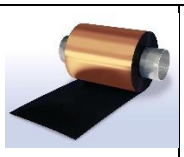
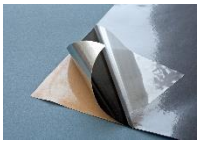
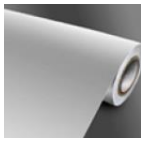
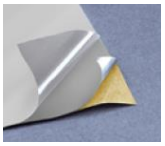
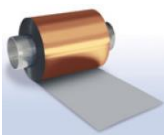
ACKTAR THERMAL MANAGEMENT FOILS AND FILMS

1. Overview

Acktar thermal management films and foils deliver a versatile range of emissivity and solar absorptivity values for passive thermal management in space applications. Space-qualified and engineered for high and low solar absorptance and emissivity ratios, these foils are ideal for use as an outer layer in multi-layer insulation (MLI) or as single-layer insulation (SLI). Available in sheets, rolls, and tapes, they are designed to meet the demanding requirements of space environments.

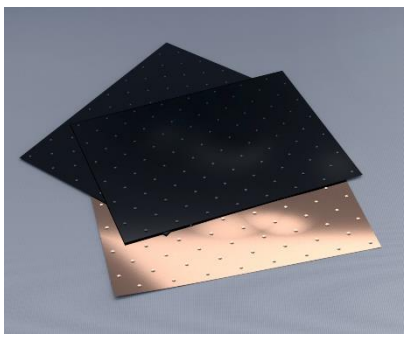
2. Thermo-Optical Properties

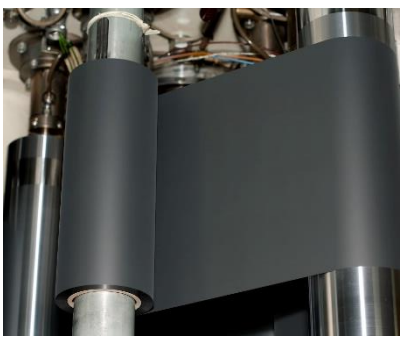
					
	Maxi Black™	**Nano Black™**	**White Standard™**	**Ultra White™**	**Customized**
α	> 0.95	> 0.92	< 0.4	< 0.23	0.05-0.7
ε	> 0.85	< 0.17	> 0.7	> 0.85	0.03-0.9
Typical α/ε	~ 1.12	~ 5.41	~ 0.57	~ 0.27	Customized
Appearance	Diffusive	Specular	Diffusive	Semi diffusive	Customized

3. General Properties

Substrate material	• Polyimide / Aluminum
Coating	• Thickness <5 µm, weight 1 mg/cm^2 • 100% inorganic • Surface resistivity in dissipative range
Certificates	• RoHS, REACH, ISO 9001:2015, AS9100







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4. Available Configurations

		Polyimide	Aluminum
Thickness in mil (µm)		2 (50.8) 3 (76.2)	4 (101.6)
Service temperature (C°)	**Without adhesive**	long term: (-)196° to (+)350°; Short term: up to (+)400°	
	Low-outgassing adhesive	long term: (-)50° to (+)150°; Short term: up to (+)260°	
Delivery formats		• Sheet: 20x30 cm / 20x60 cm • Roll: 20/30 cm width, min. 5 m length • Die cut (Pre-cut): Supplied as tight-tolerance cut to shape labels according to drawing	
Perforation		To facilitate air passage during launch, the film may be perforated. The perforation may be done before/after the coating process, upon request.	

5. Handling and Storage

Cleanliness	• Cleanroom compatible, with delivery tailored to meet ISO Class 9, 8, 5, or 4 per request (ISO 14644-1)
Abrasion Resistance	• Moderate
Cleanability	• Coated foils can withstand cleaning with ethanol, IPA of acetone with no change in optical and technical characteristics. • The coating can also be cleaned with up to 10 bar air pressure.
Storage conditions	• Indoors (temperature approx. 20 Celsius; RH approx. 50%)
Standard shelf life	• Minimum of 12 months after the date of shipment, provided that the material is stored in its original unopened container under the storage conditions

6. Contact Us

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