



ÅNGSTRÖM *Link*TM **AL-5252**

Optical Fluid

For photonics and optics applications

ÅNGSTRÖM *Link*TM KEY FEATURES

- **Refractive Index: 1.52, matches BK7 Glass**
- **Optically clear: Visible to NIR**
- **Low volatility, non-toxic**

ÅngstromLink AL-5252 is a chemically inert optical grade fluid designed especially for sensitive optical assemblies. AL-5252 offers a service temperature range of -40°C(-40°F) to +150°C(+302°F).

Applications

Wafer level optical metrology

Optical coupling between flat panel display elements

Index matching to polymer waveguides (1.52)

Gap coupling between prisms and gratings

Coolant/Optical fluid for high power laser optics

Thermally compensated fluid lenses

Non-toxic, high index microscope immersion fluid

Projection display components

Benefits

1.52 refractive index

Allows index matching to BK7 glass

Chemically inert

Non-toxic, compatible with optical grade materials

Optically clear

Efficient optical transmission for wavelengths > 350nm

Low volatility

Eliminates recondensation contamination, ensures long service life

High purity composition

Low ionics for sensitive semiconductors, metals

Wide temperature service

Suitable for outdoor environments

(revision 11/2011)

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		
Viscosity	ASTM D-1084	600 cP
Surface Tension	Plate Method	25 dyne/cm
Specific Gravity	ASTM D-1217	1.08
Thermal Properties		
Glass Transition	TMA/DSC	-60°C, est.
Pour Point	ASTM D-97	-50°C, est.
Thermal Expansion by Volume	-	8×10^{-4} cc/cc/°C, est.
Evaporation Rate (24hrs, 100°C)	ASTM D-972	0.1%
TGA Take-off, 1% mass loss	TGA	250°C, est.
Electro-optical Properties		
Appearance	Visual	Optically Clear
Ionics (K, Na, P, Ag, Cu, Sn)	ICP	< 10 ppm, each, est.
Particle Contamination	MIL-STD-1246C	Level 25, est.
Volume Resistivity	ASTM D-257	> 10^{15} ohm-cm, est.
Refractive Index, 589 nm	ASTM D-1218	1.52
Refractive Index vs. Temperature, 589 nm	ASTM D-1218	-4×10^{-4} /°C
Refractive Index vs. Wavelength	prism coupler	(see chart)
Optical Absorption	spectrophotometer	(see chart)

Deaeration

If air bubbles become trapped in the dispensed fluid volume during the dispensing process, the assembly should self-deaerate due to the product's low viscosity as long as no pockets of air are trapped beneath mechanical parts. If accelerated deaeration is required, the assembly may be vacuum deaerated using a pressure of 635 mmHg (25 inHg) or greater. Apply the vacuum while observing the uncured fluid for presence of bubble formation and increase vacuum slowly enough to avoid rapid foaming. Hold vacuum until bubbles at the fluid surface collapse and are no longer visible.

Optical Material Compatibility

AL-5252 is inert and compatible with most optical plastics, glasses, crystals and semiconductors. As a rule, AL-5252 will not be miscible with other fluids including other AL-52xx Optical Fluids. For guidance on the best choice of fluid for a particular index matching problem, or for custom values of refractive index and/or technical issues, contact Technical Support at Fiber Optic Center.

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. Always use suitable lint-free wipes when cleaning sensitive optical substrates, lenses, cover glasses, coatings and other optical materials.

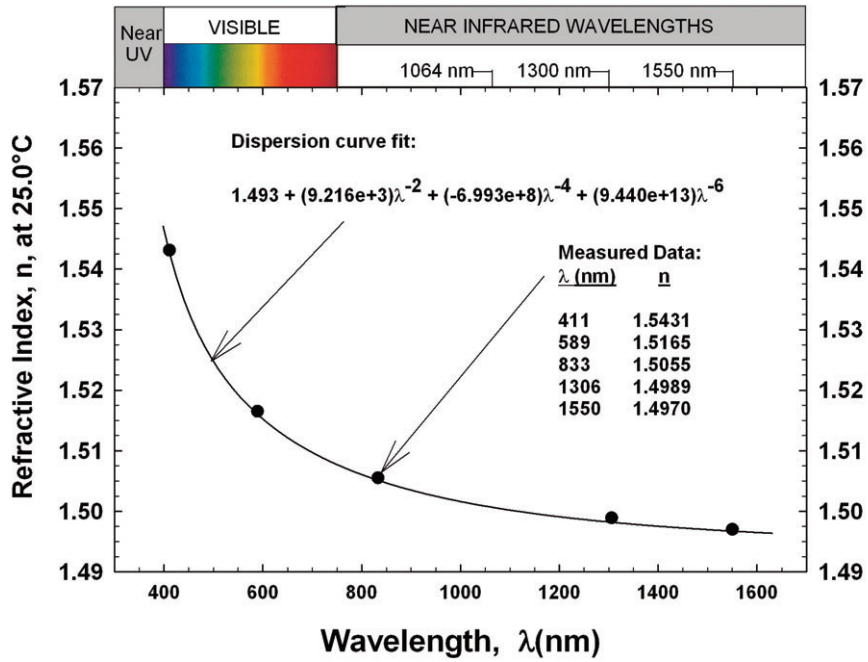
Cleanup

AL-5252 may be removed from surfaces by first wiping off excess fluid 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.

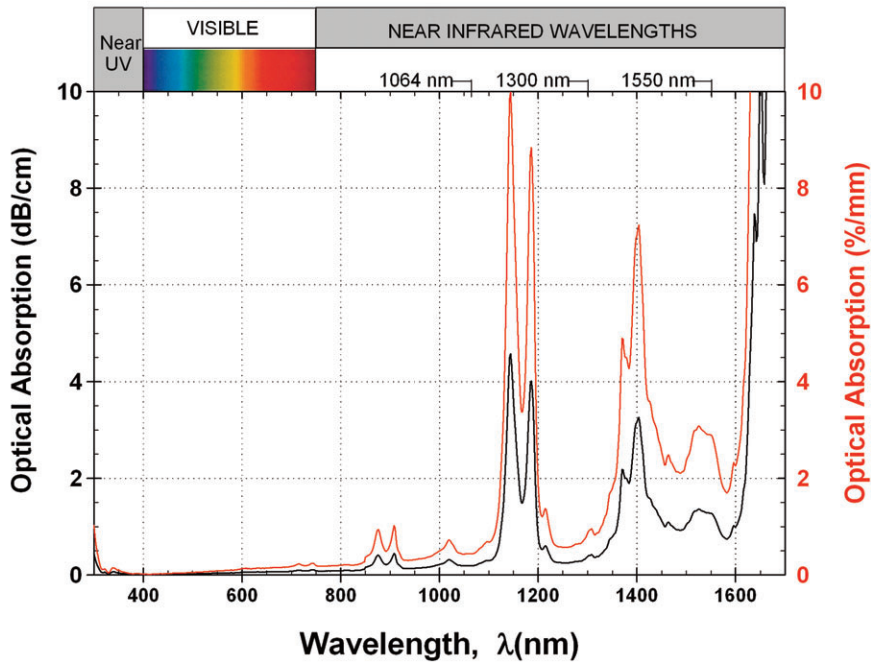
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Refractive Index vs Wavelength (25°C)
 AngstromLink Optical Fluid
 AL-5252



Optical Absorption vs. Wavelength
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Packaging

AL-5252 is available in the following packages:

- 30cc (1 fl.oz.) bottle with graduated pipette applicator
- 480cc (16 fl.oz.) bottle

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.

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.

Shelf Life

AL-5252 is an inert fluid 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.

Warranty

AL-5252 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-5252 for any production process or product component.

Safety

Consult the Material Safety Data Sheet (MSDS) for AL-5252 before use. AL-5252 is an industrial product, designed for use only by qualified laboratory or production personnel.

For Special Quotes and Technical Consultations

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