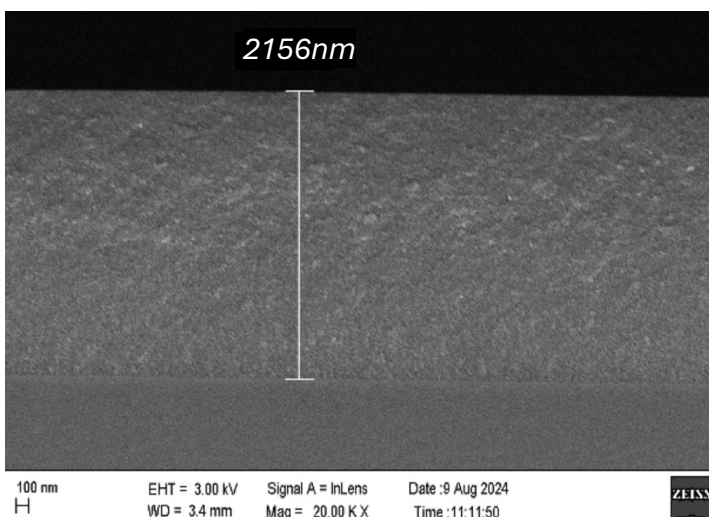


LOW & ULTRA-LOW INDEX MATERIALS FOR OPTICAL COATINGS AND METASURFACE ENCAPSULATION

CHARACTERISTICS

Thickness	Up to 2000nm \pm 5%
RI@520nm	Down to 1.120 \pm 0.005
Haze	< 0.05%
Absorption	< 0.05% (RGB)
Solution shelves life	2 months (6°C)
Curing	2min (450°C) or 30 min (300°C)
Young Modulus	~ 2GPa
Water repellence	$\Delta n = 0.001RIU$ (0 – 100% RH)
Water immersion resistance	20 days tested
Processability	SPIN / DIP / NIL / multilayer



SN-MSB-1XX materials can be processed as thin coatings with thickness up to 2000 nm by spin or dip deposition. A thermal budget ranging from 30 min at 300°C to 2min at 450°C creates a highly homogeneous, robust, water-resistant polymer-free silica (SiO₂) network, exhibiting Refractive Index (RI) down to 1.120@520nm \pm 0.005 (RI index can be adjusted between 1.45 and 1.12 \pm 0.01). The material can be used for high index metasurfaces encapsulation, or single layer elaboration. The solution can be imprinted by thermal soft-NIL.

Primer SN-PAP-01 can be used if adhesion issues.