Technical Data Sheet

BRADY B-425D THERMAL TRANSFER PRINTABLE POLYPROPYLENE LABEL STOCK

TDS No. B425D
Effective Date: 3/4/2026

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, including flagging.

RECOMMENDED RIBBONS

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

REGULATORY/AGENCY APPROVALS

UL: B425D is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with Brady Series R4300, R6200, R6400, R7950 and R7961 ribbons. See UL file MH17154 for specific details. UL can be accessed online at UL.com in the UL Product iQ area.

CSA: B-425D is CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standards when printed with the Brady Series R4300, R6200, R6400, R7950 and R7961 ribbons. B-425D is approved to Type A. See CSA file 041833 for specific details. CSA information can be accessed online at https://www.csagroup.org/testing-certification/product-listing/

DIN VDE: Brady B-425D 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).

For information on the Weee-RoHS compliance status for a Brady Product go to one of the following websites:
In Canada: www.bradycanada.ca/weee-rohs
In Europe: www.bradyeurope.com/rohs
In Japan: www.brady.co.jp/products/labelsuse/rohs
All other regions: www.bradyid.com/weee-rohs

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total (excluding liner)	 0.0037 inch (0.094 mm) 0.0010 inch (0.0254 mm) 0.0047 inch (0.1194 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell 24 hour dwell	 55 oz/inch (60 N/100 mm) 66 oz/inch (72 N/100 mm)
-Textured ABS	20 minute dwell 24 hour dwell	30 oz/inch (33 N/100 mm) 27 oz/inch (30 N/100 mm)
-Polypropylene	20 minute dwell 24 hour dwell	39 oz/inch (33 N/100 mm) 43 oz/inch (30 N/100 mm)
Tensile Strength and Elongation	ASTM D 1000 -Machine	 23 lbs/inch (403 N/100 mm), 120%

Performance properties tested on B-425D printed with the Brady Series R4300, the Brady Series R6200 and the Brady Series R6400 ribbons. 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 266°F (130°C), very slight label shrinkage at 293°F (145°C) but still functional, moderate label shrinkage & curl at 320°F (160°C).
Long Term High Service Temperature	30 days at various temperatures	No visible effect to label at 176°F (80°C), moderate discoloration at 212°F (100°C) but label is still functional, severe discoloration and topcoat cracks at 248°F (120°C).
Low Service Temperature	30 days at -40°F (-40°C) 30 days at 112°F (-80°C)	No visible effect
Humidity Resistance	30 days at 100°F (37°C)/ and 95% Relative Humidity	No visible effect
Weatherability[1]	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Topcoat becomes chalky, print no longer legible
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]B425D is not recommended for long-term outdoor use.

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Chemical resistance tested on B-425D printed with the Brady Series R4300, the Brady Series R6200 and the Brady Series R6400 ribbons. 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	Slight ooze	1	3-4	1
Xylene	Slight ooze	2	4-5	2
Toluene	Slight ooze	1-2	4-5	2
Acetone	No visible effect	1	4	1
Mineral Spirits	No visible effect	1	1	2
JP-8 Jet Fuel	No visible effect	1	1	1-2
Brake Fluid	No visible effect	1	3	1-2
SAE 20 wt Oil RT	No visible effect	1	1	1
SAE 20 wt Oil @ 70C	No visible effect	3	1	1
IRM 903 Oil*	No visible effect	1	1	1
Isopropyl Alcohol	No visible effect	1	1	1
Mil 5606 Oil	No visible effect	1	1	1
Skydrol® 500B	No visible effect	1	45	1
Formula 409®	No visible effect	1	1	4
DI Water	No visible effect	1	1	1
3% Alconox®	No visible effect	1	1	3
Northwoods™ Buzz Saw Degreaser	No visible effect to adhesive, topcoat removed with rub	5	5	5
Super Agitene®	No visible effect	1	1	1-2
10% Sulfuric Acid Solution	No visible effect	1	1	1
10% Sodium Hydroxide Solution	No visible effect	1	1	5

*ASTM#3 oil has been discontinued & replaced with IRM 903 Oil.

Rating Scale:
*No visual effect to printed image, without rub, unless otherwise noted.

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

Shelf life is 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° F (27° C) and 60% RH. 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 application.

Trademarks:
Formula 409® is a registered trademark of the Clorox 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 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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