/100 mm) 10 oz/inch (11 N/100 mm) 35 oz/inch (38 N/100 mm) 35 oz/inch (38 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack (1 second dwell, 1 cm/sec separation)	32.5 oz (921 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine	20 lbs/inch (350 N/100 mm), 97%

Performance properties tested on B-425 printed with Series R4300, R6200 and R6400 ribbons on a BradyPrinter™ THT 300MVP thermal transfer printer. Printed samples were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environmental conditions. Results the same for all ribbons unless noted otherwise.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS

Short Term High Service Temperature	5 minutes at various temperatures	No visible effect to label at 248℉ (120℃), very slight label shrinkage at 293℉ (145℃) but still functional, slight discoloration and edge curl at 320℉ (160℃).
Long Term High Service Temperature	30 days at various temperatures	No visible effect to label at 194℉ (90℃), slight label discoloration at 230℉ (110℃) but label still functional, severe discoloration at 248℉ (120℃).
Low Service Temperature	30 days at -40℉ (-40℃) 30 days at -94℉ (-70℃)	No visible effect
Humidity Resistance	30 days at 100℉ (37℃)/ and 95% Relative Humidty	No visible effect
Weatherability[1]	ASTM G 26 30 days in Xenon Arc Weatherometer	Topcoat becomes chalky
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	Appearance to print after 100 cycles: R4300: moderate to severe print removal; print barely legible. R6200: moderate print removal; print legible. R6400: slight/moderate print removal; print legible.

[1]B-425 is not recommended for long-term outdoor use.

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Chemical resistance tested on B-425 printed with Series R4300, R6200 and R6400 ribbons on a BradyPrinter™ THT 300 MVP thermal transfer printer. Test was conducted at room temperature except where noted. Testing consisted of 30 minute immersion in the specified test fluid. The samples were removed and rubbed 10 times with a cotton swab saturated with the test fluid. The rating scale below shows the effect to the quality of the print for each sample.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE			
	EFFECT TO LABEL STOCK/ADHESIVE	EFFECTS TO PRINTED IMAGE*		
		R4300	R6200	R6400
Methyl Ethyl Ketone	Moderate ooze	3	4	1
Xylene	Severe ooze	3	4-5	2
Toluene	No visible effect	3	4	2
Acetone	No visible effect	2	4	1
Gasoline	Slight ooze	3	2	2
Mineral Spirits	Slight ooze	2	1	1
JP-8 Jet Fuel	Moderate ooze	2	1	1
Brake Fluid	No visible effect	2	4-5	2
SAE 20 wt Oil RT	No visible effect	1	1	1
SAE 20 wt Oil @ 70C	No visible effect	3	1	1
ASTM #3 Oil	No visible effect	1	1	1
Isopropyl Alcohol	Slight ooze	2	1	1
Mil 5606 Oil	No visible effect	1	1	1
Skydrol® 500B	No visible effect	2	4-5	1
Formula 409®	No visible effect	5	5	4-5
DI Water	No visible effect	1	1	1
3% Alconox®	No visible effect	4-5	5	5
Northwoods™ Buzz Saw Degreaser	No visible effect	5	5	5
Super Agitene®	No visible effect	2	1	2
10% Sulfuric Acid Solution	Slight ooze	1	1	1
10% Sodium Hydroxide Solution	No visible effect	5	5	5

*After printed image rubbed on; there was no visible effect without rub unless otherwise noted.

Rating Scale:

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
5=complete print and/or topcoat removal

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 80 degrees F and 60% RH* . We are confident that our product will perform well beyond this time frame. However, it r emains 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:
BradyPrinter™ is a trademark of Brady Worldwide, Inc.
Formula 409® is a registered trademark of the Chlorox Company
Northwoods™ is a trademark of Superior Chemical Corporation
Polyken™ is a trademark of Testing Machines Inc.
Skydrol® is a registered trademark of the Monsanto Company
Alconox® is a registered trademark of the Alconox Company
Super Agitene® is a registered trademark of the Graymills Corporation
ASTM: American Society for Testing and Materials (U.S.A.)
CSA: Canadian Standards Association
UL: Underwriters Laboratories Inc. (U.S.A.)
All S.I. Units (metric) are mathematicall 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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