

**BRADY B-990 HYDRAULIC FLUID RESISTANT TAPE**

TDS No. B-990

Effective Date: August 13, 2018

**Description:**

Brady B-990 Fluid Line Tape is a thermal transfer printable, subsurface printed, flexible, transparent polyester film tape with a chemical resistant adhesive.

Brady B-990 Fluid Line Tape is designed for aircraft tubing identification. The tape is designed to be applied around tubing with recommended minimum overlap of 1.5 times around tube. Both the topcoat/ribbon combination and the adhesive used in B-990 have excellent resistance to Skydrol® and other fluids commonly encountered in aircraft applications.

The B-990 lower initial adhesion makes the tape easy to reposition when first applied.

The tape is designed to be applied around tubing and then heated to above 145°C for maximum fluid resistance and ultimate adhesion. Brady recommends to follow the intended heating procedure (available in separate document).

Brady Series R6400 thermal transfer ribbon is recommended for use with B-990.

**Details:**

PERFORMANCE PROPERTIES	TEST METHODS	AVERAGE RESULTS
Total Thickness	ASTM D 1000	0.094 mm (0.0037 inch)
Adhesion to Aluminum (Panels conform to QQ-A-250/5)	ASTM D 1000 72 hour RT* dwell	72 N/100 mm (66 oz/in)
Tensile Strength and Elongation	ASTM D 1000 Machine direction	525 N/100 mm (30 lbs/in), 155%

\* Dwell temperature 25°C (77°F)

**NOTE:** The following results were gathered on B-990 PRIOR TO the application of heat above 145°C

For the following tests, samples printed with the Brady R6400 thermal transfer ribbon and wrapped on 19 mm (0.75 inch) OD aluminum tubing. Samples tested after 72 hour room temperature dwell.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS
High Service Temperature	30 days at 130°C (266°F)	At 130°C slight discoloration of tape, print still easily legible
Low Service Temperature	30 days at -70°C (-94°F)	No visible effect
Humidity Resistance	30 days at 37°C (100°F), 95% R.H.	No visible effect
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Slight discoloration, print still easily legible
U.V. Light Resistance	ASTM G155, Cycle 1 (dry) 30 days in Xenon Arc Test Chamber	Very slight discoloration, print still easily legible
Abrasion Test	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	Print still legible at 100 cycles

PERFORMANCE PROPERTY	FLUID RESISTANCE
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For the following tests, samples wrapped on 19 mm (0.75 inch) OD aluminum tubing and applied flat to QQ-A-250/5 aluminum panels. Samples printed with R6400 thermal transfer ribbon. Samples tested after 72 hour room temperature dwell. After immersions samples rubbed 10 times with eraser with maximum manual downward force. The results are the same without and with rub unless reported otherwise.

TEST CONDITION	ADHESION TO ALUMINUM	TUBE WRAP	R6400 THERMAL TRANSFER PRINT
24 hrs in DI water at RT	51 N/100 mm (47 oz/in)	No visible effect	No visible effect
72 hrs in MIL-PRF-7808 Oil at 200°F	230 N/100 mm (210 oz/in)	No visible effect	No visible effect
72 hrs in JP-8 jet fuel at RT	34 N/100 mm (31 oz/in)	No visible effect	No visible effect
72 hrs in MIL-T- 5606 Oil at RT	51 N/100 mm (47 oz/in)	No visible effect	No visible effect
72 hrs in MIL 25576 rocket fuel at RT	69 N/100 mm (63 oz/in)	No visible effect	No visible effect
72 hrs in Skydrol® LD-4 at RT	48 N/100 mm (44 oz/in)	No visible effect	No visible effect

72 hrs in Isopropyl alcohol at RT	82 N/100 mm (75 oz/in)	No visible effect	No visible effect
72 hrs in Cryotech Polar Plus® Type I Deicing Fluid at RT	55 N/100 mm (50 oz/inch)	No visible effect	No visible effect
96 hrs in Xenon Arc Weatherometer	138 N/100 mm (126 oz/in)	No visible effect	No visible effect

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.)

Fed. Spec.: United States Federal Specification (U.S.A.)

Polar Plus® is a registered trademark of General Atomics International Services Corp

Skydrol® is a registered trademark of the Monsanto Company

**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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