

Relative Intensity Correction Standard for Raman Spectroscopy: 532 nm Excitation

Art. ID	NIST-2242a
Unit	each
Deliverydetails	No Dangerous Good

Description

This Standard Reference Material (SRM) is a certified spectroscopic standard for the correction of the relative intensity of Raman spectra obtained with instruments employing 532 nm laser excitation. A unit of SRM 2242a consists of an optical glass slide that emits a broadband luminescence spectrum when excited at 532 nm. This SRM is approximately 10 mm in width × 10 mm in length × 1.65 mm in thickness, with both surfaces optically polished, and furnished with two mounts. The relative spectral intensity of the glass luminescence has been determined using a white-light, uniform-source, integrating sphere calibrated at NIST for its irradiance. The shape of the mean luminescence spectrum of this glass is described by a mathematical expression that relates the relative spectral intensity to the wavenumber (cm⁻¹) expressed as the Raman shift from the excitation laser wavelength. This model, together with a measurement of the luminescence spectrum of the standard, can be used to determine the spectral intensity response correction that is unique to each Raman system. The resulting instrument intensity response correction may then be used to obtain Raman spectra that are largely free from instrument-induced spectral artifacts