# CryoCool 8000 White

# Low temperature storage and liquid nitrogen labels



## Thermal Transfer

## Description:

CryoCool 8000 White 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 CryoCool 8000 White 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 . CryoCool 8000 White 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

**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

(32ºF to 70ºF) at 35% to 50% RH

**Expected Exterior Life:** 6 months

## 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<br>PP centrifuge tube: Recommended<br>Glass microscope slide: Recommended<br>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<br>PP centrifuge tube: Recommended<br>Glass microscope slide: Recommended<br>Flat PP: Recommended |
| Liquid Nitrogen | 3 cycles of 4 hours at – 196 C (-320 F)/ 20 hours at room temperature | Glass vial : Not recommended<br>PP centrifuge tube: Recommended<br>Glass microscope slide: Recommended<br>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<br>PP centrifuge tube: Recommended<br>Glass microscope slide: May work, must test<br>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<br>PP centrifuge tube: Recommended<br>Glass microscope slide: May work, must test<br>Flat PP: Recommended |

### 180 Degree Peel Room Temperature Peel Adhesion

| **180 Peel (g/in)** | **Steel** | | **Polyethylene** | | **Polypropylene** | |
|---|---|---|---|---|---|---|
| | 5 min | 24 hour | Loop Tack | 24 hour | Loop Tack | 24 hour |
| | 810 | 908 | 360 | 408 | 317 | 408 |

### 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.