

■ Acktar is a world leader in the development and production of high emissivity Ultra Black coatings for the suppression of stray light throughout the optical spectrum UV-VIS-IR. With the ability to coat most substrates: plastic, glass, ceramics and metals to custom 3D opto-mechanical parts, Acktar is considered a standard of excellence in the field. The coatings are space-qualified, inorganic, thin, RoHS & REACH compliant, biocompatible, low outgassing and more.

■ Acktar offers pre coated opto-mechanical parts such as apertures, slits, beam dumps and Hexa Black designed uniquely for grazing angles.

■ Acktar's coated foils and thin films enable the customer to benefit from Acktar coatings performance without sending the parts to Acktar. This is an ideal solution for very large quantities, over-sized part areas and for contaminated environments where the light absorbing surface needs to be periodically renewed.

We are proud to serve major industries including:

- Space Optics and Satellites
- Security & Defense
- Metrology and Inspection
- Mobile Optics and Micro-Optics
- Automotive
- Bio & Medical

Headquarters

Acktar Ltd.
19 Topaz St.,
P.O.B. 8643;
Kiryat-Gat 8213513, Israel
Tel: +972-8-6814213
Fax: +972-8-6810198
E-mail : info@acktar.com
www.acktar.com

Europe

ACM Coatings GmbH
Rudelsburgpromenade 20 c
06628
Naumburg - Bad Kösen
Tel: +49-34463-621340
Fax: +49-34463-621349
E-mail: info@acktar.de
de.acktar.com

USA

696 San Ramon Valley Blvd. #334
Danville, CA 94526
Tel: +1-510-453-7004
Fax: +1-925-886-8833
E-mail: usa@acktar.com

Japan

Acktar Japan Ltd.
Ichigo Hakozaki Bldg., 1F,
Nihonbashi-Kakigaracho 1-36-5
Chuo-Ku, Tokyo 103-0014
Tel: 03-6778-2845
Mobile: 090-1402-3847
E-mail: gotoh@cpcjp.co.jp
www.jp.acktar.com

Edmund Optics

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The information on this product is based on data obtained by our research and is considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data and the results obtained from the use thereof. This information is furnished upon the condition that the recipient shall conduct tests to determine the suitability of the product for their particular application.

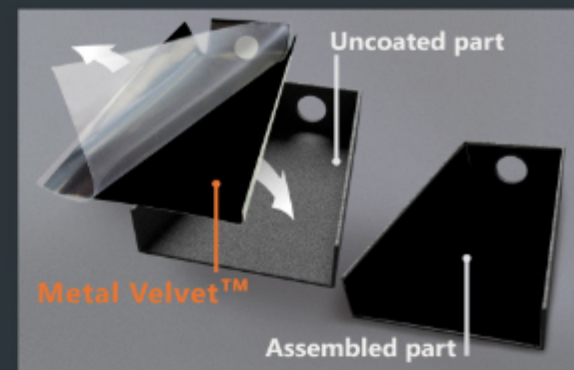
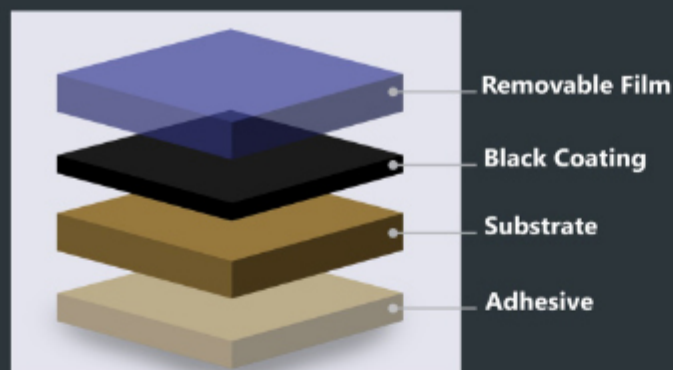
Acktar

Advanced Coatings

www.acktar.com

Acktar Black Thin Films and Foils

HI-TECH ON THE SURFACE



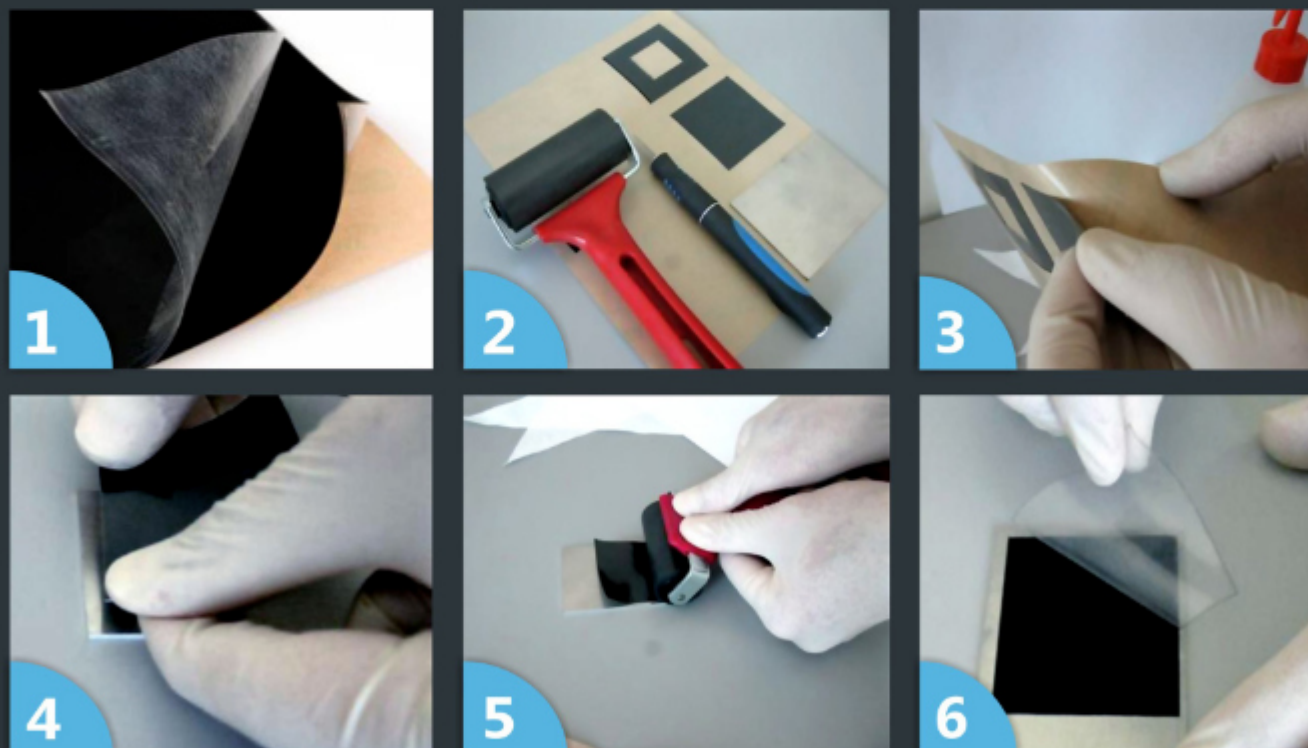
Main Features

- Broadband optical performance
- Broad operational temperature range
- Clean room compatible (ISO 5)
- Low outgassing: CVCN < 0.001
- Biocompatible: no cytotoxicity
- High laser damage threshold (LIDT)
- Cleanable
- Die - cuts and customized labels
- Low-outgassing and high-temperature adhesive options

Typical Applications

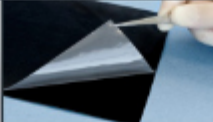
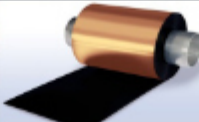
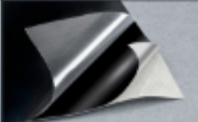
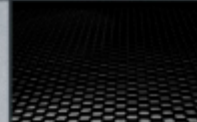
- Optical system housings
- Apertures and baffles
- Beam dumps
- Laser safety screens
- Mobile phone camera parts
- Automotive – cameras and HUDs
- Calibration standards
- Analytical lab arrays
- Space qualified option is available

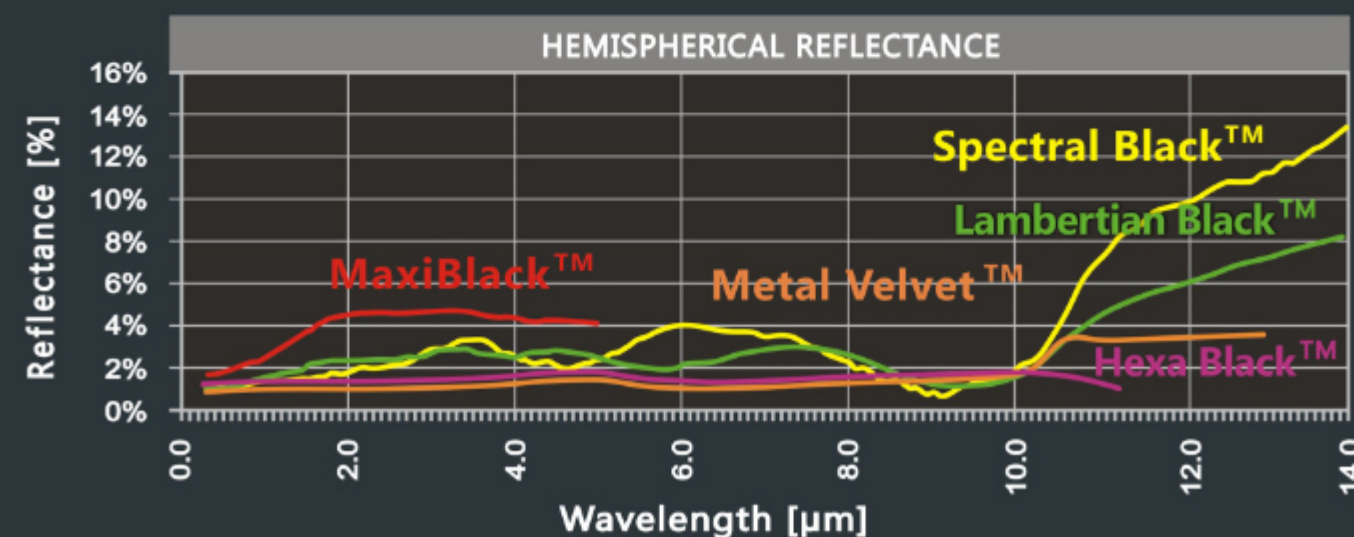
Manual assembly-example



*BRDF data is available in simulation software



Foil Type	Metal Velvet™ Extra Diffusive	Lambertian Black™ Ultra Diffusive	MaxiBlack™ Diffusive Polyimide	Spectral Black™ Semi-Specular	Hexa Black™ Semi-Specular
					
Substrate Material	Aluminum	Stainless Steel	Polyimide (Kapton)	Aluminum	Aluminum Honeycomb
KEY FEATURE	Reflectance ~ 1%	High absorbance at grazing angles	Thin Polyimide	Semi specular finish	Ultra-high absorbance at grazing angles
Thickness	120µm	100µm	25/50/75µm	130µm	2mm
Appearance	Diffusive	Highly diffusive	Diffusive	Specular	Diffusive 3D structure
Typical spectral range	EUV-FIR	EUV-FIR	UV-MWIR	VIS-MWIR	EUV-FIR
AOI range	0 - 60°	0 - 80°	0 - 60°	0 - 45°	0 - 88°
Reflectance normal AOI	≤1%	≤1.5%	≤2.5%	≤2%	≤1.5%
Abrasion Resistance	Light	Moderate to high	Moderate	Moderate	Moderate plus
Cleanliness	Class 10000 - ISO 7	Class 100 - ISO 5	Class 100 - ISO 5	Class 100 - ISO 5	Class 10000 - ISO 7
Self adhesive back	Self adhesive back standard - available without adhesive				
Service temperature	Without adhesive: long term (-)196°C to (+)350°C; short term up to (+)400°C				(-)258°C to (+)250°C
	With standard adhesive: long term (-)40°C to (+)121°C; short term up to (+)177°C				
	With low-outgassing: long term (-)50°C to (+)150°C; short term up to (+)260°C				
Delivery Formats					
Sheet	20x30 cm / 20x60 cm				
Roll	20/30 cm width, any length				
Adhesive	Optional				
Die-cut (pre-cut)	Supplied as tight-tolerance cut to shape labels according to drawing				
Certificates	RoHS, REACH, ISO 9001:2015, AS9100				
					
Storage and Shelf Life					
Storage conditions	Indoors (temperature approx. 21°C; RH approx. 50%)				
Standard shelf life	For best performance, apply adhesive and remove protective film with 12 months				



*Typical data