

Description: POLYONICS XF-581 is a special 1 mil (25µ) polyimide film with a high-temperature permanent pressure sensitive acrylic adhesive and a high opacity, gloss white topcoat specifically designed for thermal transfer printing. Using a 1 mil vs. a 2 mil polyimide film base offers polyimide thermal performance at less cost.

Use: POLYONICS XF-581 is specifically designed for high-temperature-lead-free solder applications. It is the ideal label to withstand surface mount board processes, on either the top or bottom side of the board. It can also be used on the top side of the board in mixed processes, and is recommended for the bottom side which is directly exposed to the wave solder environment. XF-581 is particularly useful in manufacturing processes where dimensional stability of the label is critical.

Properties: The XF-581 topcoat, in combination with the appropriate thermal transfer ribbon, passes the requirements of **MIL-STD-202G, Notice 12, Method 215K** and **MIL-STD-883E, Notice 4, Method 2015.13**. The print resists smearing, even when the board and label are directly removed from a reflow or wave solder environment. 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.

PROPERTIES	TEST METHODS	AVERAGE RESULTS	
		USA Units	SI Units
Thickness	ASTM D1000		
-Substrate		0.0015 inch	0.038 mm
-Adhesive		0.0010 inch	0.025 mm
-Total		0.0025 inch	0.063 mm
Adhesion	Polyonics 80313		
-Stainless Steel	20 minute dwell	≥ 27 oz/in	30N/100 mm
	24 hour dwell	≥ 30 oz/in	33N/100 mm
Tack	Polyonics 80155		
		≥ 1000 g/in	
Temperature Rating:	-40 to 1000°F (-40 to 537°C)		
Shelf Life	1 year below 80°F (27°C) and 60% R.H.		
UL File #	PGJ12.MH19503		
UL tested ribbons	Ricoh B110CR, Armor AXR 7+, Union Chemicar US 300, Japan Pulp & Paper JPP1, DNP R510, Sony 4070		

All SI units are mathematically derived from U.S. conventional units.

Note. 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 POLYONICS 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 POLYONICS for further information.

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.

Properties	Test Methods	Test Environment	PCS ¹	Read Rate ²
Heat / Chemical	Polyonics	Control	99%	100%
		Alpha Metals Inc. 2110 Saponifier 6% aqueous, 65-70°C, 5 minutes	97%	100%
		Isopropanol 99%, 82°C, 5 minutes	99%	100%
		KyzenXJN 30%, 5 min.	99%	100%

¹PCS - Print Contrast Signal. PCS determined with Quick Check 650, 0.005" aperture, 660 nm wavelength. Quick Check 650 manufactured by : Photographic Sciences Corp.

² Read rate determined using a PSC Quick Check 850 laser scanner

Properties	Test Method	Test Fluid	Results
Chemical Resistance	MIL-STD-202G, Notice 12, Method 215K MIL-STD-883E, Notice 4, Method 2015.13		
		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

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

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