


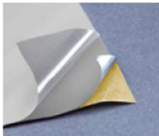
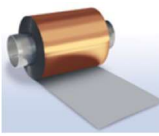


ACKTAR THERMAL MANAGEMENT FOILS AND FILMS

1. Overview

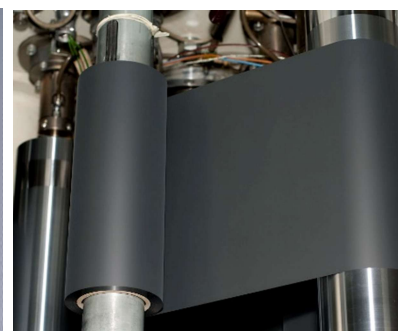
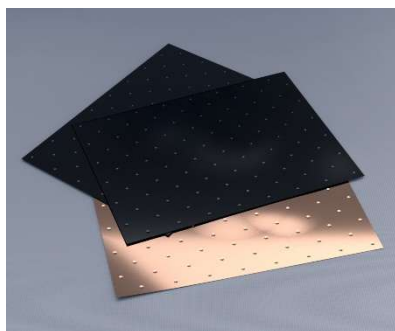
Acktar thermal management films and foils deliver a versatile range of emissivity and solar absorptivity values for passive thermal management in space applications. Space-qualified and engineered for high and low solar absorptance and emissivity ratios, these foils are ideal for use as an outer layer 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	<ul style="list-style-type: none"> Polyimide / Aluminum
Coating	<ul style="list-style-type: none"> Thickness <5 μm, weight 1 mg/cm^2 100% inorganic Surface resistivity in dissipative range
Certificates	<ul style="list-style-type: none"> RoHS, REACH, ISO 9001:2015, AS9100



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		<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Cleanroom compatible, with delivery tailored to meet ISO Class 9, 8, 5, or 4 per request (ISO 14644-1)
Abrasion Resistance	<ul style="list-style-type: none"> Moderate
Cleanability	<ul style="list-style-type: none"> Coated foils can withstand cleaning with ethanol, IPA or acetone with no change in optical and technical characteristics. The coating can also be cleaned with up to 10 bar air pressure.
Storage conditions	<ul style="list-style-type: none"> Indoors (temperature approx. 20 Celsius; RH approx. 50%)
Standard shelf life	<ul style="list-style-type: none"> 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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