



Starna scientific  
'Setting the Standard'

Quality Assurance in the Analytical Laboratory

## Spectrophotometer Visible Wavelength/Absorbance Qualification Didymium Oxide/Neutral Density Combination Filter

### Purpose

This filter is a useful tool for routinely checking the wavelength and absorbance accuracy of a visible spectrophotometer. Like its liquid counterpart, the didymium glass filter produces characteristic peaks that make it suitable for use as a wavelength reference material in the visible region of the spectrum. In this filter, the didymium is optically bonded to a neutral density filter giving a nominal 1A background absorbance that can be used to check the absorbance accuracy of the instrument

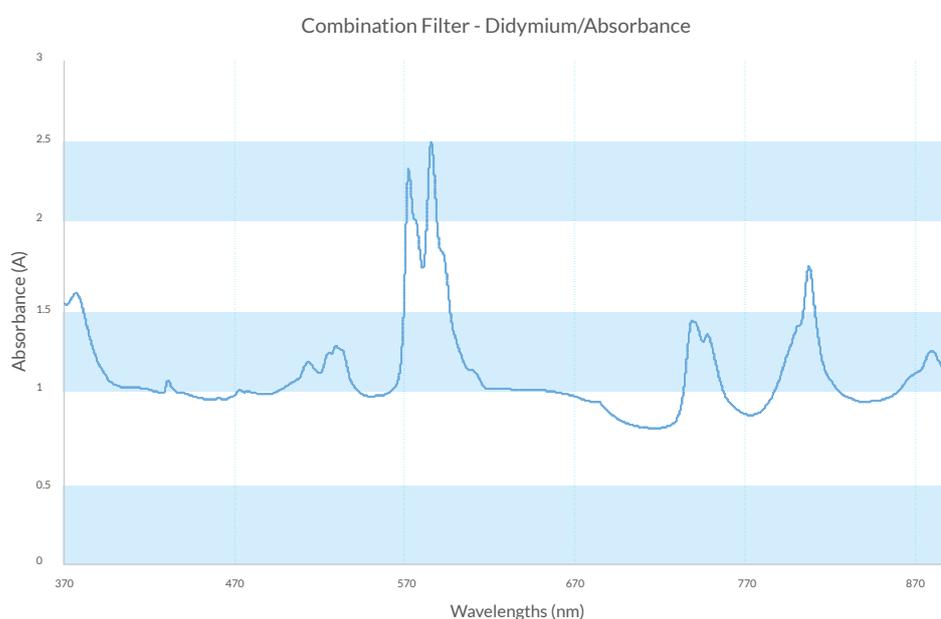
### Description and Discussion

Glass filter containing didymium (a mixture of neodymium & praseodymium) oxide, optically bonded to a neutral density filter and mounted stress free in an anodised aluminium



holder. Sliding window covers are provided to protect the surface from damage when not in use. Variations from melt to melt of the glass can cause small uncertainties in peak position, so each Starna filter is individually certified.

9 characteristic and well-defined peaks can be certified, covering the wavelength range from 430 nm to 890 nm. This spectrum is superimposed on a constant background absorbance, nominally 1A.



# Spectrophotometer Visible Wavelength/Absorbance Qualification

## Didymium Oxide/Neutral Density Combination Filter

9 peak wavelengths are certified at nominal values of 473, 514, 530, 572, 586, 739, 748, 807 and 879 nm.

**Note: The above values are for guidance only. The Calibration Certificate accompanying each Starna Didymium Glass Reference gives actual values measured at a bandwidth of 1 nm and only these certified values should be used for instrument qualification. On request, Starna can provide certified values at other wavelengths and bandwidth values.**

The absorbance values, nominally 1A, are certified at wavelengths between the didymium peaks, at 410, 455, 550, 637 and 773 nm.

### Certification and Documentation

A Certificate of Calibration and Traceability and full instructions for use are provided with each Reference Material. The certificate is supplied in electronic format, on a USB drive in the same box as the references, allowing hard copy to be produced on demand and giving easy interface to the user's own IT systems. Certification measurements are made on a reference spectrophotometer that has been qualified using Standard Reference Materials certified by the National Institute of Standards and Technology (NIST) in the USA, or against primary physical references such as elemental emission lines.

### How to Order

	CATALOGUE NUMBER
Didymium /Neutral Density glass filter	RM-DG/1ND

### Accreditation

Starna Scientific is accredited to both ISO 17034 as a Reference Material producer, and ISO/IEC 17025 as a Calibration Laboratory for optical reference measurements. Starna Scientific's manufacturing facility is accredited to the ISO 9001 Quality Management System with BSI. For details see [www.starna.com/accreditations](http://www.starna.com/accreditations).

### Warranty

STARNA offers a Lifetime Guarantee on all Starna Certified Reference Materials, unless otherwise stated, such that any reference material that moves outside its published uncertainty budget will be replaced free of charge. This guarantee is subject to the reference materials being re-certified at least every two years and that the references have not been physically, thermally or optically abused. The STARNA UKAS accredited calibration laboratory aims to re-certify and despatch references within five working days from receipt.



**Starna** scientific  
'Setting the Standard'

[www.starna.com](http://www.starna.com)  
[sales@starna.com](mailto:sales@starna.com)  
+ 44 (0) 20 8501 5550