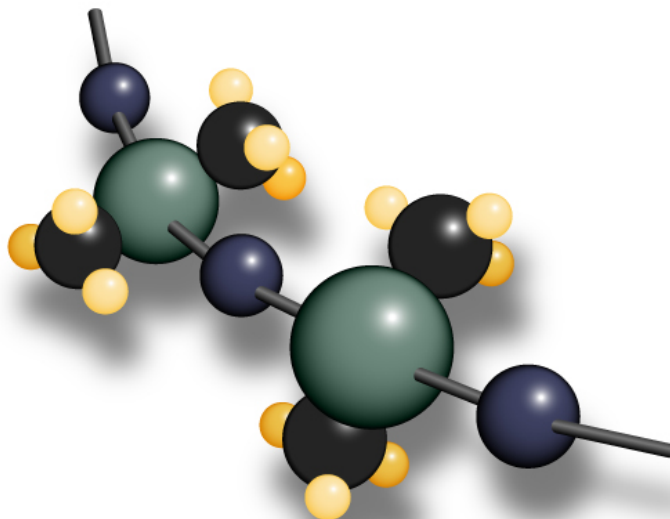


# Polymer Systems Technology Limited

UK & Ireland Distributor



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# LS-1249-10 PRELIMINARY DATA



Thixotropic Optical Gel

## Product Profile

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 14 Kendrick Road, Unit #2  
 Wareham, MA 02571  
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### Description

- A thixotropic, one-part, clear optical gel comprised of an optical grade fluid immobilized in a nanoparticle powder
- Flows under pressure but is non-migrating when at rest
- Low modulus and radiation hard

### Applications

- Coupling of POF telecom fiber splices, polymer waveguide/backplane connections, VCSEL coupling to fiber and a variety of other optics applications
- 1.49 refractive index for matching POF and PMMA

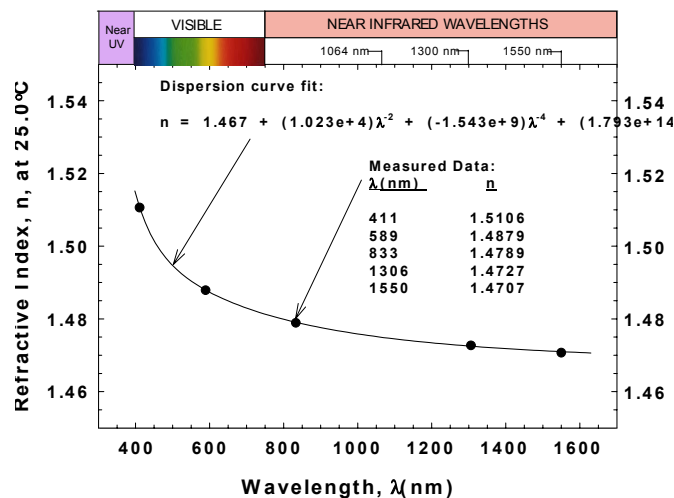
Typical Properties	Result	Metric Conv.	ASTM	NT-TM
Consistency	Flowable gel, grease-like	-	-	-
Cone Penetration, 1/2 scale	250 tenths of mm	-	D1403	017
Specific Gravity	1.04	-	D1217	003
Glass Transition	-50°C	-	-	-
Appearance (in bulk)	Clear	-	-	002
TGA Take-off (1% weight loss, 10°C/min. in air)	>200°C	-	-	-
Ionics (Na, K, Ag, Cu, S, Cl)	<10 ppm, each	-	-	-
Volume Resistivity	>10 <sup>15</sup> ohm-cm	-	D257	040
Refractive Index, 589 nm	1.49	-	D1218	018
Refractive Index vs. Temperature, 589 nm	-4 x 10 <sup>-4</sup> / °C	-	D1218	018
Refractive Index vs. Wavelength	See Chart	-	-	-
Optical Absorption vs. Wavelength	See Chart	-	-	-
Operating Temperature Range	Up to 150°C	-	-	-

(260°C for 1 to 2 minutes for soldering applications)

### Refractive Index vs. Wavelength (25°C)

Lightspan Optical Gel

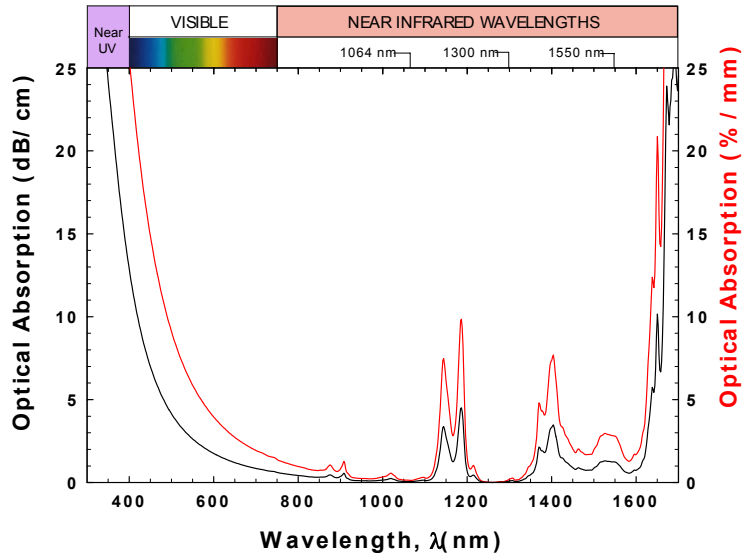
LS-1249-10, Lot# 40428-0417



Form number

Lightspan is a Registered Trademark of NuSil Technology

**Optical Absorption vs. Wavelength (25°C)**  
**Lightspan Optical Gel**  
 LS-1249-10 Lot# 40428-0417



**Instructions for Use**

Supplied in syringes for ease of dispensing. Consult Lightspan Applications Laboratory for assistance with dispensing techniques and suitable equipment. Container options are available for use with automated dispensing equipment.

**Optical Material Compatibility and Design Considerations**

LS-1249-10 is inert and compatible with most optical plastics, glasses, and semiconductors. For custom values of refractive index, or other technical issues, contact Lightspan Applications Laboratory.

**Substrate Considerations**

Substrates should be free of dust, oil and fingerprint soils. Clean substrates using suitable industrial techniques for cleaning electro-optics. If cleaning with a hydrocarbon solvent, a final rinse with reagent grade isopropanol is recommended. If cleaning with an aqueous detergent, multiple final rinses with deionized water or a single rinse with reagent grade isopropanol is recommended.

**Clean-Up**

Remove 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, use isopropanol. Complete the clean-up process with a final rinse with reagent grade isopropanol if removal of acetone residues is necessary. The user is responsible for compliance with all applicable regulations governing disposal of waste materials as indicated in the MSDS.

**Warnings About Product Safety**

NuSil Technology believes that the information and data contained herein is accurate and reliable. However, the user is responsible to determine the material's suitability and safety of use. NuSil Technology cannot know each application's specific requirements and hereby notifies the user that it has not tested or determined this material's suitability or safety for use in any application. The user is responsible to adequately test and determine the safety and suitability for their application and NuSil Technology makes no warranty concerning fitness for any use or purpose. NuSil Technology has completed no testing to establish safety of use in any medical application.

NuSil Technology has tested this material only to determine if the product meets the applicable specifications. (Please contact NuSil Technology for assistance and recommendations when establishing specifications.) When considering the use of NuSil Technology products in a particular application, review the latest Material Safety Data Sheets and contact NuSil Technology with any questions about product safety information.

<p><b>Packaging</b></p> <p>0.5cc syringe                  30cc syringe</p> <p><b>Warranty</b></p> <p>3 Months</p>
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Do not use any chemical in a food, drug, cosmetic, or medical application or process until having determined the safety and legality of the use. The user is responsible to meet the requirements of the U.S. Food and Drug Administration (FDA) and any other regulatory agencies. Before handling any other materials mentioned in the text, obtain available product safety information and take the necessary steps to ensure safety of use.

## **Specifications**

Do not use the typical properties shown in this technical profile as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations in establishing particular specifications.

## **Patent Warning**

NuSil Technology disclaims any expressed or implied warranty against the infringement of any patent. NuSil Technology does not warrant the use or sale of the products described herein will not infringe the claims of any United States' or other country's patents covering the product itself, its use in combination with other products or its use in the operation of any process.

## **Warranty Information**

NuSil Technology's warranty period is 3 months from the date of shipment when stored below 40°C in original unopened containers. Unless NuSil Technology provides a specific written warranty of fitness for a particular use, NuSil Technology's sole warranty is that the product will meet NuSil Technology's then current specification. NuSil Technology specifically disclaims any other expressed or implied warranty, including warranties of merchantability and fitness for use. The exclusive remedy and NuSil Technology's sole liability for breach of warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. NuSil Technology expressly disclaims any liability for incidental or consequential damages.