



Description: POLYONICS XF-592 is a polyimide film with a high-temperature permanent pressure sensitive acrylic adhesive and a high opacity, white topcoat specifically designed for barcode or alphanumeric identification of printed circuit boards, or related electronic components using thermal transfer printing.

Use: POLYONICS XF-592 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 that is directly exposed to the wave solder environment. XF-592 adhesive is specifically designed to adhere to rough surfaces where high temperatures are required in the manufacturing process.

Properties: The XF-592 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 Method	Average Results	
		USA Units	SI Units
Thickness	ASTM D1000		
-Substrate		0.0024 inch	0.061 mm
-Adhesive		0.0020 inch	0.050 mm
-Total		0.0044 inch	0.111 mm
Adhesion	Polyonics 80313		
-Stainless Steel	20 minute dwell	≥ 41 oz/in	45N/100 mm
	24 hour dwell	≥ 55 oz/in	60N/100 mm
Tack	Polyonics 80155	≥ 1800g	
Temperature Rating:	-40 to 1000°F (-40 to 537°C)		
Shelf Life	1 year below 80°F and 60% R.H.		
Ribbon recommendation	Armor AXR7+, Sony 4070, JPP1, Ricoh B110C, Union Chemicar US300		

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 & Tack values have a 10% tolerance allotted to the above stated values. 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 a recommended thermal transfer ribbon. Labels printed with 6.7 mil X dimension bars at 2:5 ratio. Labels exposed to indicated environments



Properties	Test Method	Test Environment	PCS ¹	Read Rate ²
Heat/Chemical Resistance	Polyonics			
		Control	99%	100%
		Kyzen Corp. Aquanox SSA 30% aqueous, 40-45°C, 5 min.	100%	99%
		Re-Entry KNI 2000 Terpene, 40-45°C, 5 min.	98%	100%
		Alpha Metals Inc. EC-7R Terpene, 40-45°C, 5 min.	98%	100%
		Alpha Metals Inc. 2110 Saponifier 10% aqueous, 65-70°C, 5 min	97%	100%
		Isopropanol 99%, 65-70°C, 5 min.	99%	100%
		Kyzen XJN + 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 PSC 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- 1 part 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

References:

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

Trademarks:

XJN+ & Aquanox SSA-™ is a trademark of Kyzen Corporation.
EC-7R™ is a trademark of Petroferm Inc
RE-ENTRY™ is a registered trademark of Environsolv Inc



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