



ANGSTRÖM *Link*TM **AL-1246**

Thixotropic Optical Gel
For photonics and optics applications

ANGSTRÖM *Link*TM KEY FEATURES

- **Refractive Index: 1.46, matches silica fiber**
- **Optically clear: Visible to NIR**
- **Low volatility, non-toxic**
- **Excellent Transparency**
- **High Thermal Stability**
- **Low Outgassing**
- **Low Moisture Absorption**
- **Very Low Shrinkage**

AngstromLink AL-1246 is a thixotropic ultra-clear optical gel comprised of an optical grade polymer fluid immobilized in a nanoparticle powder. The product is a one-part, ready-to-use gel which will flow under pressure but is non-migrating when at rest. AL-1246 offers service temperatures up to +150°C (+260°C for 1-2 minutes for soldering operations).

Applications

Index matching to silica (1.46)

Low modulus gap medium for photonic elements

Telecommunications Coupling

Coupling of silica fiber splices, polymer waveguide/backplane connections, VCSEL to fiber.

Benefits

1.46 refractive index

Allows index matching to fused silica glass and optical fiber

Chemically inert

Non-toxic, compatible with optical grade materials

Optically clear

Efficient optical transmission for wavelengths > 350nm

High purity composition

Low ionics for sensitive semiconductors, metals

Wide temperature service

Suitable for outdoor environments

Optical Material Compatibility

Inert and compatible with most optical plastics, glasses, crystals and semiconductors

(revision 10/2010)

For more information on this or other products and their availability, please contact us at:
1-800-IS-FIBER (473-4237); (508) 992-6464; Fax us at (508) 991-8876, or via email at sales@focenter.com
Please visit us on the web at WWW.FOCENTER.COM

Property (at 25°C unless noted)	Test Method	Typical Value
Mechanical Properties		
Color, Appearance	Visual	Optically Clear
Physical Consistency	Visual	Flowable Gel, Grease-like
Penetration	ASTM D-1403	243
Specific Gravity	ASTM D-1217	1.06
Thermal Properties		
Coefficient of Thermal Expansion	ASTM D-1903	6×10^{-4} cc/cc/°C
Evaporation Rate (24 hrs, 100°C)	ASTM D-972	< 0.2%
Electro-optical Properties		
Refractive Index, 589 nm	ASTM D-1218	1.46
Refractive Index vs. Wavelength	ASTM D-1218	(see chart)
Refractive Index vs. Temperature, 589 nm	ASTM D-1218	$-3.5 \times 10^{-4}/^{\circ}\text{C}$
Optical Absorption	spectrophotometer	(see chart)
Microscopic Particulate Contamination	MIL-G-81937	< 300 for 10-34 microns
Number of Particles \geq 35 microns / cc	MIL-G-81937	0
Volume Resistivity	ASTM D-257	$> 10^{15}$ ohm-cm, est.

Packaging

AL-1246 is available in the following packages:

- 1 cc syringe for prototyping and small batch sizes
- 30cc syringe for larger volume usage

Other container options are also available for use with automated dispensing equipment. Contact Fiber Optic Center for assistance with special packaging, dispensing, or private labeling requirements.

Substrate Preparation

Substrates should be free of dust, oil, and fingerprint soils. Clean substrates using suitable industrial techniques for cleaning electro-optics. If hydrocarbon solvent cleaning (e.g. acetone) is used, a final rinse with reagent grade isopropanol is recommended. If the surface material is incompatible with acetone (acetone can soften or crack some plastics), use isopropanol. If aqueous detergent cleaning is used, multiple final rinses with de-ionized water or a single rinse with reagent grade isopropanol is recommended.

Cleanup

AL-1246 may be removed from surfaces by first wiping off excess gel with a suitable dry lint-free wipe and then by wiping down the surface with a lint-free wipe soaked with acetone. If the surface material is incompatible with acetone (acetone can soften or crack some plastics), use isopropanol. If acetone residues are undesirable, the clean-up process should be completed with a final rinse with reagent grade isopropanol. The user is responsible for compliance with all applicable regulations governing disposal of waste materials as indicated in the MSDS.

Shelf Life

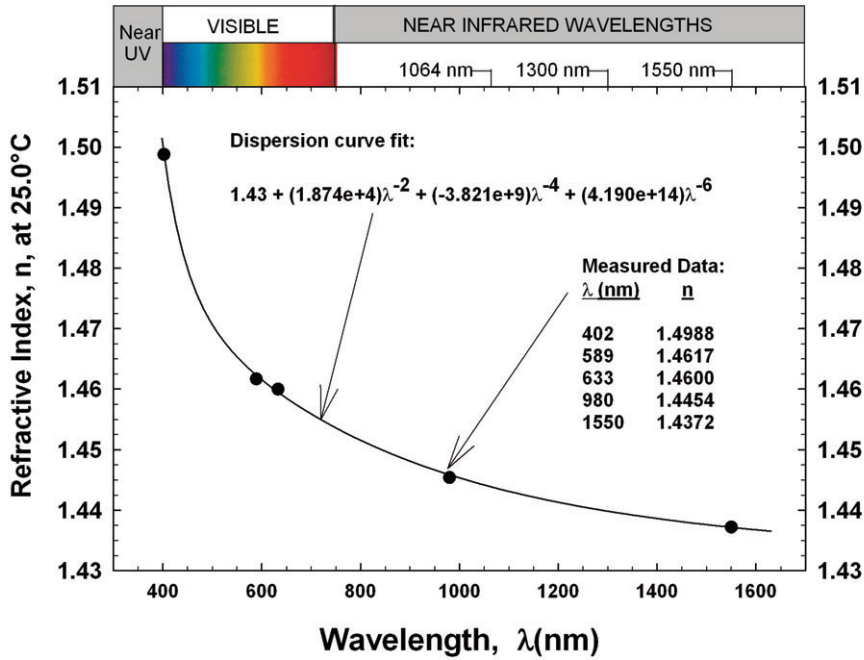
AL-1246 is an inert material with no intrinsic shelf life limitations. It will, however, suffer changes in properties if removed from its original container and subjected to extreme environmental conditions, as indicated in the typical properties table on page 2, which tend to cause volatilization or thermooxidative breakdown, or alternatively through contamination with particles of dust, dirt or other solids or fluids.

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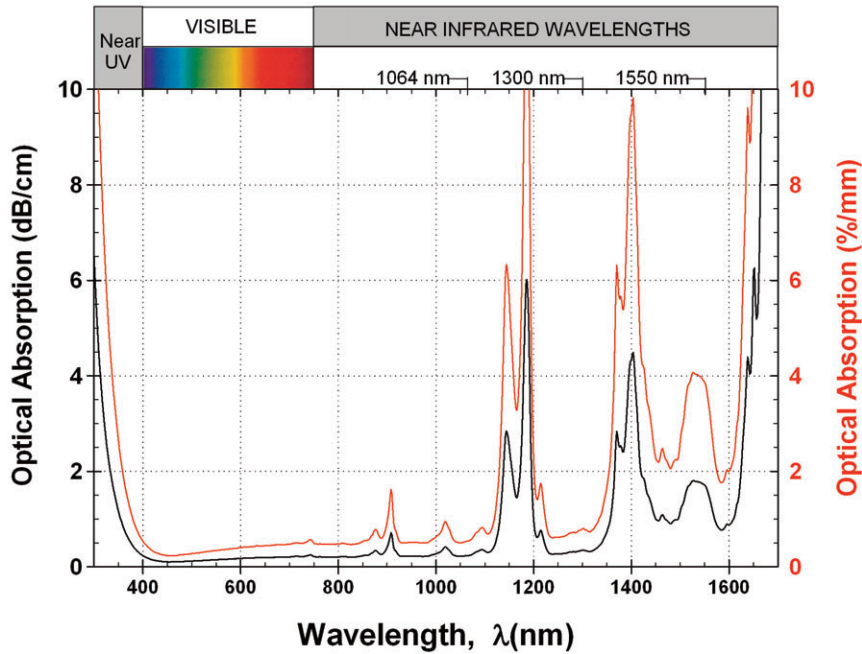
Refractive Index vs Wavelength (25°C)

AngstromLink Thixotropic Optical Gel
AL-1246



Optical Absorption vs. Wavelength

AngstromLink Thixotropic Gel
AL-1246



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Specifications

The typical properties quoted on this product data sheet should not be used as a basis for preparation of product specifications, and may change without notification. Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we cannot guarantee the applicability of this information or the suitability of our products in any individual situation. Consult Fiber Optic Center for assistance with establishing specification limits and test conditions. Statements concerning the possible use of our products are not intended as recommendations to use our product in the infringement of any patent.

Warranty

AL-1246 is sold without warranty, express or implied. Fiber Optic Center expressly disclaims any liability for incidental or consequential damages resulting from use of this product. The user is counseled to conduct thorough design and qualification studies prior to approval of AL-1246 for any production process or product component.

Safety

Consult the Material Safety Data Sheet (MSDS) for AL-1246 before use. AL-1246 is an industrial product, designed for use only by qualified laboratory or production personnel.

For Special Quotes and Technical Consultations

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