



Multi-spectral Filter

Catalog

01

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Spliced Multispectral Filters

02

—

Photolithography Multispectral Filters



01

Spliced Multi-spectral Filters



Manufacturing Principle

Fabricating a multispectral filter by dicing and stitching multiple single-band filters.

Technical Difficulties



Controlling the parallelism between individual channels



Suppressing optical crosstalk at the boundaries



Ensuring the Mechanical Strength and Reliability of the Bonded Assembly

Core Advantages



Enables the stitching of multiple spectral channels.



Applications



Spaceborne Remote Sensing



Imaging Spectrometer



Medical Multispectral Imaging (MSI)

Specifications

400-2400 nm

Center Wavelength

>92 %

Peak Transmittance

20-100 mm

Dimension

Full Width at
Half Maximum
(FWHM)



7-400nm

Blocking Range



300-1200nm
/ 900-
2400nm

Optical Density
(OD)



>OD3

Splice
Accuracy



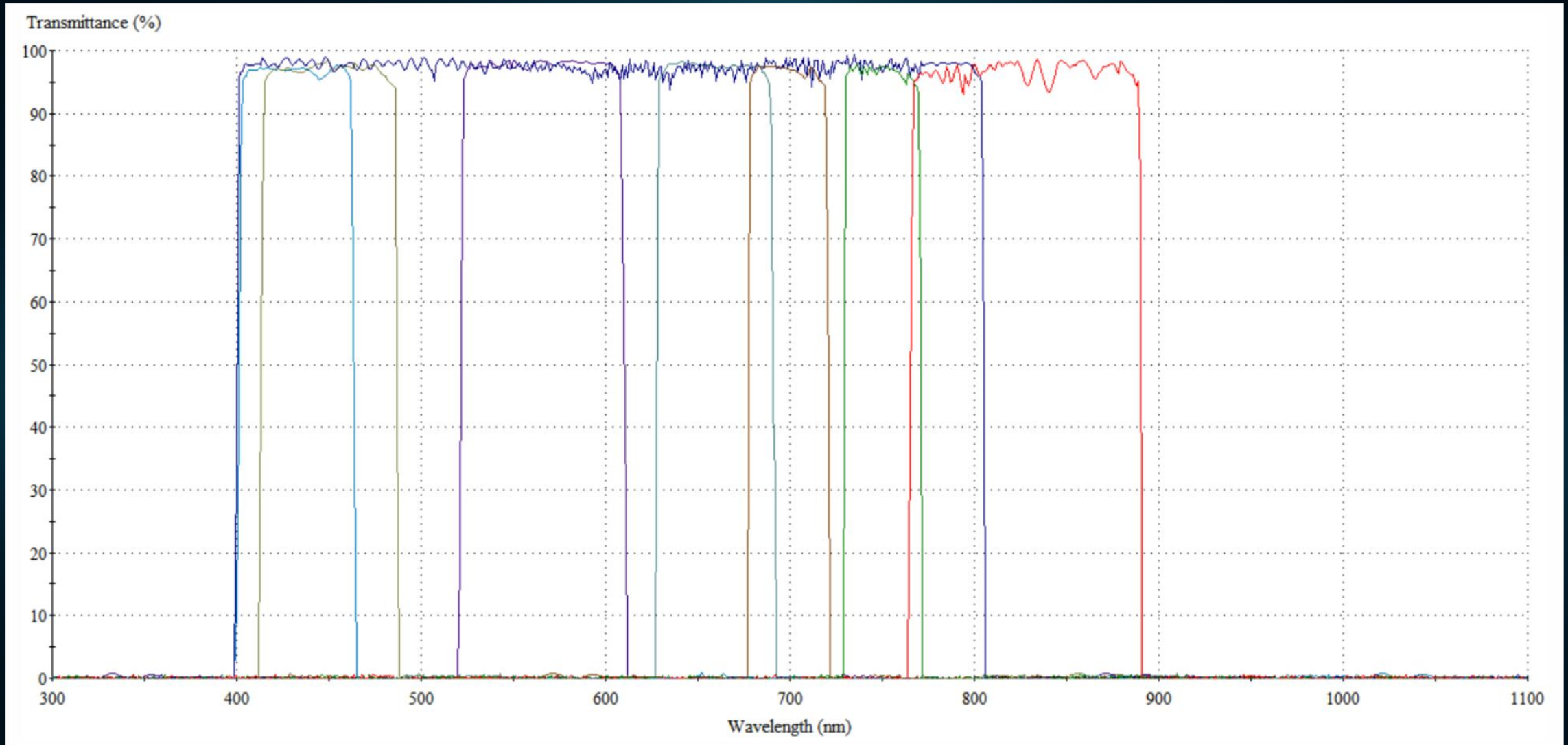
300-500µm

Substrate



Optical
glass

Spectral curve



Catalog

Center Wavelength (nm)	FWHM (nm)	Slope (nm)	Avg. Transmission (%)	Avg. Transmission (%)
430±10	60±20	15	OD≥3@300-1100nm	T≥95%
450±10	70±20	15	OD≥3@300-1100nm	T≥95%
560±10	80±20	15	OD≥3@300-1100nm	T≥95%
610±10	40±20	15	OD≥3@300-1100nm	T≥95%
660±10	60±20	15	OD≥3@300-1100nm	T≥95%
700±10	40±20	15	OD≥3@300-1100nm	T≥95%
750±10	40±20	20	OD≥3@300-1100nm	T≥95%
830±10	120±20	25	OD≥3@300-1100nm	T≥95%



02

Photolithographic Multi-spectral Filter

Manufacturing Principle

Fabricated via a combined photolithography and deposition process, the multispectral filter integrates multiple spectral channels spatially separated on a monolithic substrate.

Technical Difficulties



Excellent spectral performance is maintained across all channels.



Extremely high spatial alignment accuracy

Applications



Spaceborne Remote Sensing



Imaging Spectrometer



Medical Multispectral Imaging (MSI)

Specifications

430-1700 nm

Center Wavelength

>92 %

Peak Transmittance

±5 μm

Dimension Tolerance



Full Width at Half
Maximum (FWHM)
7-400nm



Dimension
20-81mm



Blocking Range
300-1100nm / 900-1800nm



Optical Density
(OD)
>OD3



Black Mask Area
Reflectance
R≤3%



Substrate
**Optical
sapphire**

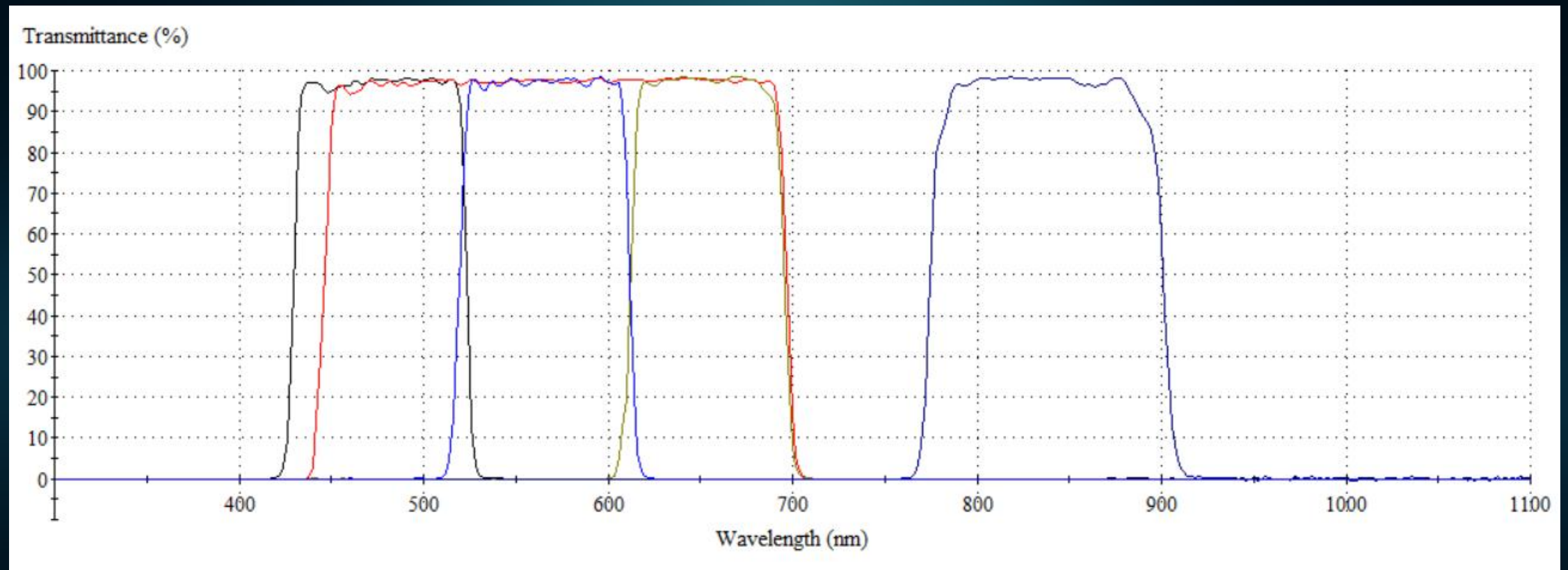


Surface quality
10-5

Catalog

Center Wavelength (nm)	FWHM (nm)	Slope (nm)	Avg. Transmission (%)	Avg. Transmission (%)
475±10	90±20	15	OD≥3@300-1100nm	T≥92%
560±10	80±20	15	OD≥3@300-1100nm	T≥92%
625±10	350±20	20	OD≥3@300-1100nm	T≥92%
660±10	60±20	15	OD≥3@300-1100nm	T≥92%
830±10	120±20	25	OD≥3@300-1100nm	T≥92%

Spectral curve





Bena Optics hold that a company should be as tolerant / encompassing as the vast ocean which admits hundreds of rivers and should draw upon other's strengths.



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★ Leading in optics with cutting-edge technology