

Technical Data Sheet

1 Mil Green Polyimide - 748

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

Uses & Features: Specially 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.

Properties: The 748 topcoat, in combination with the appropriate thermal transfer ribbon, passes the requirement of MIL-STD-202F, Notic 12, Method 215J 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.

Recommended TT Ribbons: Recommended ribbons for Thermal Transfer printing both for maximum durability and resistance to Fluxes and Cleaners are Nortec's 140 and 104 series.

Thickness:

	Test Methods	Average Results USA Units	SI Units
Substrate	ASTM D1000	0.0015 inch	0.038 mm
Adhesive		0.0010 inch	0.025 mm
Total		0.0025 inch	0.063 mm

Adhesion:

	Test Methods	Average Results USA Units	SI Units
Stainless steel	ASTM D3330 20 minute dwell	23 oz/in	26 N/100 mm
	72 hour dwell	35 oz/in	39 N/100 mm
Tack Polyken™ Probe 1 second dwell	ASTM D2979	25 oz	710 grams
Drop Shear	PSTC	> 100 hrs	> 100 hrs

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. Test data and test results contained in this document are for general information only and shall not be relied upon by Nortec 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 Nortec for further information.

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Heat/Chemical/Abraction Resistance: . Samples printed with a recommended thermal ribbon using a Zebra 90Xi printer. Labels printed with 3:1 ratio barcodes with 6 mil X dimension bars. Samples exposed to indicated environments:

Test environment	PCS ¹	Read Rate ²
Control	99%	100%
1316C heat, 50 minutes*	99%	100%
Kyzen Corp. Aquanox SSA 30%aqueous, 40-45° C, 10 minutes ³	100%	99%
RE-ENTRY. KNI 2000 Terpene, 40-45° C, 10 minutes ³	98%	100%
Alpha Metals Inc. EC-7R Terpene, 40-45° C, 10 minutes ³	98%	100%
Alpha Metals Inc. 2110 Saponifier 6% aqueous, 65-70°C, 10 minutes	97%	100%
Isopropanol 99%, 82°C 10 minutes	99%	100%
Deionized Water, 100°C 10 minutes	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 PCS 850 laser scanner.

³ Followed by 2 minute immersion in deionized water at 100°C.

Chemical Resistance: MIL-STD-202F, Notice12, Method 215J.
MIL-STD-883E, Notice4, Method 2015.13.
Samples printed with a recommended thermal transfer ribbon using a zebra 90Xi printer. Labels printed with alphanumerics and 3:1 ratio barcodes with 6 mil Xdimension bars. Samples subjected to 3 cycles of three minute immersions immediately followed by a toothbrush rub after each immersion.

Test Fluid	Results
1 part IPA, 3 Parts Mineral Spirits	No Visual Effect
1,1,1 - Trichloroethene	Solvent deleted per Notice 12
Terpene Defluxer	No Visual Effect
Saponifier	No Visual Effect

Shelf Life: 1 year below 80(F (27(C) and 60% R.H.

Reference: AISI: American Iron and Steel Institute (U.S.A.) ASTM: American Society for Testing and Materials (U.S.A.) PSTC: Pressure Sensitive Tape Council (U.S.A.) SI: International Systems of Units.

Warranty: Nortec AMI recommends that a selected label type be thoroughly tested to insure it meets all end user requirements. Nortec AMI warrants only the purchaser that its products are free from defects in material and workmanship. Nortec AMI limits its obligation under this warranty and at its option to repair or replace the product. This warranty is in lieu of any other warranty, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. Nortec AMI is not liable for any damages, including lost profits, lost savings, or other incidental or consequential damages arising out of the use of or inability to use such product.

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