Tendril Networks, Inc.

Gateway

MODEL: GWY-8

INPUT DC
6V:500mA

FCC ID: WFH-GWY-8-003

IC: 7785A-GWYX8X003EH

Assembled in China


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Technical Data Sheet

BRADY B-428 THERMAL TRANSFER PRINTABLE METALLIZED POLYESTER LABEL STOCK

TDS No. B-428
Effective Date: 26-Sep-2006

Description:

GENERAL

Print Technology: Thermal Transfer
Material Type: Metallized Polyester (3 mil film)
Finish: Matte
Adhesive: Permanent Acrylic

APPLICATIONS

Designed for applications, like rating and serial plates, that utilize barcodes, alphanumerics, graphic symbols and logos and require nameplate-like quality.

RECOMMENDED RIBBONS

Brady Series R4300
Brady Series R6200 (alternate)

REGULATORY/AGENCY APPROVALS

UL: B-428 is a UL Recognized Component when printed with the Brady Series R4300 Ribbon. See UL file MH17154 for specific details. UL information can be accessed online at *UL.com*. Search in *Certifications* area.
CSA: B-428 is a CSA Accepted material when printed with the Brady Series R4300 Ribbon or R6200 Ribbon. See CSA Acceptance Record LS 41833 for specific details. CSA information can be accessed online at *directories.csa-international.org*.
DIN VDE 0472 Part 815: Brady B-428 meets the requirements of a halogen-free material per DIN VDE 0472 part 815. (Statement based on review of product construction and confirmatory halogen content test run at an independent test laboratory.)

Brady B-428 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES

B-428 is designed to withstand numerous solvents and variable temperatures when applied to various surfaces.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	 0.0034 inch (0.086 mm) 0.0010 inch (0.026 mm) 0.0044 inch (0.112 mm)
Adhesion to: -Stainless Steel -Polypropylene	ASTM D 1000 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell	 30 oz/in (33 N/100 mm) 40 oz/in (43 N/100 mm) 12 oz/in (13 N/100 mm) 20 oz/in (22 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	28 oz (789 g)

Performance properties tested on printed B-428 labels laminated to aluminum panels. Samples thermal transfer printed with alphanumerics, and 5 mil and 10 mil minimum X dimension barcodes using a Series R4300 ribbon and a BradyPrinter™ THT Model 203 Thermal Transfer Printer.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
High Service Temperature	30 days at various temperatures	No visible effect to label at 248°F (120°C). Slight discoloration at 293°F (145°C). Moderate discoloration at 320°F (160°C), but label is still functional.
Low Service Temperature	30 days at -40°F (-40°C)	No visible effect
Humidity Resistance	30 days at 100°F (37°C), 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 topcoat yellowing
Salt Fog Resistance	30 days in 5% salt fog	No visible effect

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Samples printed with a Series R4300 black ribbon and a Series R6200 black ribbon using a BradyPrinter™ THT Model 203 Thermal Transfer Printer. 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 30 minute recovery periods. After final immersion, samples rubbed 10 times with cotton swab saturated with test fluid.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE (R4300 RIBBON)		
	EFFECT TO LABEL STOCK	EFFECT TO PRINT	EFFECT TO PRINT WITH RUB
Methyl Ethyl Ketone	No visible effect	No visible effect	Moderate print removal
1,1,1-Trichloroethane	No visible effect	No visible effect	Moderate print removal
Toluene	No visible effect	No visible effect	Moderate print removal
Mineral Spirits	No visible effect	No visible effect	No visible effect
JP-8 Jet Fuel	No visible effect	No visible effect	No visible effect
SAE 20 WT Oil	No visible effect	No visible effect	No visible effect
SAE 20 WT Oil @ 70C	No visible effect	No visible effect	Severe print removal
IPA	No visible effect	No visible effect	No visible effect
ASTM #3	No visible effect	No visible effect	No visible effect
Mil 5606 oil	No visible effect	No visible effect	No visible effect
Skydrol® 500B	No visible effect	No visible effect	Slight print removal
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% Sulfuric Acid Solution	No visible effect	No visible effect	No visible effect
10% Sodium Hydroxide Solution	No visible effect	No visible effect	No visible effect

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE (R6200 RIBBON)		
	EFFECT TO LABEL STOCK	EFFECT TO PRINT	EFFECT TO PRINT WITH RUB
Methyl Ethyl Ketone	No visible effect	No visible effect	Moderate print removal
1,1,1-Trichloroethane	No visible effect	No visible effect	Moderate print removal
Toluene	No visible effect	No visible effect	Moderate print removal
Mineral Spirits	No visible effect	No visible effect	Slight print removal
JP-8 Jet Fuel	No visible effect	No visible effect	Slight print removal
SAE 20 WT Oil	No visible effect	No visible effect	No visible effect
SAE 20 WT Oil @ 70C	No visible effect	No visible effect	Severe print removal
IPA	No visible effect	No visible effect	Slight print removal
ASTM #3	No visible effect	No visible effect	No visible effect
Mil 5606 oil	No visible effect	No visible effect	Slight print removal
Skydrol® 500B	No visible effect	No visible effect	Moderate print removal
Super Agitene®	No visible effect	No visible effect	Slight print removal
Deionized Water	No visible effect	No visible effect	No visible effect
3% Alconox® Detergent	No visible effect	No visible effect	No visible effect
10% Sulfuric Acid Solution	No visible effect	No visible effect	No visible effect
10% Sodium Hydroxide 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 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.
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
PSTC: Pressure Sensitive Tape Council (U.S.A.)
SAE: Society of Automotive Engineers (U.S.A.)
UL: Underwriters Laboratories Inc. (U.S.A.)
All S.I. units 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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Technical Data Sheet

BRADY B-966B CLEAR POLYESTER OVERLAMINATING TAPE

TDS No. B-966B
Effective Date: 21-Feb-2000

Description:

Brady B-966B is a release coated, 1.5 mil clear polyester film with an acrylic pressure sensitive adhesive.

Brady B-966B is used for overlamination. Its release coated surface allows B-966B to be used in the Brady PermaShield™ Label construction.

Brady B-966B has excellent clarity and abrasion resistance, as well as very good high temperature and solvent resistance.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Film -Adhesive -Total	 0.0015 inch (0.038 mm) 0.0014 inch (0.035 mm) 0.0029 inch (0.073 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell 24 hour dwell	 35 oz/in (38 N/100 mm) 50 oz/in (55 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	11 oz (300 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine Direction	30 lbs/in (525 N/100 mm), 55%
Abrasion Test	Taber Abrader, CS-10 grinding wheels, 1000 g/arm (Fed. Std. 191A, Method 5306)	Material still not worn through after 5000 cycles
Application Temperature	Lowest application temperature to stainless steel	50°F (10°C)

B-966B samples for Performance Properties were tested applied directly to aluminum panels and overlaminated over Brady B-619 white polyester. Samples allowed to dwell 24 hours at room temperature prior to testing.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
High Service Temperature	30 days at 248°F (120°C)	Slight adhesive yellowing at 120°C, no visible effect at 100°C
Low Service Temperature	30 days at -94°F (-70°C)	No visible effect at -70°C
Humidity Resistance	30 days at 100°F (37°C), 95% R.H.	No visible effect
UV Light Resistance	30 days in UV Sunlighter™ 100	Slight adhesive blistering
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Slight adhesive blistering
Salt Fog Resistance	ASTM B 117 30 days in 5% salt fog solution chamber	No visible effect

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Samples were tested applied directly to aluminum panels and overlaminated over Brady B-619 white polyester. Samples allowed to dwell 24 hours at room temperature prior to testing. Testing consisted of 5 cycles of 10 minute immersions in the specified chemicals followed by 30 minute recovery periods. Testing was conducted at room temperature.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE
Methyl Ethyl Ketone	Slight edge discoloration on B-619, slight edge lift of B-966B
1,1,1-Trichloroethane	Slight edge lift
Isopropyl Alcohol	No visible effect
JP-4 Jet Fuel	No visible effect
SAE 20 WT Oil	No visible effect
Mil 5606 Oil	No visible effect
Speedi Kut Cutting Oil 332	No visible effect
Gasoline	Slight adhesive ooze
Skydrol® 500B-4	Slight edge lift
Super Agitene®	No visible effect
BIOACT® EC-7R™ Terpene Cleaner	Slight adhesive ooze
Deionized Water	No visible effect
3% Alconox® Detergent	No visible effect
10% Sodium Hydroxide Solution	No visible effect
10% Sulfuric Acid Solution	No visible effect
6% Alpha 2110 at 70°C	No visible effect

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