

**PRODUCT DESCRIPTION**

Removable tape
<b>Acktar Black foil</b>
Adhesive
Liner

Metal Velvet™ has extremely black diffusive appearance. It delivers the lowest in-the-industry reflectance across the spectrum from the EUV thru the VIS to the FIR together with a range of features and advantages.

**MAIN FEATURES**

- ✓ *Wide-band optical performance*
- ✓ *Broad operational temperature range*
- ✓ *No outgassing, CVCM < 0.001*
- ✓ *Biocompatible – no cytotoxicity*
- ✓ *No laser induced fluorescence*
- ✓ *High laser damage threshold (LDT)*
- ✓ *Flexible conformable thin film*
- ✓ *Die cuts /kiss-cuts options*

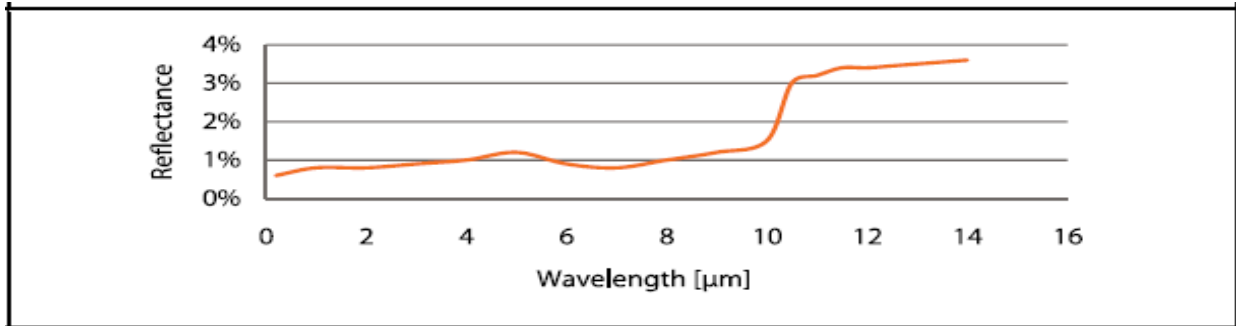
**TYPICAL APPLICATIONS**




**Solution for Stray light, scattered light and low signal to noise problems**

**Opto -Mechanics**  
**Projectors and Displays**  
**Laser Systems**  
**Mobile Phones**  
**Automotive**  
**Life Science**  
**Testing and Metrology**  
**Spectrometry**  
**Vision and Imaging**  
**Inspection**

Housing for optical systems, apertures  
Baffles, DLP, DMD, micro optics  
Beam dumps, safety screens  
Aperture stop, Barrels, IR sensors  
HUD, cover plate for VIS-NIR-IR camera, light guide module  
Low fluorescence array, Lab on a foil  
Calibration standards  
Elimination of scattering light  
Housing and modules  
Low outgassing UV absorbers – contrast and sensitivity increase

## HEMISPHERICAL REFLECTION – Metal Velvet



\* BRDF data available at    simulations software

### SPECIFICATION

<b>Working Temperatures</b>	
without adhesive	long term: -196 °C to +350 °C, short term: up to + 400 °C
with standard adhesive	long term: - 40 °C to +121 °C, short term: up to +177 °C
with low outgassing adhesive	long term: - 40 °C to +150 °C, short term: up to +260 °C
<b>Coating Chemical Content</b>	completely inorganic
<b>Foil Substrate</b>	
material	Aluminum foil - standard
<b>Thickness</b>	total 180 microns nominal applied to surface
coating	5-8 microns typical
adhesive	60 microns typical
foil substrate	115 microns typical
<b>Abrasion Resistance</b>	light – should not be rubbed or scratched
<b>Humidity Resistance</b>	MIL-C- 48497A
<b>Storage and Shelf Life – adhesive limited</b>	
storage conditions	indoor conditions (temperature approx. 21 <sup>0</sup> C; RH approx. 50%)
standard shelf life	To obtain best performance, applied adhesive and remove protective within 12 months from shipment.
<b>Cleanability</b>	compressed dry air or nitrogen
<b>Delivery Formats</b>	standard – sheets 200 or 300 mm width
<b>Additional Options</b>	
	die-cuts per customer drawing
	Hi-temp adhesive 180°C long term

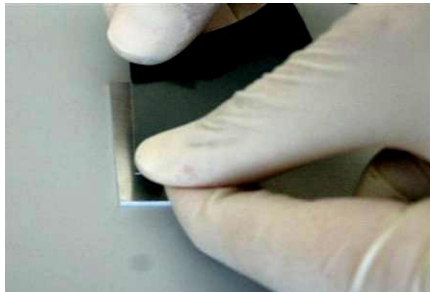
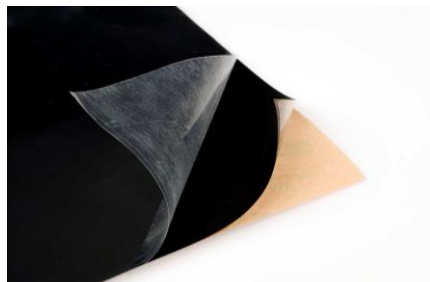


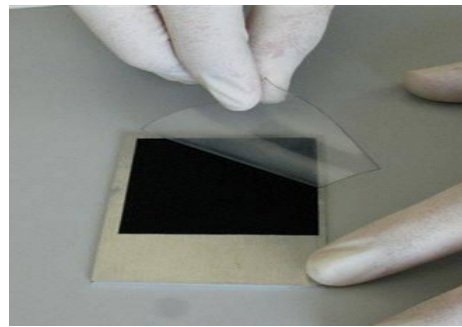
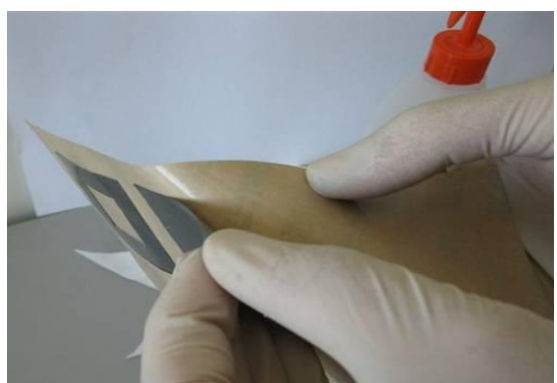
\*All data should be considered typical/representative only

**Limited Warranty:** For a period of 6 months from the date of first sale, Acktar warrants this product(s) to be free from defects in manufacturing. Our obligation will be to provide replacement product for any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risks, if any, including the risk of injury, loss or damage, whether direct or consequential, arising out of the use, misuse or inability to use this product(s). ACKTAR disclaims any and all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose.

The contents of this document are copyright © Acktar Ltd. and must not be used, copied, or disclosed to any third parties without prior written permission from Acktar Ltd.

## Application instruction – Step by step

To ensure best performance of the taped labels from storage to application, we recommend on the following procedures:

<p><b>(1) Storage</b> Room temperature dry conditions - protected from direct UV light (sunlight)</p> <p><b>Surface Preparation</b> The surface, on which labels are to be taped, must be clean, dry, and free of oil and dust. Recommended cleaning solutions are IPA and Ethanol</p>	<p><b>(5) Edge Attachment</b> Align and apply one edge of the bare adhesive to the surface - making sure that it is firmly attached with no loose regions</p> 
<p><b>(2) Structure</b> – from top to bottom:</p> <ol style="list-style-type: none"> <li>removable protective layer</li> <li>coated foil</li> <li>adhesive layer</li> <li>adhesive release liner</li> </ol> 	<p><b>(6) Preform Attachment</b> Attach the film to the surface using a roller</p> 
<p><b>(3) Tools</b> sharp knife, roller, powder free latex gloves</p> 	<p><b>(7) Protective Layer Freeing</b> Separate a corner of the protective film and Strip off the protective layer.</p> <p>*Clean coating with Dry air /N2 purging</p> 
<p><b>(4) Adhesive Release Liner Removal</b> Gently release the black film from liner.</p> 	<p style="text-align: center;"><b>Think Acktar Think Black!</b></p> <p><b>For complex shape or parts –please consider our direct coating applications. Acktar coating can be applied directly to any substrate material.</b></p> <p style="text-align: center;"><b>Looking forwards to your feedback!</b></p> <p style="text-align: center;"><a href="http://www.acktar.com">www.acktar.com</a></p>