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8000T Cryocool

Permanent labels

Thermal Transfer

Description:

8000T Cryocool is a 58 micron thermal transfer printable polyproylene label coated with a high performance acrylic adhesive for use in cryogenic applications. This adhesive offers resistance to temperatures as low as -196°C for liquid nitrogen applications.

It is designed for use with Zebra 5095 resin thermal transfer ribbon to produce excellent print quality. The smear/scratch resistance and low temperature adhesion performance make 8000T Cryocool an excellent choice for applications requiring a combination of image durability and extreme low temperature adhesion.

Suggested Applications:

Cryogenic applications involving a deep freezing process that takes objects down in temperature below -151°C. 8000T Cryocool will also withstand conditions such as dry ice (-80°C), steam autoclave and gamma radiation.

- Medical labs
- Universities/research facilities
- Hospitals
- Cold temperature/ industrial manufacturing

Technical Specifications:

	Description	Caliper	
Facestock	White top coated polypropylene		58 microns
Adhesive	High performance permanent acrylic		20 microns
Liner	White Kraft liner		58 microns
		Total	136 microns

Recommended Zebra Ribbons: 5095

Recommended Zebra printers: mid-range and high performance

Minimum Application Temperature: -29°C

Service Temperature Range: -196°C to 90°C

Recommended Storage Conditions: One year duration when stored at 0°C to 21°C at 35% to 50% RH

Cryogenic Testing: Test Procedure

Labels were applied to glass vials (2.8 cm OD), polypropylene centrifuge tubes (3.5 cm OD, 50ml) and glass microscope slides and allowed a 24 hour dwell time before exposure to above conditions.

Environment	Test Method	Typical Results
High Temp.	30 days at listed temperature	No visible effect at 90 C (194 F)
Low Temp.	30 days at -70 C (-94 F)	No Visible effect
Freezer	3 cycles of 16 hours at -70 C (-94 F)/ 8 hours at room temp.	Glass vial : Recommended PP centrifuge tube: Recommended Glass microscope slide: Recommended Flat PP: Recommended
Pressure Cooker	3 cycles of 1 hour in 121 C (250 F) 15 psi pressure cooker/ 23 hours room temperature	Glass vial : Recommended PP centrifuge tube: Recommended Glass microscope slide: Recommended Flat PP: Recommended
Liquid Nitrogen	3 cycles of 4 hours at – 196 C (-320 F)/ 20 hours at room temperature	Glass vial : Not recommended PP centrifuge tube: Recommended Glass microscope slide: Recommended Flat PP: Recommended
Freezer to boiling water	1 hour at -70 C (-94 F) then placed in boiling water 100 C (212 F)	Glass vial : May work, must test PP centrifuge tube: Recommended Glass microscope slide: May work, must test Flat PP: Recommended
Liquid Nitrogen to boiling water	1 hour at -196 C (-320 F) then placed in boiling water 100C (212 F) for 10 minutes	Glass vial : Not Recommended PP centrifuge tube: Recommended Glass microscope slide: May work, must test Flat PP: Recommended

180º Peel Room Temperature Peel Adhesion (N/m):

Steel		*Polycarbonate*		*Polyethylene*	
5 min	24 hr	5 min	24 hr	5 min	24 hr
319	352	121	154	121	154

Suggested Ribbons for Applications with Chemicals

	Weak					Moderate				Harsh			Extreme				
	Blood	Body Fluid	Salt Water	Water	Window Cleaner	Alcohol	Ammonia	Bleach	IPA	Gasoline	Grease	Oil	Acetone	IR Reflow	MEK	TCE	Xylene
5095	X	X	X	X	X		X	x	X								

"X" indicates acceptable chemical resistance

Product Performance and Suitability

All information on this document is to be used for guidance only and is not to be used for setting specifications. All purchasers of Zebra products shall be responsible for independently determining if the product conforms to all requirements of the application.

For testing of this product, please order SAMPLE66680.