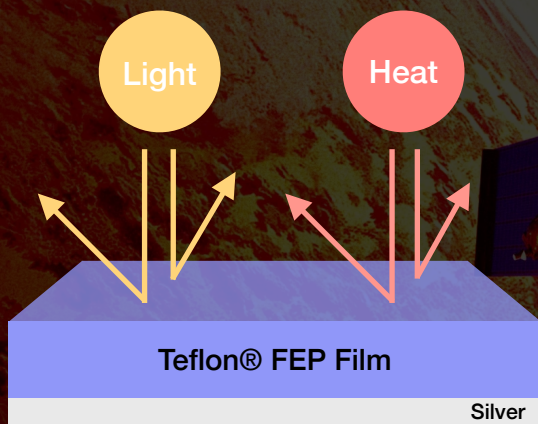
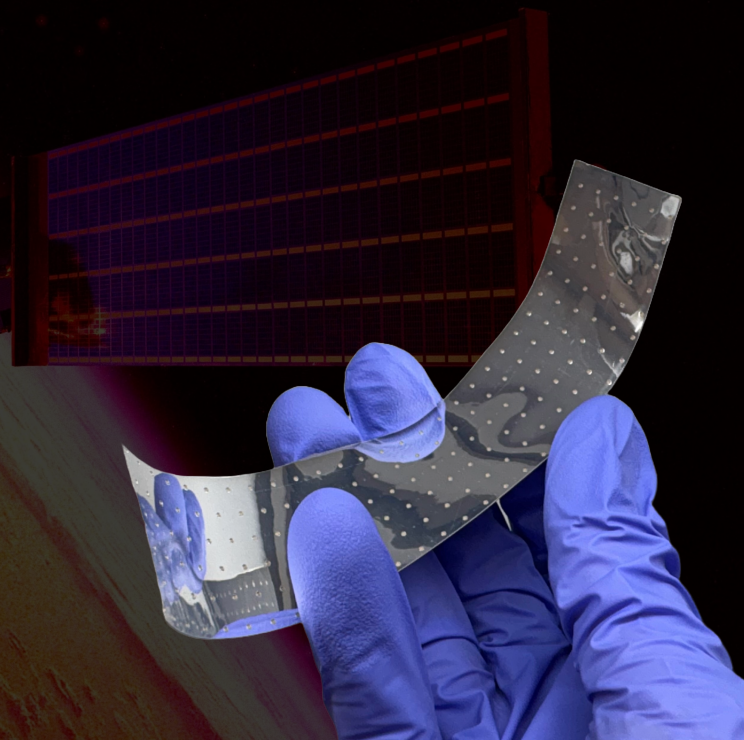




Silver-deposited layer reflects lights and heat

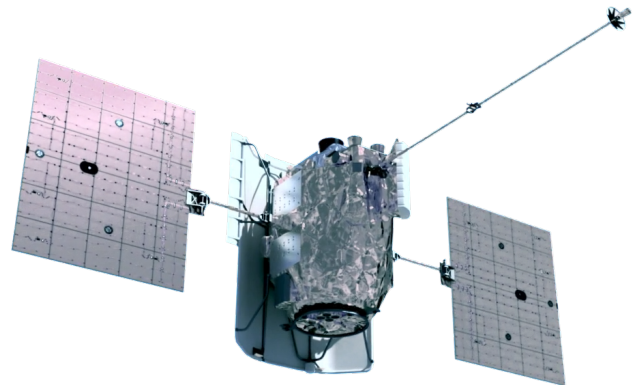


α FEP™

For Space and High Power Performance Applications

SQUID3 Space™ Silver AlphaFEP is a high-performance flexible film radiator technology manufactured for space, cryogenic, and optical applications. Also known as Silver Teflon® or Ag/FEP, SQUID3's Silver AlphaFEP is commonly implemented as a Flexible Optical Solar Reflector (FOSR). From LEO small satellites to mega constellations, Silver AlphaFEP is optimized for bonding on wide-profiled structural panels. On-orbit degradation is well-characterized by NASA, ESA, and JAXA in flight literature.

Manufactured using magnetron sputtering process, silver (Ag), indium tin oxide (ITO), and silicon dioxide (SiO₂) thin films are vacuum deposited onto Teflon® FEP substrates. SQUID3 Space™ Silver AlphaFEP provides excellent thermophysical and optical properties, with high infrared emittance and low solar absorptance values. Silver AlphaFEP incorporates FEP film exclusively extruded from Teflon® FEP 100 resin.



- ☀ Low Solar Absorptance
- ☀ High Reflectance in UV-VIS-NIR
- ☀ High Emittance in Infrared Band
- ☀ Resistance against Atomic Oxygen
- ☀ Low Outgassing per ASTM E-595
- ☀ Available in Roll Formats
- ☀ Easy to Cut to Size
- ☀ 5-Year LDEF Degradation Data

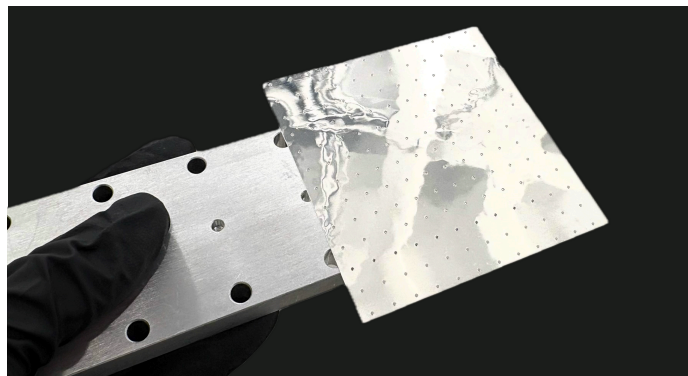


αFEP™ Silver AlphaFEP Tape Technical Datasheet

Physical Properties

Thickness	mil (μm)	10 (254)
		5 (127)
Width*	inches	2
		4
		12
		20

*custom widths up to 48 inches



Standard Configurations

With AO-Resistant Coatings

Part Number	AF500	AF1000	SAF500	SAF1000
FEP Thickness	5 mil	10 mil	5 mil	10 mil
Solar Absorptance	< 0.1		< 0.14	< 0.15
Infrared Emittance	> 0.75	> 0.84	> 0.75	> 0.84
3M™ PSA Type	966		966	
Surface Coatings	None		SiO2	
Perforation	None		None	
Lead Time	6~8 weeks		6~8 weeks	

With Surface Charge Mitigation ITO Coatings

Part Number	IAF500	IAF500-P	IAF500-P-C	IAF1000	IAF1000-P	IAF1000-P-C
FEP Thickness	5 mil			10 mil		
Solar Absorptance	< 0.14			< 0.15		
Infrared Emittance	> 0.75			> 0.84		
3M™ PSA Type**	966	966	9703	966	966	9703
ITO Surface Resistivity	<1,000 Ω/sq					
Perforation***	-	✓	✓	-	✓	✓
Lead Time (weeks)	6~8	6~8	8~14	6~8	6~8	8~14

** 3M 9703 Electrically Conductive PSA enables direct Z-axis electrical grounding from ITO topcoat to spacecraft structure

*** Standard perforation pattern has 0.03~0.06" (0.76~1.5 mm) diameter holes on 0.5" (12.7 mm) centers

3M™ PSA Type	966	9703
Continuous Temperature [°C]	-60 to 120	-60 to 85
Intermittent Temperature [°C]	-185 to 230	-75 to 85

Materials Quality and Traceability

SQUID3 Space™ Silver AlphaFEP Tape is manufactured under a certified ISO9001:2015 Quality Management System facility. Complete material and manufacturing lot records, which include archive samples of finished product, are maintained by SQUID3. All products are shipped with a Certificate of Analysis.

Version 2026/07

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