Technical Data Sheet
Semi Gloss White Polyimide (1mil) - 516

General Description:

White 1 mil polyimide film with a permanent pressure sensitive acrylic adhesive and a high opacity, semi gloss white topcoat specifically designed for thermal transfer printing.

Uses & Features:

Designed for barcode or alphanumeric identification of printed circuit boards, or related electronic components. It is the ideal product for applications requiring a high durability white label that will withstand the temperatures and solvents encountered in surface mount board processes. 516 is suitable for both direct wave (bottom side) and reflow (top side) applications. It can also be used on the topside of the board in mixed processes, and is recommended for the bottom side that is directly exposed to the wave solder environment and barcode applications. The material is particularly useful in manufacturing processes where dimensional stability of the label is critical.

Properties:

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.
Dielectric Strength > 8kv (test method ASTM 1000)

UL Recognized TT Ribbons:

Nortec 103, 140, 376 Thermal Transfer Ribbons.

Other Recommended Ribbons:

Nortec 215 Thermal Transfer Ribbon.

Thickness:

	Average Results USA Units	SI Units
Substrate	0.0015 inch	0.038 mm
Adhesive	0.0011 inch	0.028 mm
Total	0.0026 inch	0.066 mm

Adhesion:

	Test Methods	Average Results USA Units	SI Units
Stainless steel	ASTM D1000 20 minute dwell	≥25 oz/in	27 N/100 mm
	24 hour dwell	≥28 oz/in	31 N/100 mm
Tack		≥1000g/in	

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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Temperature performance:

Performace properties	Test Method	Typical results
Short Term High Temperature	1.5 minutes at 572°F (300°C)	No visible effect to label
Operating High Service Temperature	5 minute at 500°F (260°C)	No visible effect to label
Long Term High Service Temperature	100 hours at 302°F (125°C)	No visible effect to label

Heat/Chemical/Abrasion Resistance

Test Environment	PCS	Read Rate
Control 70℃	99%	100%
Alpha Metals Inc. 2110 Saponifier 10% aqueous, 70°C, 5 minutes	97%	100%
Isopropanol 99%, 70°C, 5 minutes	99%	100%
Kyzen XJN 30%, 70℃, 5 min	99%	100%

Test method	Test Fluid	
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

Shelf life: One year when stored at 70℉ ± 10% (21℃) & 50% RH ± 10%

Warranty: CCL (Nortec AMI) recommends that a selected label type be thoroughly tested to insure it meets all end user requirements. CCL warrants only the purchaser that its products are free from defects in material and workmanship. CCL 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. CCL 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. CCL used in part information from materials manufactures and did not conduct all the tests itself.