

Description: POLYONICS XF-558 is a modified polyimide film with a permanent pressure sensitive acrylic adhesive and a high opacity, gloss white topcoat specifically designed for thermal transfer printing.

Use: POLYONICS XF-558 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, but is not recommended for the bottom side which is directly exposed to the wave solder environment. In this case POLYONICS XF-557 is recommended. XF-558 has excellent resistance to the temperature extremes of solder reflow environments, and resists all commonly employed methods of cleaning.

Properties: The XF-558 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
Thickness	ASTM D1000		
-Substrate		0.0027 inch	0.068 mm
-Adhesive		0.0020 inch	0.050 mm
-Total		0.0047 inch	0.118 mm
Adhesive			
-Stainless Steel	20 Minute dwell	≥ 35 oz/in	38N/100 mm
	24 hour dwell	≥ 40 oz/in	44N/100 mm
Tack	Polyonics 80155		
		1000g	
Temperature Rating:	-40 to 600°F (-40 to 315°C)		
Shelf Life	1 year below 80°F(27°C) and 60% R.H.		
Recommended Ribbons	DNP R510, R316, Ricoh B110C, CH, CR, JPP1 & 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. Adhesive 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 a recommended thermal transfer ribbon using a Zebra 90Xi printer. Labels printed with 3:1 ratio barcodes with 6 mil X dimension bars. 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° 5 min.	98%	100%
		Alpha Metals Inc. EC-7R Terpene 40-45°C, 5 min.	98%	100%
		Alpha Metals Inc. 2110 Saponifier 6% aqueous, 65-70°C, 5 min.	97%	100%
		Isopropanol 99% 65-70°C, 5 min.	99%	100%
		Kyzen XJN+ 30%, 5min.	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 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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