

CryoTape® PI Technical Datasheet

Cryogenic Adhesive Tape — Polyimide Tape with Silicone Adhesive

High-Performance Cryogenic Tape for Extreme Temperature Applications

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PRODUCT DESCRIPTION

CryoTape® series from East Far are a family of cryogenic-temperature, lightweight adhesive tapes engineered to secure and bond CryoMLI® series insulation materials in cryogenic environments, including liquid helium (4K) applications. Drawing on thermal control expertise and manufacturing excellence, combined with extensive field experience in aerospace, transport cryogenic vessels, and medical applications, East Far delivers customized solutions to ensure optimal performance under the most demanding conditions. CryoTape® PI features a polyimide substrate with silicone adhesive, offering excellent dielectric strength and the broadest temperature range in the series, with short-term resistance up to 400°C.

PRODUCT CONSTRUCTION

Structure	Polyimide / Silica Gel
Substrate Thickness	0.025 ±0.005 mm
Adhesive Thickness	0.025 ±0.005 mm
Total Thickness	0.05 ±0.01 mm
Length	33 m
Width	10 / 15 / 20 / 25 / 30 / 50 mm
Custom Width	Available (MOQ 2,000 rolls)
Adhesive Type	Silica Gel (Silicone)

Service Temperature: 4K (–269°C) - 573K (300°C)

FEATURES

- ✓ High quality material — Liquid Helium (4K) compatible
- ✓ High temperature resistance — instant max 400°C
- ✓ Excellent dielectric strength (3.5 KV)
- ✓ Solvent resistance
- ✓ Aging resistance
- ✓ Chemical resistance
- ✓ Stable performance across extreme thermal cycling

TYPICAL PHYSICAL PROPERTIES

Note: The following technical information should be considered representative only and should not be used for specification purposes.

Test	Typical Value	Test Method
Breakdown Voltage	3.5 KV	ASTM D149
Tensile Strength	140 N/25mm	PSTC-131
Elongation at Break	62%	ASTM D-3579
Adhesion to Steel	2.4 N/cm	ASTM D-3330
Outgassing (NASA)	%TLM = 1.50, %CVCM = 0.50	ASTM E-595
Shelf Life	36 months from date of manufacture	Internal
Elongation	50-55%	PSTC-131
Max Temperature (1H)	Instant max 400°C / 280-300°C long-term	Application test
Application Temperature Range	4K (–269°C) - 573K (300°C)	Application test

APPLICATION MARKETS

- ✓ Aerospace, aircraft and rocket parts
- ✓ Cryogenic vessels and transfer lines
- ✓ Liquid helium applications
- ✓ Superconducting cables
- ✓ Nuclear fusion cryogenic modules
- ✓ Electrical insulation in cryogenic environments

CLASSIFICATIONS & COMPLIANCE

Fire Safety Properties	
Flame Spread Index (ASTM E84 / UL 723)	≤ 25
Smoke Developed Index (ASTM E84 / UL 723)	≤ 50
UL Classification	Class A (ASTM E84 / UL 723)
UL 94 Rating	VTM-0 (UL 94)
Backing Flammability	Self-extinguishing (Polyimide Film)
Adhesive Flammability	Flame Retardant (Silicone)
UL 510 (PSA Tape)	Class H (180°C) / Class N (200°C)

Standards: Compliant with GB/T 31480-2015 · GB/T 31481-2015 (ISO 201010:2014) · NB/T 47059-2017

STORAGE & SHELF LIFE

- Storage:** Store in a clean, dry place. Recommended conditions: 4 – 26°C (40 – 80°F) and 40 – 50% relative humidity.
- Shelf Life:** 12 months from date of manufacture when stored under recommended conditions.

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