8000T CryoCool™

Media Type	Label	✓
	Receipt	
	Tag	
	Wristband	
Material Type	Paper	
	Synthetic	✓
Printing Technology	Direct Thermal (no Ribbon Required)	
	Thermal Transfer (Ribbon Required)	✓
Adhesive Type	Permanent	✓
	Removable	
	No Adhesive	
Finish	Matte	
	Gloss	✓

Film Type	Polyethylene	
	Polyolefin	
	Polypropylene	✓
	Polyester	
	Polyimide	
Properties	Cold Temperature	✓
	Deep Freeze	✓
	High Temperature	
	Ultra High Temperature	
	High Tack	
	Chemical Resistance	**Moderate**
Environment	Indoor	✓
	Outdoor	✓

Additional Features

- Extreme low temperature adhesion, specifically designed for use in cryogenic applications
- Offers resistance to temperatures as low as -196°C for liquid nitrogen applications
- Can withstand conditions such as dry ice (-80°C), steam autoclave and gamma radiation
- Combined with 5095 ribbon, produces high print quality and image durability
- Excellent smear and scratch resistance
- BPA free
- Latex free adhesive

Suggested Applications

- Medical laboratories and specimen labelling
- Universities/research facilities
- Hospitals and healthcare
- Cold temperature/ industrial manufacturing
- Labelling of samples subjected to freeze-thaw cycles

REV. 2 - December 2015

Technical Specifications

	Description	Caliper
Facestock	Gloss white topcoated polypropylene	58 microns
Adhesive	Permanent high-performance acrylic adhesive	20 microns
Liner	White kraft paper liner	58 microns
	Total	136 microns ±10%

Recommended Zebra Printers: Desktop, mid-range and high-performance thermal printers

Recommended Zebra Ribbons: 5095

Minimum Application Temperature:
When the label is applied, the environment and surface should be above this temperature
-29°C

Service Temperature Range:
Following correct application and appropriate dwell time (usually 24hrs) the media will withstand this temperature range
-196°C to 121°C

Recommended Storage Conditions:
Storage of product before use
1 year duration when stored at 22°C at 50% RH

Expected Life Span in Application:
Following correct application and appropriate dwell time (usually 24hrs) we expect, but do not warrant, a life span as indicated
Indoor use, for 1 year+
Outdoor use, up to 6 months

Suggested Ribbons for Applications requiring Chemical Resistance

	Weak			Moderate				Harsh			Extreme				
	Salt Water	Water	Window Cleaner	Alcohol	Ammonia	Bleach	IPA	Gasoline	Grease	Oil	Acetone	IR Reflow	MEK	TCE	Xylene
5095	✓	✓	✓		✓	✓	✓								

"✓" indicates acceptable chemical resistance

REV. 2 - December 2015

180° Angle Peel Adhesion at Room Temperature (N/m):

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

Cryogenic Testing: Test Procedure

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

Environment	Test Method	Typical Results
High Temperature	30 days at listed temperature	No visible effect at 90°C (194°F)
Low Temperature	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 100°C (212°F) for 10 minutes	Glass vial : Not Recommended PP centrifuge tube: Recommended Glass microscope slide: May work, must test Flat PP: Recommended

REV. 2 - December 2015

Product Performance and Suitability

The information contained in this document is to be used for guidance only and is not intended for use in setting specifications. All purchasers of Zebra products shall be solely responsible for independently determining if the product conforms to all requirements of their unique application.

For testing of this material, please order from the ZipShip price list or order sample roll SAMPLE66680.

REV. 2 - December 2015