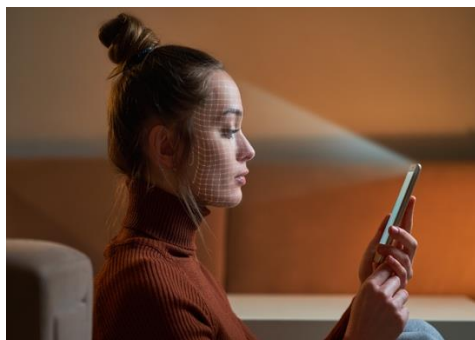


## Low Index Cladding (LIC100)

### Low Refractive Index Optical Grade Light Guiding



### Description

LIC is a low refractive index coating which can be applied in a thickness (ca.1-5mm) deemed in suitable for application in optical cladding, while displaying excellent transparency and strong adhesion to various substrates. LIC can be applied via various coating techniques including roll-to-roll production. Material can be cured at room temperature and shows excellent thermal stability at temperatures exceeding 200°C. Perfect light distribution is achieved making it suitable for lamination in different display architectures.

#### Applications

- Front-lit displays
- Optical touch
- Face recognition
- Other light guiding concepts (automotive)

#### Highlights

- Extremely low refractive index (ca. 1.3 @ 633nm)
- Excellent transmittance
- Broad thickness range (1-5 microns)
- Excellent thermal stability

#### Technical Background

Optitune's patented siloxane nanomaterials result in a matrix, where the chemical functionality is controlled on molecular level yielding a homogeneous and durable coating structure.

#### How to Apply

LIC is a two-component solution. Typical application process for LIC is R2R coating followed by thermal curing. Both IR and convection oven heating are suitable for thermal curing.

For product sales, please contact

Asia Edward Huang

edward.huang@optitune.com, +86 159 9627 9587

Tim Tang

tim.tang@optitune.com, +886 921 554 309

EMEA/Americas Neil Pschirer

neil.pschirer@optitune.com, +351 927 241 218 (Portugal)

Optitune Oy

Kaitoväylä 1 F 3

90590 Oulu, Finland

<http://www.optitune.com>

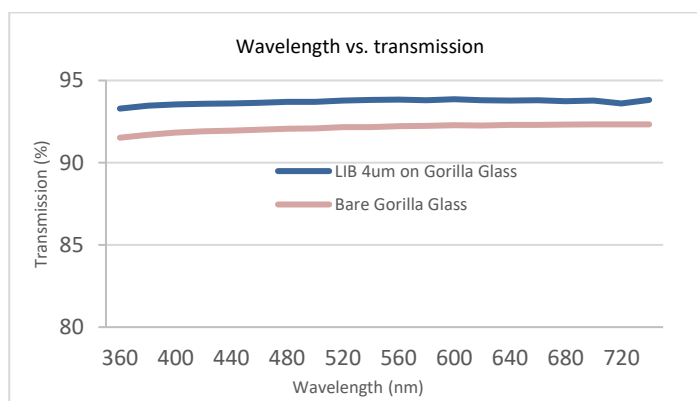
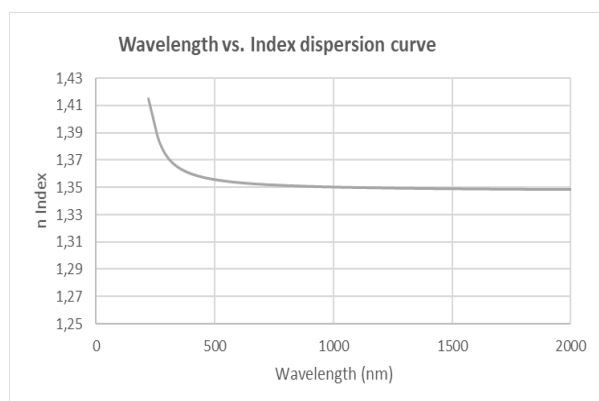
## LIC Properties

Key Property	Result	Standards
Refractive index	1.35	Spectral Ellipsometry / Spectral Reflectance ASTM D542A
Transmittance (% @ 550nm)	93.9 (+ 1.7 vs. Substrate)	KonicaMinolta Spectrophotometer ASTM D1003
Color properties blank substrate (L <sub>a</sub> *b*)	96.9, 0.00, 0.14	KonicaMinolta Spectrophotometer ASTM E308
Color properties with LIC coating	97.6, -0.03, 0.10	KonicaMinolta Spectrophotometer ASTM E308
Color properties with LIC coating (after baking)	97.4, -0.03, 0.12	230C 30min x 8
Thickness tolerance	< 6µm	+/- 10%
Adhesion	5B adhesion on glass and PMMA	ASTM D3359-09 Elcometer Cross-Hatch

All data measured on 6 microns films.

### Properties, storage and handling

LIC is two-component solution, which should be stored below room temperature, preferably -18 °C, in a well-ventilated place. Mix part A and B together prior use and use the material within 6 hours. Keep containers tightly closed and protected from sources of heat and light. Shelf life is 6 months from date of manufacture. For working safety, consult product Material Safety Data Sheet.



The information given is based on our best knowledge at the date of issue but carries no guarantee or acceptance of responsibility. For further data on products toxicological, ecological and safety aspects, please consult the MSDS. It is the responsibility of the user of the product to ensure to satisfaction that the product is suitable for the intended purpose and methods of use. We do not accept responsibility for any harm caused by the use of this information.

#### For product sales, please contact

Asia Edward Huang

edward.huang@optitune.com, +86 159 9627 9587

Tim Tang

tim.tang@optitune.com, +886 921 554 309

EMEA/Americas Neil Pschirer

neil.pschirer@optitune.com, +351 927 241 218 (Portugal)

Optitune Oy

Kaitoväylä 1 F 3

90590 Oulu, Finland

<http://www.optitune.com>