Local Insight, Global Impact

Technical Information of LD Series

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Product Lineup

Product Name	LDK-142	LDK-152	LDB-142
TiO2 Crystal Form	Rutile		
Dispersion Particle Size D50/D90(nm)[1)]	26/45	22/36	28/47
Solvent	PGMEA[3)]	PGMEA[3)]	PGME[4)]
Total Solids(%)	35±1		
Average Transmittance (380-780nm, %) [2)]	47	59	30

1) Measured by DLS
2) Mesured under 12 g/L as Filler, 10 mmT
3) PGMEA : Propylene glycol methyl ether acetate
4) PGME : Propylene glycol 1-monomethyl ether

LDK series are organic solvent dispersions of TiO2 nano particles that can make high refractive index and transparent composite film.

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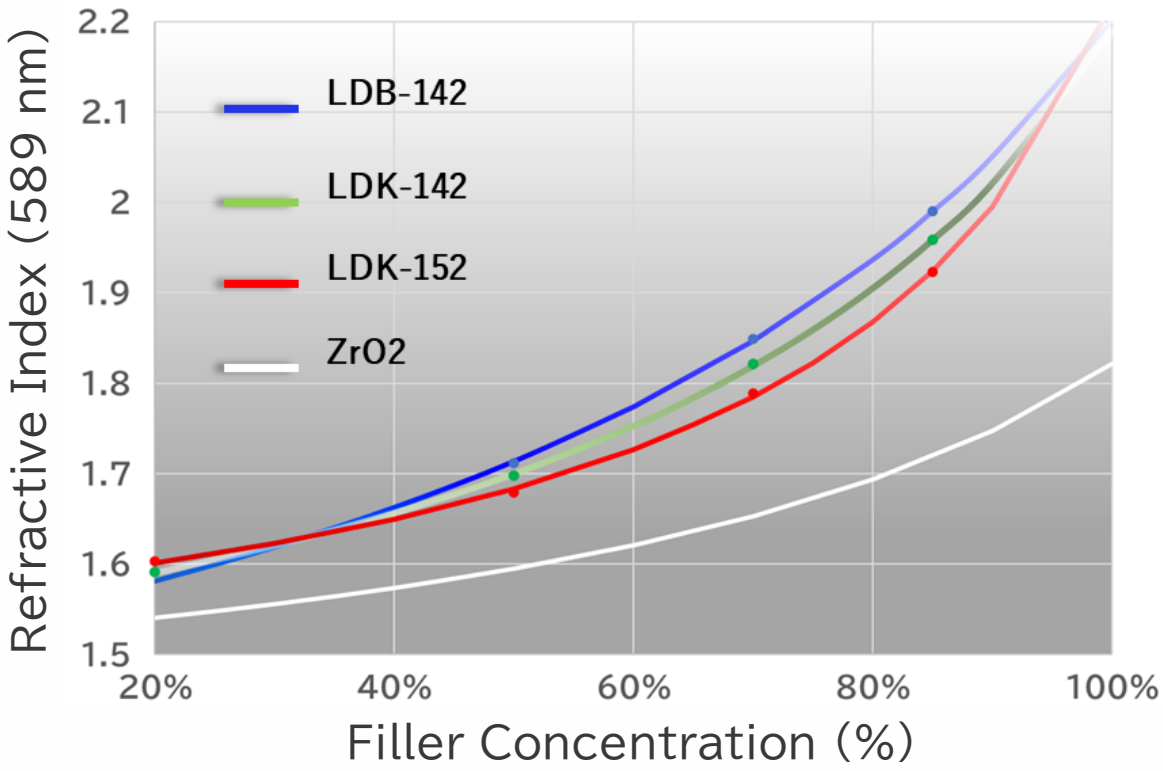
Example of making High RI Coatings

＞Preparation for paint

	ITEM
Filler	LD-Series
Acrylate Monomer	DPHA (Dipentaerythritol Hexaacrylate)
Photo initiator	Omnirad® 907
Solvent	Appropriately

Coating on glass substrate
↓
Drying (90℃×3min)
↓
UV curing (1000 mJ/cm^2)

＞Evaluation for Refractive Index



The above values are typical values that are not guaranteed.

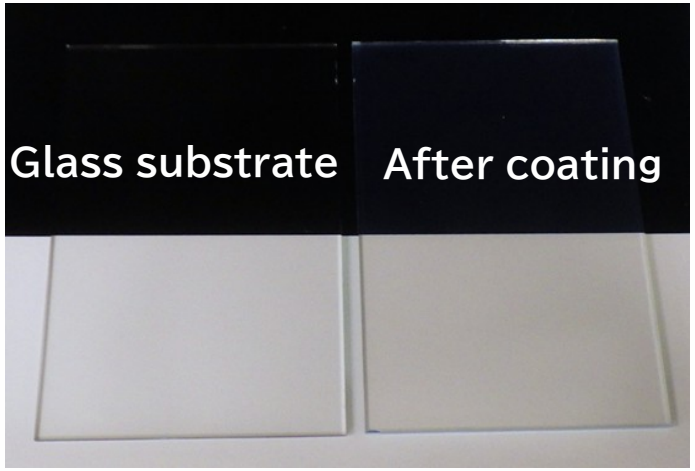
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Other Application example

＞Realization of highly transparent coating film

UV Monomer 1 : POB-A*1 + TMPTA*2 (1 : 1)
*1. 3-Phenoxybenzyl acrylate, *2.Trimethylolpropane Triacrylate
UV Monomer 2 : DPHA
LDK Series/(Monomer + initiator):70/30、Thickness:2～4μm

	LDK-142	LDK-152
	HAZE (JIS 7136)	
UV Monomer 1	<0.3	<0.3
UV Monomer 2	<1.0	<0.5

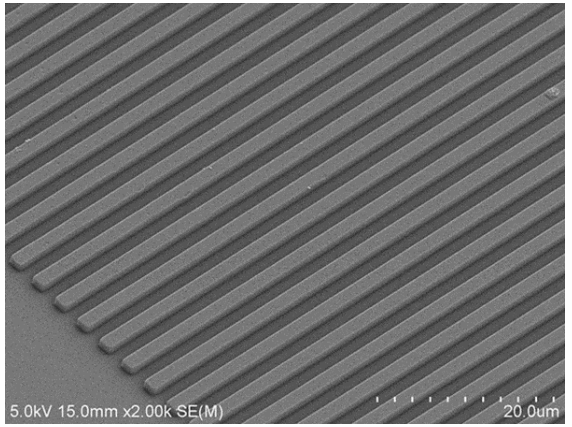


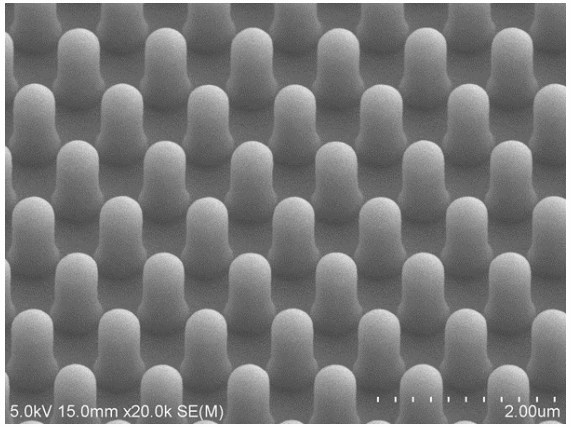
Refractive index : 1.8

＞Example of nano imprint lithography

UV Monomer :DCP-A*3
LDK Series/(Monomer + initiator):70/30
Process: Coating on substrate
> Pre-bake
> Mold pressed into the coatings and Curing
> Release of mold

*3. DCP-A : Tricyclodecane Dimethanol Diacrylate





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