

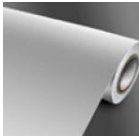
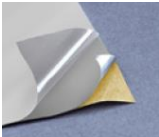
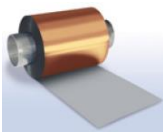
ACKTAR WHITE™

1. Main Features

Acktar White™ space qualified films deliver a range of emissivity and solar absorptivity values for passive thermal management in space applications. These types of coatings are often used in multi-layer insulation blankets, and provide a wide range of features and advantages.

Protective Film	To be removed
White Coating	< 5 µm typical
Polyimide/Aluminum	~25 / ~50 / ~ 75 / ~ 100 µm
Aluminum Layer - Optional	< 1 µm typical
Adhesive layer - Optional	< 60 µm typical

2. Thermo-Optical Properties

Coating type			
	White standard	Diffusive reflective mirror	White customized
Operational wavelengths	VIS-FIR	VIS-FIR	VIS-FIR
α	< 0.4	< 0.2	0.12-0.7
ε	> 0.7	< 0.2	0.03-0.9

3. General Properties

Substrate material	<ul style="list-style-type: none"> Polyimide / Aluminum
Coating thickness	<ul style="list-style-type: none"> <5 µm
Physical	<ul style="list-style-type: none"> Density: 1.95 - 2.08 g/cc Water Absorption: 0.2 – 0.4 %
Mechanical (Without adhesive)	<ul style="list-style-type: none"> Tensile Strength (MPa): <ul style="list-style-type: none"> Polyimide substrate - 138.0 – 79.0 Aluminum substrate – 165 Ultimate Elongation (%): <ul style="list-style-type: none"> Polyimide substrate – 65-83 Aluminum substrate – 2.5 Modulus of Elasticity (GPa): <ul style="list-style-type: none"> Polyimide substrate – 2.0 – 2.8 GPa Aluminum substrate – 69 GPa <p><small>*The above properties are not guaranteed, since in most cases they are averages of various sizes, product forms and method of manufacture.</small></p>
Chemical content	<ul style="list-style-type: none"> 100% inorganic
Surface resistivity	<ul style="list-style-type: none"> 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)		1 (25.4 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°	
	Standard adhesive	long term: (-)40° to (+)121° Short term: up to (+)177°	
	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"> • Class 100 – ISO 5
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