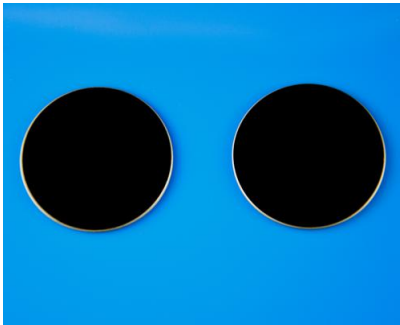




## IR Neutral Density Filters (Germanium Substrate)



**Features:**

- IR ND filters by metal alloy coating
- Wide wavelength range of 2.2 $\mu$ m to 15 $\mu$ m
- Customized OD

**Descriptions:**

Metallic-coated infrared neutral density filters (IR ND filters) obtain their optical density from a metal alloy coating on a substrate determined by the wavelength region of interest. Unlike the all-dielectric or absorption type, the metallic type ND filter employs a combination of absorption and reflection to reduce the intensity of light.

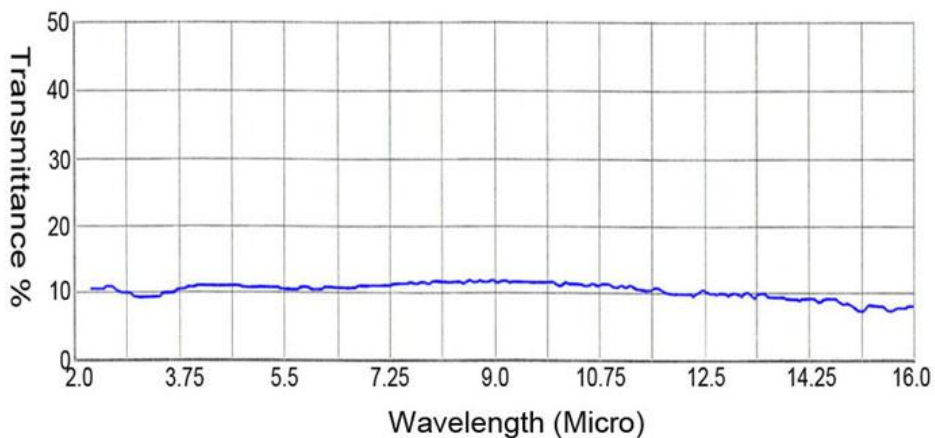
Infrared Neutral Density Filters are designed to attenuate radiation over a wide spectral range. These filters are coated on germanium substrates. The ND coating is optimized at 2.2 microns and can be used out to 15 microns.

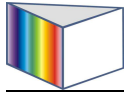
**Specifications:**

Substrates	Germanium	Diameter Range	Custom
Transmission	10%, 20% or custom	Aperture BBAR Coating on back surface S2	Optional
Dimension Tolerance	$\pm 0.2$ mm	Clear Aperture	+/-0.2mm 90% of outside dimension
Surface Quality	80/50 S/D	Flatness	2-4 waves per 25mm
Parallelism	3-5 arc minutes	Mechanical	Unmounted

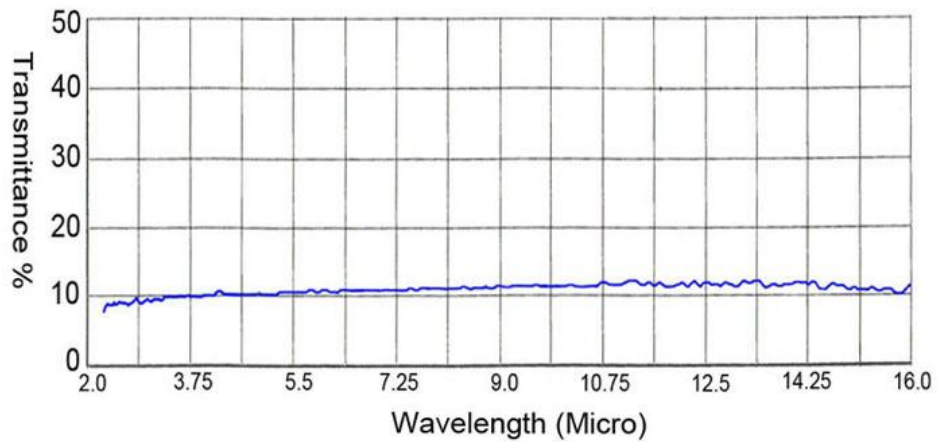
**Technical images:**

1. Transmission of IR ND filters (Germanium, T=10%, BBAR coating on back surface S2)





2. Transmission of IR ND filters (Germanium, T=10%, No BBAR coating on back surface S2)



**Related products:**

- 1) Infrared windows -> Ge windows
- 2) Infrared windows -> Silicon windows