TECHSPEC® 3.0 OD 12.5mm Diameter, Reflective ND Filter

Stock **#46-138** **5 In Stock**

- 1 + **£29.60**

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Volume Pricing	
Qty 1-5	**£29.60** each
Qty 6-25	**£23.60** each
Qty 26-49	**£22.80** each
Need More?	Request Quote

Prices shown are exclusive of VAT/local taxes

Product Downloads

SPECIFICATIONS

General

Type:

Neutral Density Filter

Note:
Optical density values are average over specified blocking wavelength range.

Physical & Mechanical Properties

Diameter (mm):
12.50

Thickness (mm):
1.60 Nominal

Dimensional Tolerance (mm):
±0.5

Clear Aperture (%):
80

Optical Properties

Angle of Incidence (°):
0

Optical Density OD (Average):
3.0

Substrate:
Float Glass

Coating:
Surface 1: Inconel

Reflection (%):
55.00

Surface Quality:
80-50

Transmission (%):
0.1

Blocking Wavelength Range (nm):
400 - 700

Neutrality:
±5% of Optical Density

Surface Flatness (P-V):
4 - 6λ

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

Reach 247:
Compliant

PRODUCT DETAILS

- Spectrally Flat
- Maximum Accuracy and Neutrality at Moderate Price
- Use Stacks to Create Intermediate Density Values

Reflective Neutral Density (ND) Filters have constant density values across the surface. The transmission-to-reflection ratio varies with density selection, whose relationship can be explained by the equation: T(Percent Transmission) = 10^{-OD} x 100%. Optical Density exhibits an additive relationship; for example, stacking filters with OD values of 0.6 and 0.9 yields a resultant density of 1.5. In stacks, the total density is the sum of each filter's density. Reflective Neutral Density (ND) Filters are used primarily for attenuating light over a wide spectral range. They are often used in laser and photometer applications, where excessive power can cause damage or inaccurate results. For best results, orient the mirrored side toward the source at a 0° angle of incidence.

Note: Low optical density filters (0.1, 0.15, and 0.2 OD) are coated with thin layers of Inconel and their performance may shift overtime. To prolong the lifetime of these filters, we recommend using non-contact cleaning methods (such as compressed air) and avoiding the use of these filters in humid environments to prevent oxidation. Using contact cleaning methods such as solvents will damage the coating and the product will no longer meet the advertised specifications.

Note: Due to supply chain issues, our kits may be delivered with an alternative packaging solution in place of a wooden box. For any questions, please contact **kits@edmundoptics.com**.

Reflective Neutral Density Filter Kits

Reflective Neutral Density Filter Kits are available with either 8 or 14 optical densities. The kits with 8 filters include our most popular filters, with densities of 0.3, 0.5, 1.0, 1.3, 1.5, 2.0, 2.5, and 3.0. The kits with 14 filters include all available densities, except for 3.0. Kits are ideal for determining precise system optical density requirements. Custom densities are available for OEM applications.

SPECIAL HANDLING

These optics require special handling to avoid damage and ensure long-term performance. Proper handling, cleaning, and storage are essential to maintain optical quality.
Explore our **Optics Cleaning Resources** for step-by-step guides and best practices. For personalized assistance, **Email us** or **Chat** with our technical support team.

Component Handling Tools

CUSTOM

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our **custom manufacturing capabilities** or submit an inquiry **here.**

COMPATIBLE MOUNTS