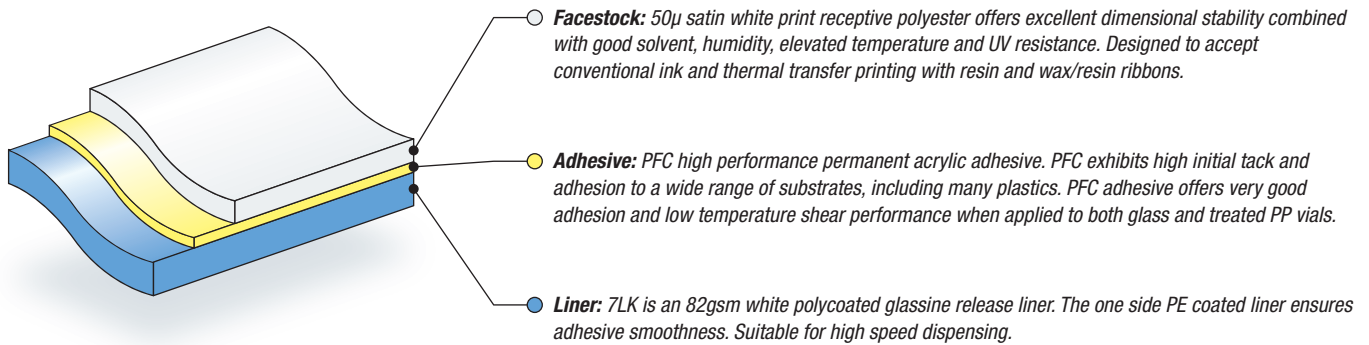


Thermal transfer printable cryogenic satin white polyester film

01-469



Product description:

01-469 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. 01-469 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	○ Facestock ● Adhesive ● Liner		50μ ± 10% 21gsm ± 10% 116μ ± 10%	FTM 12
Peel adhesion	<i>Initial</i>	<i>24 hours</i>	N/25mm @ 23°C, 50% RH	FTM 1
Stainless steel	12.2	15.6		
Glass	12.8	16.1		
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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Environmental performance:

*01-469 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:

01-469 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:

01-469 will not adhere to wet surfaces

01-469 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



RoHS Compliance: This product is in compliance with RoHS Directive 2002/95/EC which restricts the use of certain hazardous substances in electrical and electronic equipment.



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