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### Thermal transfer printable cryogenic satin white polyester film





Facestock: 50µ satin white print receptive polyester offers excellent dimensional stability combined with good solvent, humidity, elevated temperature and UV resistance. Designed to accept conventional ink and thermal transfer printing with resin and wax/resin ribbons

Adhesive: PFC high performance permanent acrylic adhesive. PFC exhibits high initial tack and adhesion to a wide range of substrates, including many plastics. PFC adhesive offers very good adhesion and low temperature shear performance when applied to both glass and treated PP vials.

Liner: 7LK is an 82qsm white polycoated glassine release liner. The one side PE coated liner ensures adhesive smoothness. Suitable for high speed dispensing.

#### **Product description:**

RML 7469 50µ satin white print receptive polyester offers excellent low temperature cryogenic performance combined with very good solvent, humidity and elevated temperature resistance. Designed to accept conventional ink and provide superior thermal transfer print quality with crisp definition at low burn temperatures with resin and wax/resin ribbons. RML-7469 is coated with PFC high performance acrylic adhesive which exhibits high initial tack, good adhesion to both high and low surface energy substrates. PFC adhesive is suitable for exposure to liquid nitrogen.

#### **Typical applications:**

On demand variable information labels for cryogenic identification of plastic and glass vessels for the preservation of blood, reproductive cells and other biological materials.

#### **Typical industry sectors:**

Pharmaceutical, electronic and laboratory.

General characteristics:								
Properties	Typical values		Unit of measure	Test method				
Physical	<ul> <li>○ Facestock</li> <li>○ Adhesive</li> <li>● Liner</li> </ul>		50μ ± 10% 27gsm ± 10% 74μ ± 10%	FTM 12				
Peel adhesion Stainless steel Glass	<b>Initial</b> 12.2 12.8	<b>24 hours</b> 15.6 16.1	N/25mm @ 23°C, 50% RH	FTM 1				
Shear resistance	>600		Minutes @ 40°C	FTM 8				
Dimensional stability	Excellent		mm	FTM 14				
Chemical resistance	3 - Good		Grey scale 1 = poor 5 = superior	AATCC 8				
Min. application temperature	+4°C		Celsius					
Service temperature range	-196°C* to +120°C		Celsius					
Outdoor durability	Two years		Vertical exposure					

\* Service temperature range can be affected by application surface and curvature.

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Disclaimer: Our recommendations are based on our most current knowledge and experience. As our products are used in conditions beyond our control, we cannot assume any liability for damage caused through their use. Users of our products are solely responsible for the product and it's suitability for the application, and have determined such at their sole discretion. Users must comply with any applicable legislation and/or testing requirements for the finished article, and are responsible for bringing their products to market.



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Environmental performance:						
RML-7469 was thermal transfer printed with a Dai Nippon R510 resin ribbon. The printed labels 35mm x 22mm were applied to 12.1mm diameter centrifuge tubes, glass and treated polypropylene. The labels were applied for one hour prior to environmental testing.						
Test environment	Test specification	Test result				
Environmental cycling	3 hours at 80°C± 4°C 1 hour at 23° ± 2°C and 50% relative humidity ± 5% RH 3 hours at -40°C± 2°C 1 hour at 23° ± 2°C and 50% relative humidity ± 5% RH 16 hours at 38°C ± 2°C and 95 to 98% relative humidity – 5 cycles completed	Pass – no delamination				
Elevated temperature exposure	168 hours 90°C	Pass – no delamination				
Thermal shock	6 hours at -80°C followed by immediate submersion in 100°C de-ionised water – 10 cycles completed	Pass – no delamination				
Liquid nitrogen cycling	-196C° storage for 6 hours, removed and left at room temperature for 4 hours – 5 cycles completed	Pass – no delamination				
Liquid nitrogen exposure	240 hours exposure at -196C°, removed and left at room temperature for 1 hour prior to evaluation	Pass – no delamination				

#### **Chemical resistance:**

RML-7469 was thermal transfer printed with both a Dai Nippon R510 and Ricoh B110CR resin ribbon. The printed labels were immersed in the test solutions for 5 minutes prior to conducting crockmeter testing with 3N of force. The crocking cloth was immersed in test solution and rubbed back and forth over test print; one back and forth motion counts as one cycle.

Test solution	Test specification	Test result			
Isopropanol	20 cycles with 3N weight and saturated crocking cloth	No visible effect			
Synthetic perspiration	20 cycles with 3N weight and saturated crocking cloth	No visible effect			
50% acetic acid	20 cycles with 3N weight and saturated crocking cloth	No visible effect			
De-ionised water	20 cycles with 3N weight and saturated crocking cloth	No visible effect			
10% hydrochloric acid	20 cycles with 3N weight and saturated crocking cloth	No visible effect			
10% sodium hydroxide	20 cycles with 3N weight and saturated crocking cloth	No visible effect			

Notes:

RML-7469 will not adhere to wet surfaces

 $R\ensuremath{\text{ML-7469}}$  will not adhere to some slip coatings applied to glass vials

The representations of performance and suitability for use contained in this data sheet are meant only as a guide. Since only the user is aware of the specific conditions in which the product is to be used, it is the user's responsibility to determine whether the product is suitable for that intended use. Copyright 1995



RoHS2 compliance: This product is in compliance with European parliament directive 2011/65/EU which restricts the use of certain hazardous substances in electrical and electronic equipment.

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