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A Milestone in Black Coatings:

The World's Blackest Black is Now Available in "Running Meters"

Acktar announced completion of its preparations for the industrial scale production of foils coated with its Metal Velvet™ ultra-absorbing black coating for use over the entire spectrum from the EUV through the FIR. This light blocking material can now be obtained in running-meters.

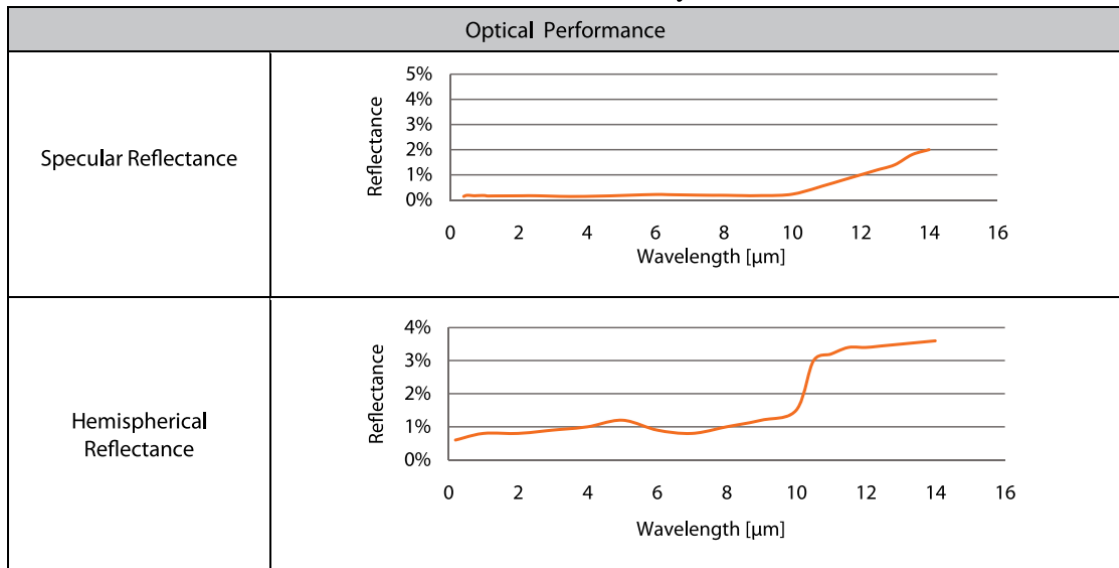
Ram Magril - Chief of the Roll Coating Department at Acktar's Kiryat-Gat factory - said: "Our mission was to ensure that this high-performance coating would be as accessible as a can of black paint while maintaining the unique and outstanding optical performance of Acktar's directly-applied black coatings. With specular absorptance as high as 99.99% and its wide-band performance, Acktar's Metal Velvet™ coated light-absorbing foil is by far the best stray-light and scattered-light absorbing / suppressing material available to optical engineers".

The coated foil can be supplied with or without self-adhesive backing and either in roll or cut-sheet format. Pre-cut performs can be prepared for high-volume applications. Of course – Acktar continues its service for the direct application of its black coatings to customer parts.

Dr. Helmut Erhart, Head of ACM Coatings GmbH, Acktar's subsidiary in Germany, says: "This is a real challenge to the industry – mass production of such low reflectivity material not only enables reasonable pricing for industrial consumers, but also sets a new standard for the entire optics industry."

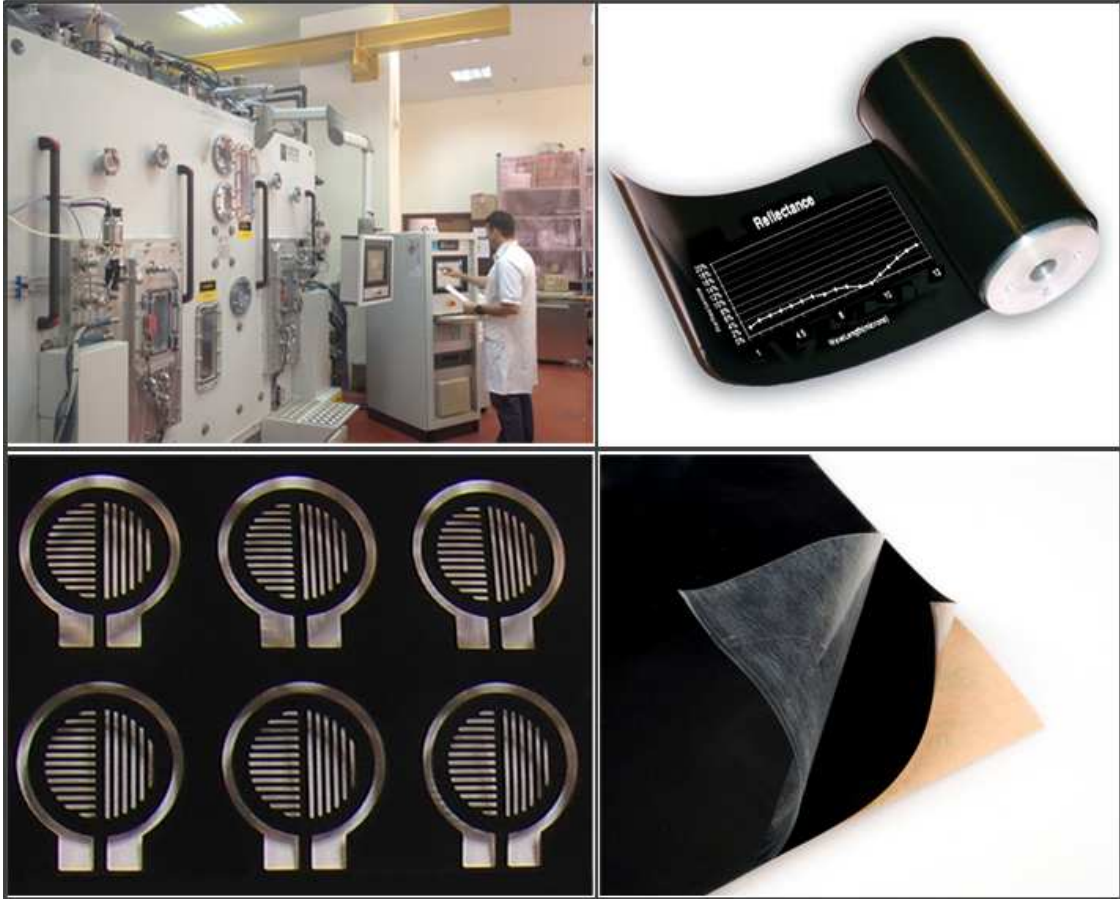
Metal Velvet™ - developed by Acktar scientists several years ago - may be the "blackest" inorganic material on earth with a total hemispherical reflectance under 1% across the entire EUV to FIR range. The coating shares with other Acktar high emissivity coatings a unique list of attributes – including ultra-high-vacuum compatibility, extremely low outgassing and high thermal stability from 4-623°K - which makes them eminently suitable in a wide variety of application areas – terrestrial, airborne and satellite-borne optical systems. Examples are: Telescope housings and baffles, light shields and cold shields for IR detectors; optical packaging; laser systems; inspection systems; medical devices; instrumentation; and passive thermal management – among others.

Metal Velvet Reflectivity Data



An attribute of Acktar Black coatings, which is critical in the laser industry and in UV optics for the semiconductor industry, is its very high damage threshold. By comparison, it is advantageous to use Acktar coated foils over standard commercial flock papers and black fabric / applique, which cannot endure laser. Dr. Klaus Mann, Head of the Optics Department at Laser-Laboratorium-Göttingen in Germany measured the LIDT in the EUV of Acktar coatings and wrote “It is really on the high side, even higher than fused silica or CaF₂!”

Acktar’s coated foil is easily applied by the end-user to virtually any surface - metals, glass, ceramic, polymers and more. The foil comprises four layers: a release liner, an adhesive layer (optional), a metal foil substrate coated with a very thin black coating layer, and a removable surface protection film. The adhesive and foil substrates are available in various options to suit application requirements.



[Acktar Advanced Coatings](#) was established in 1994 in Kiryat Gat, Israel. Acktar's core competence is the development and manufacture of high specific surface area coatings and its main products are extremely black optical coatings. The optical coatings can be deposited directly on virtually any substrate material and can achieve absorptance (specular) of above 99% in the UV, VIS and IR spectra. Acktar's coating processes are totally environmentally friendly and the coatings are in use by leading companies throughout the world in applications such as optical equipment, IR sensors / systems, aerospace systems and solar thermal absorbers. Acktar subsidiaries are located in Germany (ACM Coatings GmbH) and in Japan.