

Optical Coupling Gel for Fiber Optic Connectors

The **Luxlink™**.OG-1052 Optical Gel has the refractive index of BK-7 glass and is close to the refractive index of other frequently used glasses. As an optical couplant, it is used to reduce or eliminate reflection losses. It is not recommended for use with Acrylic as it is slightly incompatible at elevated temperatures. It is normally opalescent / translucent but is clear in thin layers as it is normally used. It is useable over a wide range of temperatures; freezing point is less than 45 °C, boiling point is greater than 370 °C. Sold in 0.4 oz containers.



Technical Specifications

Refractive Index	n (5893 Angstroms) 25°C = 1.517
Cauchy equation (at 25 °C)	$n(W) = 1.44514 + (431760) / W^2 + (-1.80659E+11) / W^4$ where W =wavelength in angstroms
Composition	Phthalate Esters & Gelling Agents
Appearance	Colorless Translucent Gel
Odor	Slight Characteristic
Color Stability	In sun: may slightly discolor in 1 to 8 years
Index change rate by evaporation	Very low: - 0.00001 expected: exposed surface area to volume ratio of 0.2 sq. cm / cc @ 25 °C for 32 days
Operating Temperture	-20°C to +100°C
Freezing Point	-45°C
Boiling Point	>370° C @ 760mm Hg
Flash Point	>199° C COC
Density	1.110 g/cc @ 25° C
Density Temp. Coef	-0.0008 g/cc/ ° C
Coef of Thermal expansion	0.0007 cc/cc ° C
Temp. Coef:	dnD / dt 15-35 °C = -0.00038
Viscosity	Soft Gel @ 25°C
Insoluble	Water
Partly Soluble	Acetone, Carbon Tetrachloride, Ethanol, Ethyl Ether, Freon TF, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene
Clean Up	Wipe surfaces clean, then use soap and water.
Toxicity	Practically Non-Toxic (request MSDS)
Incompatible	Polystyrene, Polyurethane, Polyvinyl Chloride, Latex Rubber, Neoprene Rubber, Tygon (Acrylic and Polycarbonate at 55 °C)
Compatible 10 month immersion @ 25°C	Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyethylene, Polypropylene, Phenolic, Silicone and Fluorosilicone Rubber, Aluminum, Copper, Brass, and Steel; (tests done on one example of each)

Source or Spectral line	Wavelength (angstroms)	Refractive Index 25°C	% Transmittance 25°C		
			1mm	1 cm	10cm
near UV cut off	3200	1.571	97	72	4
i (Hg)	3650	1.553	98	82	13
h (Hg)	4047	1.541	99	87	26
F? (Cd)	4800	1.528	99	93	48
F (H)	4861	1.527	99	93	49
e (Hg)	5461	1.520	99	95	60
D (Na D1, D2 mean)	5893	1.517	100	96	68
HeNe laser	6328	1.514	100	97	71
C? (Cd)	6439	1.513	100	97	73
C (H)	6563	1.513	100	97	74
Ruby Laser	6943	1.511	100	98	76
GaAs laser	8400	1.506	100	98	83
Nd: YAG laser	10648	1.502	100	99	86
Diode	13000	1.500	100	99	89
Diode	15500	1.499	100	99	90

$$n_F - n_C = 0.014$$

$$\text{Abbe } n_D : (n_D - 1) / (n_F - n_C) = 36$$