

National Bureau of Standards

Certificate

Standard Reference Materials

2001, 2002, 2003, 2004

Aluminum on Glass

(Standard for Specular Spectral Reflectance)

These Standard Reference Materials are for calibrating equipment used in evaluating the thermal radiation properties of materials. The mirrors were prepared by fast vacuum deposition of aluminum on fine-annealed borosilicate glass, the surface to be coated being flat to about 27 nm. The mirrors are prepared in four sizes.

<u>SRM No.</u>	<u>Size of blank (cm)</u>	<u>Coated Area (cm)</u>
2001	7.6 × 10.2 × 1.9	5.1 × 7.6
2002	3.8 × 3.8 × 1.3	2.5 × 2.5
2003	disk: 2.9 diameter × 1.0 thick	entire surface
2004	disk: 2.4 diameter × 0.6 thick	entire surface

Each mirror is certified for near-normal (9°) specular reflectance at wavelengths ranging from 0.2537 to 30 micrometers and at corresponding resolved bandwidths from 1.0 to 1800 nanometers. The precision measure (σ_m) is the standard deviation of the mean of six replicate measurements. The certified values are given on the attached sheet. Details of experimental techniques used will be described in an NBS 260 publication.

Measurements of reflectance and other experimental work leading to the certification of these Standard Reference Material were performed by J. C. Richmond, and J. J. Hsia of the Heat Division, Institute for Basic Standards, National Bureau of Standards.

Washington, D. C. 20234
April 16, 1971

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