

Sodium Chloride (NaCl)

Custom sizes and specifications are available

CRYSTALLOGRAPHIC

Syngony	Cubic
Symmetry Class	m3m
Lattice Constants, Angstrom	a=5.640 c=a
Cleavability	(100),perfect

OPTICAL

Refractive Index at n_e	1.5467
Refractive Index $n_F - n_C$	0.0132
Refractive Index at $n_{10.6}$	1.4906
Refractive Index $n_{8.0} - n_{12.5}$	0.0308
Thermal Coefficient of Refractive Index at 3.39 microns for +/-60 deg C	$(-3.31) \dots (-3.73) \times 10^{-5}$
Transmission Range, microns	0.2-20

THERMAL

Thermal Linear Expansion, deg C ⁻¹ for +/-60 deg C	$(36.4 \dots 40.8) \times 10^{-6}$
Thermal Conductivity, W/(m•deg C) at 35 deg C	6.15
Specific Heat Capacity, J/(kg•deg C)	0.871×10^3
Melting Point, deg C	801

MECHANICAL

Density, g/cm ³ at 20 deg C	2.17
Mohs Hardness	3
Vickers Microhardness, Pa	20×10^7
Constants of Elastic Compliance, Pa ⁻¹	$S_{11} = 22.85 \times 10^{-12}$ $S_{12} = -4.69 \times 10^{-12}$ $S_{44} = 78.34 \times 10^{-12}$

Young Modulus (E), Pa	
in <100> direction	4.37×10^{10}
in <111> direction	3.27×10^{10}
Shear Modulus (G), Pa	
in <100> direction	1.59×10^{10}
in <111> direction	1.28×10^{10}
Poisson Ratio	0.203

CHEMICAL

Molecular Weight	58.45
Solubility	
in water, gram/100 cm ³	35.7
in acids	soluble

Refr. Index n vs. Wavelength λ

WAVELENGTH, MICRONS	REFRACTIVE INDEX
0.2	1.7899
0.5	1.5516
1.0	1.5320
2.0	1.5254
3.0	1.5242
4.0	1.5217
5.0	1.5185
6.0	1.5153
7.0	1.5112
8.0	1.5066
9.0	1.5009
10.0	1.4947
11.0	1.4878
12.0	1.4800
12.5	1.4758
15.0	1.4403
20.0	1.3822
30.0	1.0912

Internal Transmittance $\tau_i(\lambda)$ vs. Wavelength λ

WAVELENGTH, MICRONS	INTERNAL TRANSMITTANCE
0.2	0.16
0.5	0.97
1.0	0.97
3.0	0.98
5.0	0.98
6.0	0.98
7.0	0.98
8.0	0.98
9.0	0.98
10.0	0.98
12.0	0.98
15.0	0.87
20.0	0.05

