VANTABLACK® S-IR

INFINITY SERIES INFRARED BLACKBODY SOURCES

exclusively offered by

SBIR
SANTA BARBARA INFRARED, INC.
a HEICO company

Exclusive global distributor for blackbody systems

ULTRA HIGH EMISSIVITY COATINGS FROM UV TO FIR

VANTABLACK®

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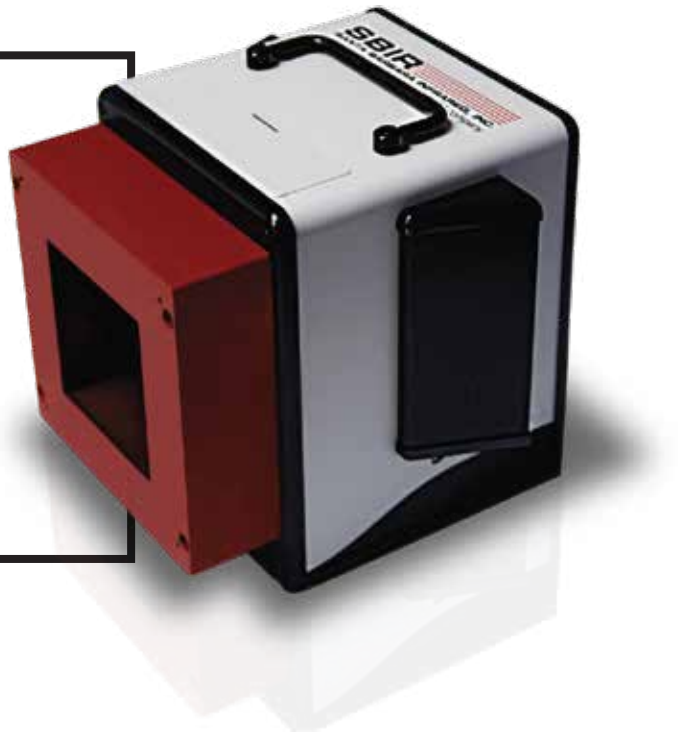
VANTABLACK®S-IR Overview

Santa Barbara Infrared (SBIR) and Surrey NanoSystems (SNS) have partnered to offer VANTABLACK®S-IR blackbody sources, making SBIR the exclusive global supplier of extended-area blackbody sources with unparalleled emissivity and radiometric accuracy. The emitter plates in these sources feature a carbon nanotube (CNT) based coating with remarkable light-trapping properties. This ultra-black coating was developed by SNS to satisfy a broad range of applications requiring surfaces with extremely low reflectance. The resulting blackbody sources support higher accuracy infrared (IR) radiometric calibrations than were previously unachievable. It offers superior, near Lambertian performance across the visible thru infrared spectrums. The coating is applied using a proprietary spray process which permits its application to a wide range of substrate materials and complex shapes. SBIR and SNS are also offering the coating for applications to reduce stray light in optical and IR imaging systems.

Key Coating Features

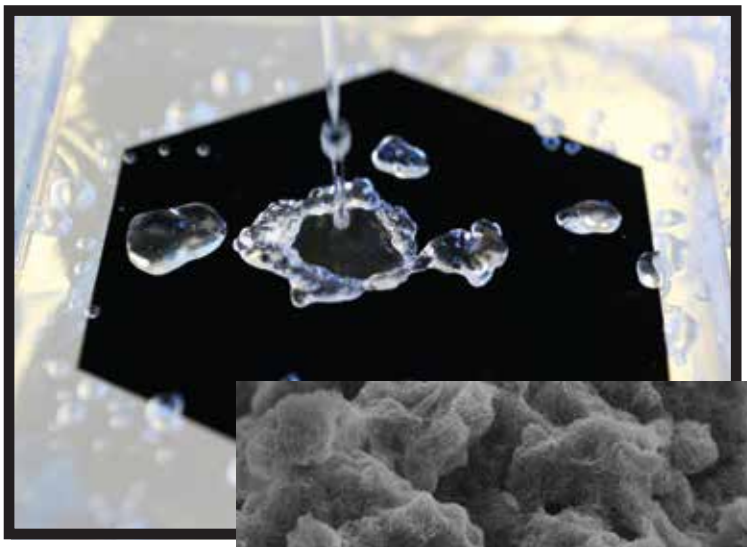
- The world's blackest sprayable coating
- Extremely low reflectivity across UV-VIS-IR
- Excellent BDRF performance
- No outgassing
- Extremely resilient to shock & vibration
- Wide operating temperature range
- Vacuum compatible
- Hydrophobic: no change to physical or optical properties after exposure

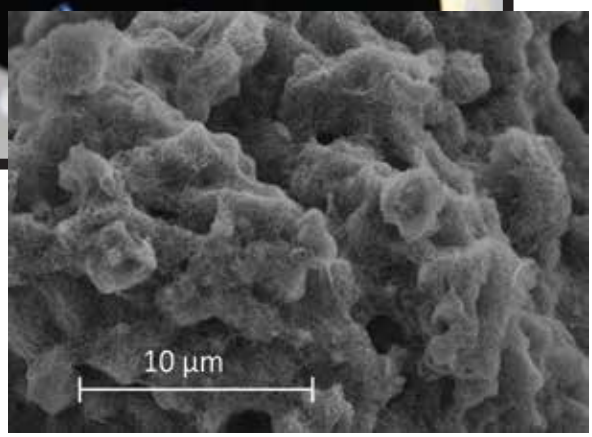


Other Applications

- Infrared Cameras & Sensors - Stray light, cold shields, baffles, lens barrels, NUC flags
- Electro-Optical Systems - Stray light baffles, apertures, housings, black or level reference
- Satellite Systems - Cavity blackbodies, star-tracker baffles, thermal control
- Metrology - Stray light and calibration standards for interferometers, spectrometers, radiometers
- Digital Cameras & Astronomy - Stray light control, apertures, lens barrels, housings
- Mobile Telephones - Camera apertures
- Automotive - Cameras and HUD systems, instrument panels
- Digital Projection - DMD shutters, light dump, baffles, stray light control, uniformity standards

VANTABLACK®S-IR hydrophobic testing on aluminum

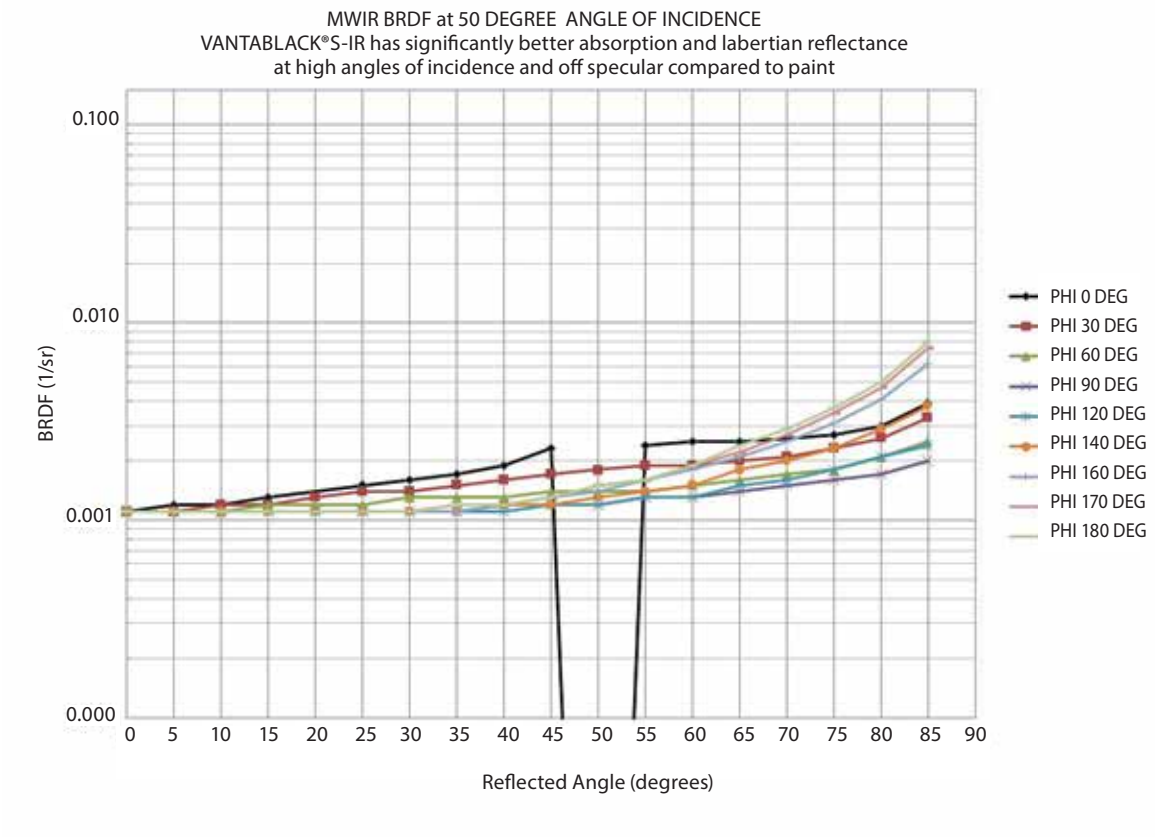


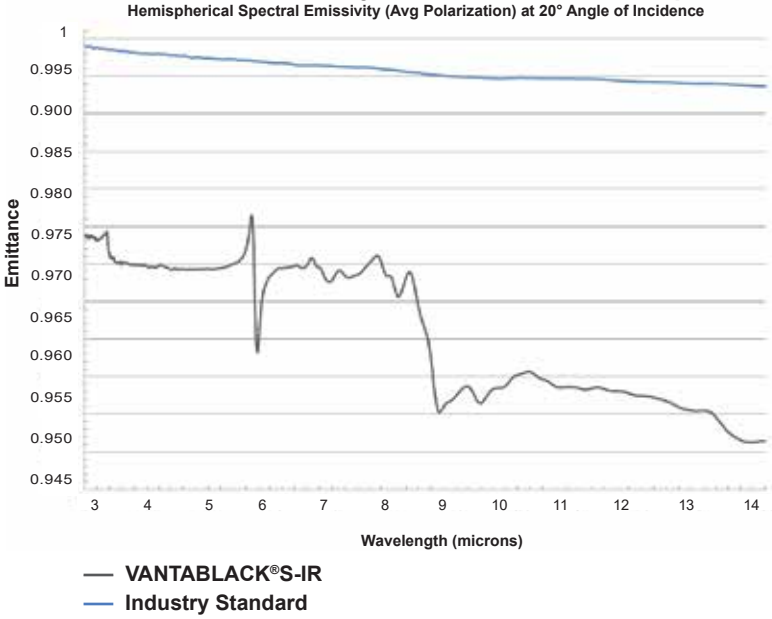


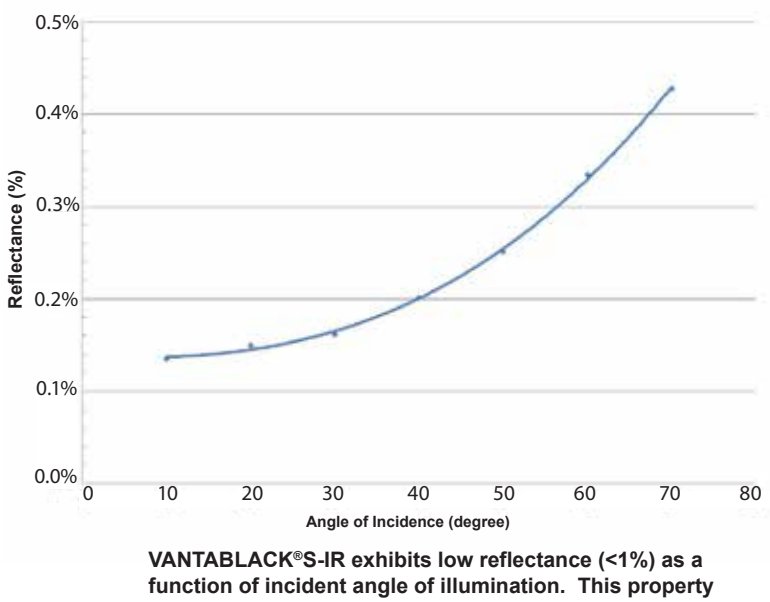
VANTABLACK®S-IR scanning electron microscope (SEM)

VANTABLACK®S-IR Blackbody Specifications

Blackbody Aperture Sizes	custom
Emissivity (Average)	> 0.998% MWIR, >0.995% LWIR







VANTABLACK®S-IR exhibits low reflectance (<1%) as a function of incident angle of illumination. This property is important for stray light control and cold shield design performance.

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