Technical Data Sheet

TT403 — THERMAL TRANSFER GLOSSY WHITE POLYIMIDE FILM

GENERAL DESCRIPTION: TT403 is a topcoated glossy white polyimide film. It is coated with an aggressive permanent acrylic adhesive and backed with a 55# Glassine release liner.

USES: Ideal for marking electronic components, and the top/bottom side of printed circuit boards. This material is designed to withstand high temperatures and harsh chemicals. Withstands through-hole and surface mount circuit board processes. Ideal material for industrial bar code applications requiring durability. This high-performance material is designed for applications requiring excellent solvent and scratch resistance. Can withstand higher temperatures for a longer amount of time than TT401. **This material is specially designed for use in higher heat required for PB free solders.**

FEATURES: Indoor only. Excellent scratch, abrasion, chemical, and heat resistant when printed with a thermal transfer resin-based ribbons. This film is dimensionally stable (no shrinkage), high-performance adhesive. Pre-heating of the material and ribbon will enhance the performance. This material has insulative properties in the material and adhesive. This material is specially designed for ultra solvent and heat resistances. .

RECOGNITION(S): UL-MH16873 RoHS Directive 2002/95/EC Compliant

RECOMMENDED RIBBON: Thermal Transfer Resin Ribbon

PHYSICAL PROPERTIES	TEST METHODS	CONVENTIONAL UNITS	S.I. UNITS
THICKNESS:	Film	2.4 mils	60.9 microns
	Adhesive	2.0 mils	50.8 microns
	Liner (55#)	3.1 mils	78.7 microns
	Total	7.5 mils	190.5 microns
ADHESIVE PERFORMANCE	**Stainless Steel**		
	20 minute dwell	35 oz/in	39 N/m
	24 hour dwell	43 oz/in	470 N/m
	Epoxy Panel		
	20 minute dwell	29 oz./in	320 N/m
	24 hour dwell	31 oz/in	350 N/m

SERVICE TEMPERATURES: Lab tested using stationary standard ovens (Epoxy boards catch on fire before 1 minute failure)

Epoxy Boards	Stainless Steel	Temperatures	
Less than 60 seconds	1-5 Minutes	572°F	300°C
Less than 60 seconds	2-4 Minutes	617°F	325°C
1-18 Seconds	10-58 Seconds	842°F	450°C

Additional test on steel panel in stationary laboratory over for 50 minutes at 316°C (600°F) and there were no visible signs of browning

*****CUSTOMER TO TEST IN ACTUAL APPLICATION TO DETERMINE IF MATERIAL MEETS CUSTOMER REQUIREMENTS****

MINIMUM APPLICATION TEMPERATURE: 50°F 10°C

EXTERIOR DURABILITY: Indoor Only

CHEMICAL RESISTANCES:

MIL-STD-202F, Notice 12, Method 215J — Meets this military spec with our TTRR-C, J and N

MIL-STD-883E, Notice 4, Method 2015.13 (BioAct EC7R**)** — Meets this military spec with our TTRR-C, N and S

MIL-STD-883E, Notice 4, Method 2015.13 (BioAct EC7M**)** — Meets this military spec with our TTRR- C, N and S

TEST ENVIRONMENT: Samples exposed to indicated environments.	**PCS**	**READ RATE**
Control		
316°C heat, 50 minutes	99%	100%
Kyzen Corp. Aquanox SSA 30% aqueous, 40-45°C, 10 minutes	100%	99%
RE-ENTRY KNI 2000 Terpene, 40-45°C, 10 minutes	98%	100%
Alpha Metals Inc. EC-7R Terpene, 40-45°C, 10 minutes	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%

STORAGE STABILITY: Product should be stored at 80°F (27°C) and 60% relative humidity to ensure optimal performance.

SHELF LIFE: 1 year @ proper storage conditions.