

209.1 - Diffraction and Scattering

SRMs 656, 676a, 674b, 1878b and 1879b consist of high phase purity materials for use in the quantitative analysis of samples by the internal standard method. SRM 656 consists of a combination of the α and β polymorphs; one is high in the α phase content (α 656), while the other contains a larger amount of the β polymorph (β 656). SRMs 640e, 660c, 675, and 1976b consist of materials with select crystallographic and microstructure properties used in the evaluation of diffraction equipment for the following variables; 1) d-spacing or line position, 2) line or instrument intensity, and 3) instrumental or sample contributions to the shape of reflection profiles. SRM 1976b, a sintered alumina plate, is also certified with respect to lattice parameters as well as 13 relative intensity values from 22° to 155° 2 θ (Cu K α). SRM 1990 is certified for lattice parameter.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	640f	656	660c	674b	675	676a	1878b	1879b	1976c	1979	1990	2000	3600
Description	Line Position and Line Shape Standard for Powder Diffraction (Silicon Powder)	Silicon Nitride Powders (Quantitative Analysis Powder Diffraction Standard)	Line Position and Line Shape Standard for Powder Diffraction (Lanthanum Hexaboride Powder)	X-Ray Powder Diffraction Intensity Set (Quantitative Powder Diffraction Standard)	Line Position, Mica (XRD)	Alumina Powder (Quantitative Analysis Powder Diffraction Standard)	Respirable Alpha Quartz (Quantitative X-Ray Powder Diffraction Standard)	Respirable Cristobalite (Quantitative X-Ray Powder Diffraction Standard)	Instrument Response Standard for X-Ray Powder Diffraction	Powder Diffraction Line Profile Standard for Crystallite Size Analysis (Nano-Crystalline ZnO Powder)	Single Crystal Diffractometer Alignment Standard - Ruby Sphere	Calibration Standard for High-Resolution X-Ray Diffraction	Absolute Intensity Calibration Standard for Small-Angle X-ray Scattering
Unit Size	(7.5 g)	(2 x 10 g)	(6 g)	(10.00 g (powder))	(7.5 g)	(20 g)	(5 g)	(5 g)	(1 disc)	(2 x 3 g)	(3 spheres)	(1 block)	(coupon)

Application	Line Position Line Shape	Quantitative Analysis	Line Position Line Shape	Quantitative Analysis	Line Position - Low 2 θ	Quantitative Analysis	Quantitative Analysis	Quantitative Analysis	Line Position, Intensity, 2 θ	Line shape Crystalline size	Quantitative Analysis	Line Position	Small-angle scattering intensity
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- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only