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Technical Data Sheet

BRADY B-439 THERMAL TRANSFER PRINTABLE COLORED VINYL LABEL STOCK

TDS No. B-439
Effective Date: 10/26/2021

Description:

GENERAL

Print Technology: Thermal Transfer
Materials Type: Vinyl
Finish: Gloss
Adhesive: Permanent acrylic
Colors: White, yellow, red, light blue, green, orange, black, gray and purple.

APPLICATIONS

B-439 is designed for applications requiring various colors such as finished product identification, rating plates and general purpose identification.

B-439 is designed for use in ambient conditions with limited solvent exposure.

RECOMMENDED RIBBONS

Brady Series R4900
Brady Series R6000 Halogen Free
Brady Series R4400W (white)

REGULATORY APPROVALS

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)	 0.0032 inch (0.0813 mm) 0.0010 inch (0.0254 mm) 0.0042 inch (0.1067 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 24 hour dwell	 100 oz/in (109 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	38 oz (1077g)
Tensile Strength and Elongation	ASTM D 1000 -Machine Direction -Cross Direction	 10 lbs/in (175 N/100 mm),105% 11 lbs/in (196 N/100 mm),181%

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The following testing was performed using the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons. Samples laminated to aluminum panels. All samples allowed to dwell 24 hours prior to testing. Unless noted, results are the same for both ribbons.

PERFORMANCE PROPERTIES	TEST METHODS	EFFECT TO TAPE	EFFECT TO PRINT
High Service Temperature	30 days at 176°F (80°C)	No visible effect	No visible effect
Low Service Temperature	30 days at -94°F (-70°C)	No visible effect	No visible effect
Humidity Resistance	30 days at 100°F (37°C), 95% R.H.	No visible effect	No visible effect
UV Light Resistance	30 days in UV Sunlighter™ 100	Slight material shrinkage	No visible effect
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Slight material shrinkage and color loss	No visible effect
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	No visible effect	Print legible up to: R4900 50 cycles R6000 Halogen Free 280 cycles

Samples printed with the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons. Test was conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by a 30 minute recovery period. Samples rubbed 10 times with cotton swab immersed in test fluid after final immersion.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE			
	EFFECT TO LABEL STOCK	PRINTING IMMERSION ONLY[1]	R4900 PRINT WITH COTTON SWAB RUB	R6000 Halogen Free PRINT WITH COTTON SWAB RUB
Isopropyl Alcohol	NVE	NVE	NVE	NVE
Mineral Spirits	NVE	NVE	NVE	NVE
JP-4 Jet Fuel	NVE	NVE	NVE	NVE
ASTM #3 Oil	NVE	NVE	NVE	NVE
Mil 5606 Oil	NVE	NVE	NVE	NVE
Super Agitene®	NVE	NVE	NVE	NVE
Alphametals BIOACT® EC-7R™	NVE	NVE	NVE	NVE
Deionized Water	NVE	NVE	NVE	NVE
3% Alconox® Detergent	NVE	NVE	NVE	NVE
10% Sodium	NVE[2]	NVE	NVE	NVE

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Hydroxide Solution				
10% Sulfuric Acid Solution	NVE	NVE	NVE	NVE

[1]Results the same for the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons
[2]NVE = No Visible Effect

B-439 is not recommended for use in harsh solvents such as 1,1,1 - Trichloroethane, Methyl Ethyl Ketone or Toluene.

Shelf Life:
Shelf life is one year 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:
ASTM: American Society for Testing and Materials (U.S.A)
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All S.I. Units (metric) are mathematically derived from the U.S. Conventional
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Polyken™ is a trademark of Testing Machines Inc.
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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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