

Didymium – UV and Visible Wavelength

Description: Didymium (neodymium & praeosodymium) in perchloric acid.

Primary Usage: Assessment of wavelength scale accuracy in both UV and visible regions.

Useable range: 290 nm to 870 nm, instruments with SBW of less than 5 nm.

Physical Configuration: Far UV quartz cells that have been permanently heat sealed.

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Product Description:

Didymium glass has been used for many years as a high wavelength visible reference material. When prepared in perchloric acid, didymium gives a spectral scan containing a series of sharp characteristic peaks that extend well above the useable range of the holmium into the near NIR (680-900 nm). Again, like holmium, these values are dependent and will vary with the spectral bandwidth of the measuring instrument.

RM-DL:

Consists of one sealed cell, with certified peak at spectral bandwidth values of 0.10 nm, 0.25 nm, 0.50 nm, 1.00 nm, 1.50 nm, 2.00 nm and 3.00 nm.

Typical values obtained:

SBW	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
0.10	864.35	799.18	794.13	740.06	731.57	575.19	521.82	511.81	481.65	468.78	444.05	353.83	328.92	298.24
0.25	864.32	799.63	794.16	740.08	731.57	575.14	521.81	511.83	481.64	468.80	444.06	353.82	328.99	298.25
0.50	864.32	799.63	794.12	740.02	731.56	575.12	521.76	511.85	481.63	468.76	444.04	353.81	328.74	298.24
1.00	864.40	798.99	794.08	740.04	731.63	575.04	521.56	511.87	481.67	468.66	444.01	353.80	328.78	298.29
1.50	864.34	799.83	794.09	740.02	731.74	574.87	521.38	511.90	481.70	468.61	443.96	353.82	328.79	298.51
2.00	864.37	799.63	794.09	740.17	731.92	574.87	521.38	511.90	481.70	468.48	443.88	353.83	328.82	298.52
3.00	864.37	799.63	794.09	740.34	732.48	574.98	521.38	511.57	481.64	468.25	443.73	353.53	328.84	298.79

All Starna® didymium Certified Reference Materials are manufactured using procedures similar to those used in the preparation of our Holmium Oxide Reference Material (RM-HL). After filling under controlled conditions, the cells are then permanently sealed by heat fusion and the values certified by the procedure described below.

Calibration procedure:

Traceability:

- Primary instrumental wavelength calibration is established using the emission lines from mercury and deuterium sources.
- Additional traceability links to NIST primary materials are established using SRM 2034 holmium oxide (4% m/v) in perchloric acid (10% v/v).

Use:

- All appropriate fundamental parameters and procedures relating to measurement, handling and storage are fully documented on the certificate supplied with each Certified Reference Material.

