

ISO 11382:2022-11 (E)

Optics and photonics - Optical materials and components - Characterization of optical materials used in the infrared spectral range from 0,78 μm to 25 μm

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and units	2
5	Nomenclature	2
5.1	General	2
5.2	Name	2
5.3	Manufacturer reference	3
5.4	Material structure	3
5.5	Manufacturing process	3
5.6	Form of nomenclature	3
6	Optical properties	3
6.1	General	3
6.2	Transmittance	5
6.2.1	Specification to be provided	5
6.2.2	Temperature dependence	6
6.3	Absorption coefficient	6
6.3.1	General	6
6.3.2	Specification to be provided (to be consistent with 6.5.2)	6
6.4	Transmittance uniformity	7
6.4.1	General	7
6.4.2	Bubbles and inclusions	7
6.4.3	Local variation of the manufacturing process	7
6.5	Refractive index	7
6.5.1	General	7
6.5.2	Specification reports to be provided	7
6.6	Refractive index variation	8
6.7	Dependence of the refractive index on temperature	8
6.8	Optical homogeneity (homogeneity of refractive index)	8
6.9	Birefringence	9
6.9.1	Materials with natural birefringence	9
6.9.2	Stress birefringence	9
6.10	Photoelastic constant	9
6.11	Dispersion	9
7	Other properties	10
7.1	General	10
7.2	Specific gravity	10
7.3	Molecular weight	10
7.4	Thermal properties	10
7.4.1	Thermal conductivity	10
7.4.2	Thermal expansion	10

7.4.3	Specific heat	10
7.4.4	Melting temperature and softening temperature	10
7.5	Hardness	10
7.6	Elastic modulus	10
7.7	Maximum dimensions	10
Bibliography		12