

TECHNICAL DATA SHEET

RayMark Six labels

MATERIAL DESCRIPTION:	Computer-printable zero halogen label material. Permanent pressure sensitive acrylic adhesive. Thermally stabilised white polyester film with special ink receptive latent cure epoxy coating on the label surface. After printing, the surface is heat cured, embedding the image within a tough polymeric layer.
USE:	RayMark Six labels have outstanding abrasion and fluid resistance without the need for an overlay. Ideal for applications where high performance variable data labels are needed, for example in defence, marine, rail and aerospace applications. Can be used as a wire/cable wraparound marker for substrates not less than 6mm (0.25 inches) diameter. Not recommended for outdoor use.
PRINT METHOD/RIBBON:	Dot Matrix: Tyco LQ870, Tyco TMS-SYSTEM-SIX-RIBBON-A.
CURING CONDITIONS:	5 minutes at 150°C (302°F) in an air circulating oven. Small curing unit with automatic drive available ("Permatizer"). Curing also possible with hot air gun. Contact Tyco for details.
SHELF LIFE/STORAGE CONDITIONS:	Can be stored unopened for 12 months at temperatures not exceeding 35°C (95°F). Once opened, product should be stored below 25°C (77°F) and 80% relative humidity and used within 6 months.
SERVICE TEMPERATURE:	Wiring marking: -40°C to +85°C (-40°F to +185°F) continuous. Panel marking: -40°C to +105° (-40°F to +221°F) continuous. Excursion Temperature: 200°C (392°F) for 2 hours.
INSTALLATION TEMP:	+10°C to +40°C (+50°F to +104°F).
COLORS:	White.

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PERFORMANCE:

PROPERTY	TEST METHOD	RESULT
Tensile Strength	ASTM D882	200N/25mm
Fungus Resistance	BS2011 Part 2.1 JV1	Rating 1 (max)
Weathering, carbon arc Weatherometer	1500h, BS3900 F3	Legible, <3 gray scale change, 15 N/25mm adhesion
Light fastness, xenon arc	250h, ASTM G26A	Legible, <3 gray scale change, 20 N/25mm adhesion
Continuous humidity	168h, 40°C (104°F)/95% RH JEDEC 22A101-A	Legible, 15 N/25mm adhesion
Salt spray resistance	30days at 35°C (95°F), ASTM B117	Legible, 15N/25mm adhesion
Thermal Ageing	168h at 150°C (302°F), ISO 188	Legible, 30N/25mm adhesion
Thermal cycling	10 cycles, -55°C (-67°F) to 150°C (302°F), MIL-STD-810 503.3	Legible, 25N/25mm adhesion
Low temperature impact	RTM 2592	No cracking
Dry abrasion resistance	500 cycles, 500g, CS10 wheel BS4781-1990 A7	Legible
Toxicity index	NES 713	2.8
Smoke index	NES 711	4
Oxygen index	NES 714	>29 installed
Adhesion to: Stainless steel Stainless Steel Aluminum Acrylic Paint ABS Nylon PVC	FINAT FTM1, 23°C FINAT FTM1, 85°C FINAT FTM1, 23°C FINAT FTM1, 23°C FINAT FTM1, 23°C FINAT FTM1, 23°C FINAT FTM1, 23°C	15 N/25mm 10 N/25mm 20 N/25mm 20 N/25mm 20 N/25mm 15 N/25mm 15 N/25mm

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PRINT PERMANENCE:

THREAT	TEST METHOD	RESULT
White spirit /IPA mixture 23°C (73°F)	MIL-STD-202F 215F	Legible
<u>Fluid splash resistance:</u> Brake fluid 23°C (73°F) Petrol 23°C (73°F)	RW 2029 RW 2029	Legible Legible
<u>Fluid Immersion (followed by peel test):</u> Methylated spirit 24h 23°C (73°F) Isopropyl alcohol 24h 23°C (73°F) Petrol 24h 23°C (73°F) Hydraulic fluid 28 days 50°C (122°F) Lubricating oil 28 days 50°C (122°F) Hydraulic fluid 24h 23°C (73°F) Aviation Fuel 24h 23°C (73°F) Diesel fuel 24h 23°C (73°F) Boiling water 2h	MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2 MIL-M-81531 4.6.2	Legible; min 15N/25mm adhesion Legible; min 15N/25mm adhesion Legible; min 5N/25mm adhesion Legible; min 15N/25mm adhesion Legible; min 15N/25mm adhesion Legible; min 15N/25mm adhesion Legible; min 15N/25mm adhesion Legible; min 15N/25mm adhesion Legible; min 15N/25mm adhesion

Note: see Tyco specification RW2029 for full performance & dimensional details.

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