



**Thermal Transfer Printable Polyimide  
WHITE**

**Description:** POLYONICS XF-557/1 is a special 1 mil (25µ) polyimide film with a 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-557/1 is designed for barcode or alphanumeric identification of printed circuit boards, or related electronic components. 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-557/1 can withstand process temperatures in excess of 565°F (300°C) for short periods of time.

**Properties:** The XF-557/1 topcoat, in combination with a recommended thermal transfer ribbon, passes the requirements of **MIL-STD-202G, Notice 12, Method 215K**. 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
<b>Thickness</b>	<b>ASTM D1000</b>		
<b>Substrate</b>		0.0017 inch	0.043 mm
<b>Adhesive</b>		0.0020 inch	0.05 mm
<b>Total</b>		0.0037 inch	0.048 mm
<b>Adhesion</b>	<b>Polyonics 80313</b>		
<b>Stainless Steel</b>	<b>20 minute dwell</b>	≥ 27 oz/in	30N/100 mm
	<b>24 hour dwell</b>	≥ 30 oz/in	33N/100 mm
<b>Tack</b>	<b>Polyonics 80155</b>		
		≥ 1000 g/in	
<b>Temperature Rating:</b>		-40 to 1000°F (-40 to 537°C)	
<b>Shelf Life</b>		<b>1 year below 80°F (27°C) and 60% R.H.</b>	
<b>UL File #</b>		PGJ12.MH19503	
<b>UL Tested Ribbons</b>		DNP R510, Ricoh B110C, Armor AXR 7+	

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 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 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 <sup>1</sup>	Read Rate <sup>2</sup>
Heat/Chemical	Polyonics	Control 230°C heat, 5 min.	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° 5 min.	98%	100%
		Alpha Metals Inc. 2110 Saponifier 10% aqueous, 65-70°C 5 min.	97%	100%
		Isopropanol 99% 65-70° 5 min.	99%	100%
		Kyzen XJN+ 30% aqueous 5 min.	99%	100%

<sup>1</sup>PCS - Print Contrast Signal. PCS determined with Quick Check 650, 0.005" aperture, 660 nm wave length.

Quick Check 650 manufactured by: Photographic Sciences Corp.

<sup>2</sup> 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	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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