

**Description:**

Stranco S-418 is a 1 mil (25 μ) polyimide film with a high-temperature permanent pressure sensitive acrylic adhesive and a high opacity, matte white topcoat specifically designed for thermal transfer printing.

Use:

The S-418 topcoat, in combination with the appropriate thermal transfer ribbon, passes the requirements of **MIL-STD-202G, Notice 12, Method 215K**. Preheating the labeled product can further enhance print permanence in the case of extreme solvent and/or abrasion exposure, although this is not typically required for board processing applications.

Applications:

- PCB identification
- Silk screening or stacking.
- IC labeling for work in process, permanent ID & warranty labeling
- Product ID, asset tracking
- Electronic components
- Anywhere a label will be exposed to extreme temperatures

Special Considerations:

- The surface that you want to label should be clean, dry and free of any surface contamination, such as dust, oil or rust. Isopropyl alcohol would be a recommend solvent to clean the surface.
- When you apply the label, you must use firm pressure to increase the physical contact of the adhesive with the surface of the product.
- Pressure sensitive adhesives will provide stronger bonds to a warm surface, as compared to a colder one. The adhesive will 'flow' more readily, increasing the surface area and increasing the adhesion peel strength.
- The S-418 top coat & print should not be contacted while exposed to elevated temperature.
- All values shown are averages and should not be used for specification purposes. Adhesion and tack values have a 10% tolerance allotted to the above values stated.
- Test data and test results contained in this document are for general information only and shall not be relied upon by Stranco customers for designs and specifications, or be relied on as meeting specified performance criteria.



Material Specifications

PROPERTIES	TEST METHODS	AVERAGE RESULTS	
		USA Units	SI Units
Thickness	ASTM D1000		
-Top sheet		0.0015 inch	0.038 mm
-Adhesive		0.0011 inch	0.028 mm
-Total		0.0026 inch	0.066 mm
Adhesion	80313		
-Stainless Steel	20 minute dwell	≥ 25 oz/in	27N/100 mm
	24 hour dwell	≥ 28 oz/in	31N/100 mm
Tack	80155	≥ 1000 g/in	
Temperature Rating:			
Long term		100 hours at 302°F (150°C)	
Operating		5 minutes at 500°F (260°C)	
Short term		90 seconds at 572°F (300°C)	
UL File #		PGJ12.MH19503	
UL Tested Ribbons		Ricoh B110CR, C, Armor AXR7+, ITW B324	

Durability Testing

Properties	Test Methods	Test Environment	PCS ¹	Read Rate ²
Heat / Chemical	80386	Control 70°C	99%	100%
		Alpha Metals Inc. 2110 Saponifier 10% aqueous, 70°C, 5 min.	97%	100%
		Isopropanol 99%, 70°C, 5 min.	99%	100%
		Kyzen XJN 30%, 70°C, 5 min.	99%	100%

Chemical Testing

Properties	Test Method	Test Fluid	Results
Chemical Resistance	MIL-STD-202G, Notice 12, Method 215K		
		Solvent A-1part IPA, 3 parts Mineral Spirits	No visible effect
		Solvent B- 1,1,1 Trichloroethane	Solvent deleted per notice 12
		Solvent C- Terpene Defluxer	No visible effect
		Solvent D- Saponifier	No visible effect

Material Compliance

RoHS- Restriction of Hazardous Substances (EU Directive 2002/95/EC)	Limits set forth in Directive 2005/618/EC amending Directive 2002/95/EC
REACH- Registration Evaluation and Authorization of Chemicals (EU Directive 1907/2006/EC)	Limits set forth in Directive 1907/2006/EC Article 7 (2)
Halogens- Restriction use of Halogen (IEC 61249-2-21)	Limits set forth in International Electrochemical

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Key for tables of page 2

- All SI units are mathematically derived from U.S. conventional units.
- Labels printed with recommended thermal transfer ribbon. Labels printed with 6.7 mil X dimension bars at 2:5 ratio. Labels exposed to indicated environments.
- PCS¹- Print Contrast Signal. PCS determined with Quick Check 650, 0.0005" aperture, 660 nm wavelength
- Quick check 650 manufactured by: Photographic Sciences Corp.
- ² Read rate determined using a PSC Quick Check 850 laser scanner

Trademarks:

XJN & Aquanox™ is a trademark of Kyzen Corporation.

References:

ASTM: American Society for Testing and Materials (U.S.A.)
SI: International Systems of Units.



WARRANTY-LIMITATION

Stranco's products are sold with the understanding that the buyer will test them in actual use and determine for him/herself their adaptability to his/her intended uses. Stranco warrants to the buyer that its products are free from defects in material and workmanship, but limits its obligation under this warranty to replacement of the products shown to Stranco's satisfaction to have been defective, provided that the Buyer has complied with the handling, storage and shelf life requirements as specified by Stranco in applicable materials specifications.

The above warranties extend solely to Buyer and all warranty claims must be made by Buyer. Rework or Replacement shall neither extend nor decrease the original warranty period. The term of all warranty periods shall not exceed thirty (30) days from the date of the original shipment.

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