Let's Talk

Contact us to find out more about Acktar Coatings and solutions which best serve your current and future business needs.

www.acktar.com

About Acktar

Acktar is a world technology leader in the development, industrialization and production of black light absorbing coatings that deliver unequalled levels of performance in many applications.

The unique qualities of the Acktar coatings are produced using proprietary vacuum deposition processes which yield extremely high specific surface areas with closely controlled morphology.

These proprietary coatings are ecologically clean and in many cases replace traditional etching, graining, and anodizing processes which are sources of pollutants and toxic substances.

Acktar coatings can be applied to discrete parts or to roll material up to 50cm wide.

Acktar Advanced Coatings

Acktar Coating Microstructure - SEM image

1µm

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Acktar Black™

World's Blackest Coatings

By Industrial Vacuum Deposition Technology

Acktar
Advanced Coatings

Applications

- Stray light absorption / suppression - UV, visible, IR
  - IR detector cold shields
  - Space-borne optical systems
  - Detector and optical system parts – cooled and un-cooled
  - Sharp edged diaphragms & blades
  - Wafer level packaging, MEMS
- Also available as coated roll material – with or without self-adhesive backing
- Black bodies, laser energy meters, thermal radiation detectors
- Passive thermal control coatings with tailored absorptance/emittance - black, white, or selective
- Black layers for contrast enhancement in displays and LED modules
- Solar energy absorbers
- Applications requiring ultra-high specific surface area
  - High performance capacitor / battery electrodes
  - Nano porous materials

Features and Advantages

- completely inorganic
- thin
  - conforms to sharp edges
  - enhances compliance with part tolerances
  - low coating mass
- extremely low outgassing
- wide-range thermal stability
- excellent adhesion to metals, glass, ceramics, polymers
- high vibration stability
- abrasion resistant
- high resistance to solvents (acetone, alcohol)
- tailored thermal conductivity
- tailored electrical conductivity
- excellent bonding base for adhesives
- no particulation
- resistant to ATOX, Space radiation, DUV
- environmentally clean process
- biocompatible

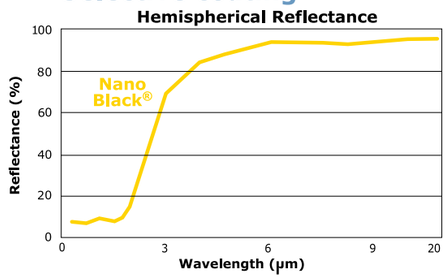
Characteristics of Acktar Black™ Coatings (Typical)

Coatings can be applied directly on discrete components and on roll material

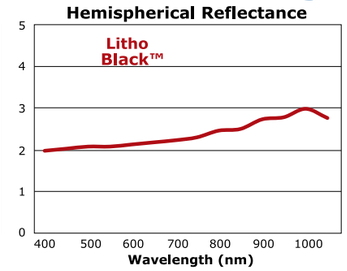
		Nano Black®	Magic Black™	Vacuum Black™	Fractal Black™	Ultra* Black™	Litho Black™	Metal** Velvet™
Coating thickness, µm		0.3 - 1	4 - 7	3 - 5	5 - 14	13 - 25	0.8 - 2	5 - 7
Working temperature		-70ºC to 250ºC	-269ºC to + 350ºC (4ºK to 623ºK)					
Weight of coating, mg/cm²		0.1 - 0.25	1.1 - 1.6	0.7 - 1.1	1.6 - 3.2	3.3 - 6.5	0.1 - 0.25	1.4 - 3.2
Abrasion resistance (ref MIL-C-48497A)		moderate	light	moderate	moderate	moderate	moderate	light
Adhesion (ref ECSS-Q-70-13A)		Coated pieces withstand scotch tape test (3M853 Crystal clear tape, strength of 13N per 25mm), without any evidence of coating removal.						
Outgassing (ref ECSS-Q-70-02A)	**CVCM, %**	0.001						
	RML, %	0.2						
Chemical content		completely inorganic						
Surface resistivity		≤2X10⁶Ω/□						
Cleanability		Coated pieces withstand cleaning with ethanol, IPA or acetone with no change in optical and technical characteristics. Magic Black*, Metal Velvet* and Litho Black* should be cleaned very gently.						

* Ultra black can be provided on planar parts only
** Metal Velvet can be provided only as roll / sheet material

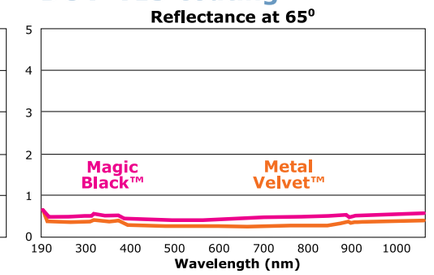
Selective coating



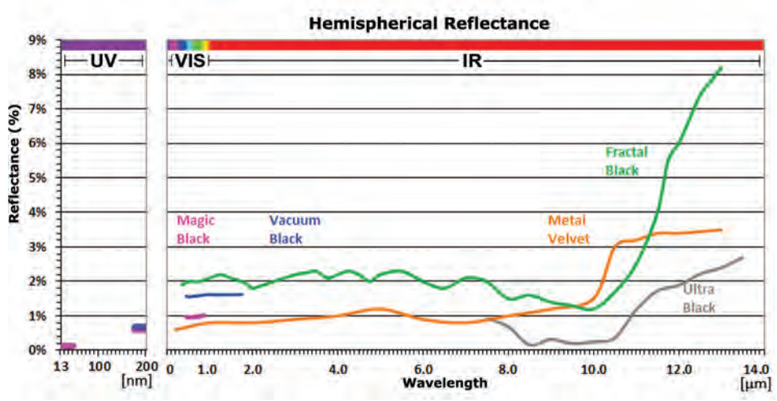
Patternable coating

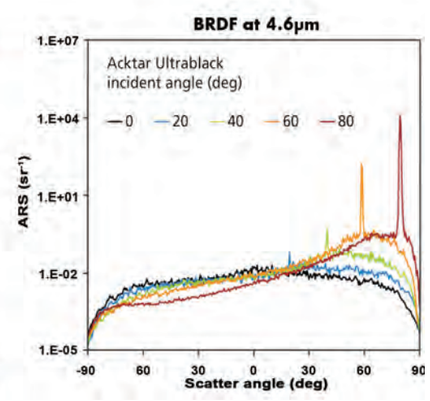


DUV-VIS coating



Low reflectance coatings





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