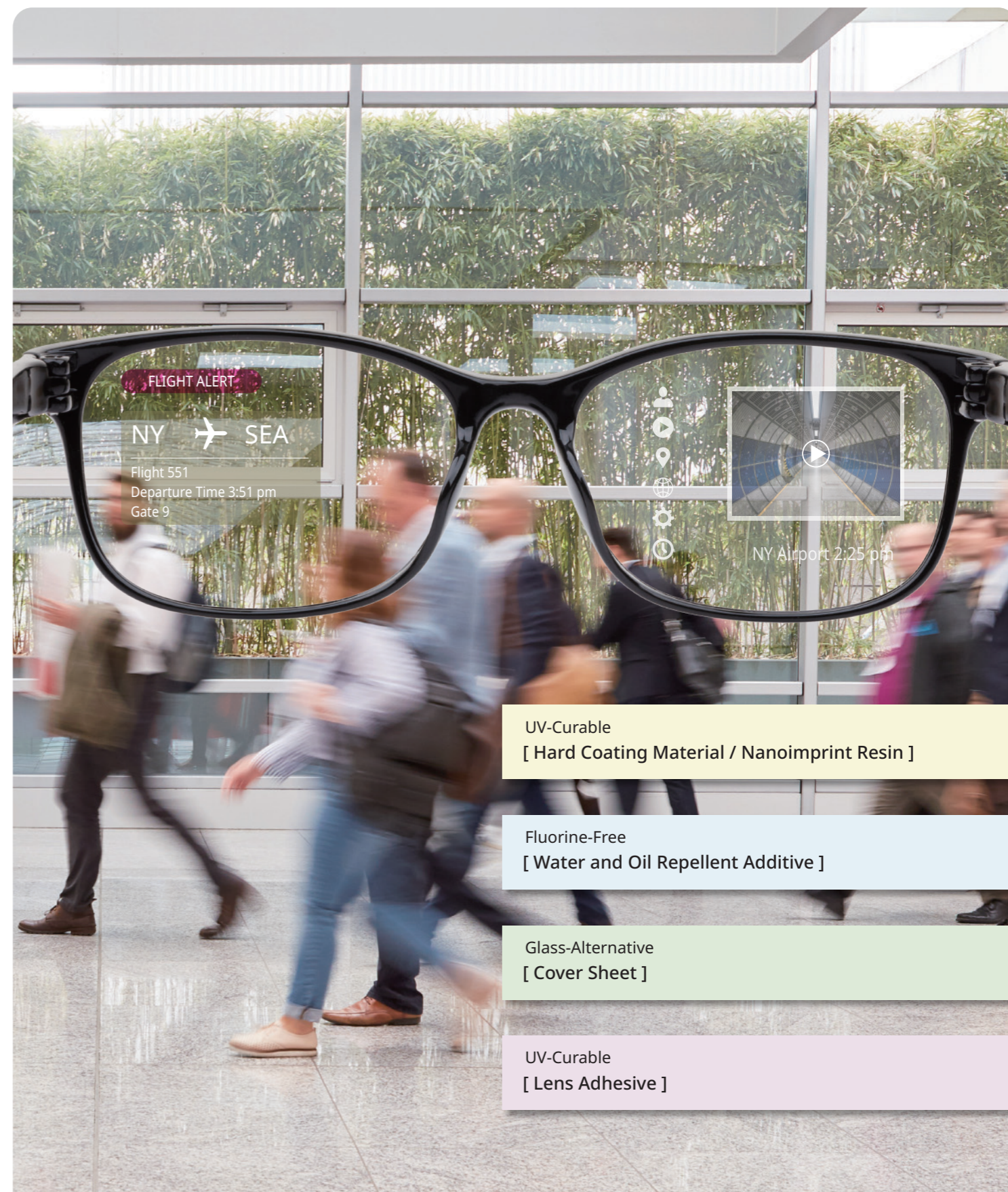




Products for AR Glass Lenses

(Augmented Reality)

Toagosei's proprietary material technology unlocks the potential of next-generation AR glasses, making them lighter, clearer, and more robust.



UV-Curable
[Hard Coating Material / Nanoimprint Resin]

Fluorine-Free
[Water and Oil Repellent Additive]

Glass-Alternative
[Cover Sheet]

UV-Curable
[Lens Adhesive]

The information in this document is provided to introduce potential applications of our products. The content is based on data obtained under our current testing conditions and does not constitute any warranty. Product specifications are subject to change without notice. The user is responsible for confirming the suitability of the product for their intended application. For safety information, please refer to the Safety Data Sheet (SDS). To request an SDS, please contact the Functional Adhesives Department, New Product Development Division, at the email address below.

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AR Glasses Intended Application Areas for Toagosei Products

Glass-Alternative Cover Sheet

Lens Adhesive

Hard Coating Material and Nanoimprint Resin for Lenses

Water and Oil Repellent Additive

UV-Curable Hard Coating Material and Nanoimprint Resin

Formulated with our proprietary oligomer to achieve a solvent-free, low-viscosity, high-hardness material.

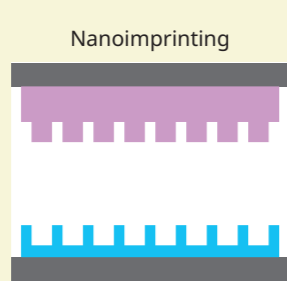
[Features]

- Solvent-free and low-viscosity
- High hardness and superior scratch resistance
- UV-LED curable

[Intended Applications]



Hard coat for lenses



Mold release

	ARONIX UVX-6524	ARONIX UVX-6466
Appearance		
Features	High hardness	For polycarbonate
Solid Content (NV)	100%	Approx. 50%
Viscosity mPa·s (23°C)	40	27
Pencil Hardness	3H (on PMMA substrate)	F (on polycarbonate substrate)
Adhesion	Good (on PMMA substrate)	Good (on polycarbonate substrate)

Curing Conditions
 UVX-6524: Coating thickness 10 μm, UV-LED (365 nm), Irradiance 400 mW/cm²
 UVX-6466: Coating thickness 20 μm, Metal halide lamp, 200 mW/cm², 3000 mJ/cm²

Water and Oil Repellent Additive (Silsequioxane Derivative AC-SQ SI-20)

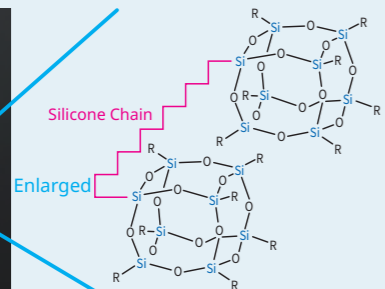
This proprietary organic-inorganic hybrid material imparts exceptional water and oil repellency with an addition of just a few percent.

[Features]

- Fluorine-free
- Maintains higher hardness compared to conventional additives
- Resistant to bleed-out and possesses high heat resistance



AC-SQ SI-20 Appearance
(Viscosity: 8,000 mPa·s)



Contact Angle and Surface Hardness upon SQ Addition

	No Additive	Coating Material with AC-SQ SI-20	Comparison: Commercial Fluorine-Containing Product
Water Contact Angle			
Oleic Acid Contact Angle (Oil Component)			
Surface Hardness	○	○ (Hardness Maintained)	△ (Hardness Reduced)
Solvent Resistance (No change in contact angle after solvent abrasion)	—	○	×

1 wt% of the additive (as solid content) was added to a hard coating material, applied as a 10 μm coating on PET film, and subsequently cured.

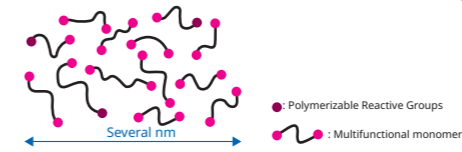
Cover Sheet

A glass-alternative resin developed using our proprietary polymerization reaction control technology.

Structure of Glass-Alternative Resin (ARONIX® Sheet): The Principle behind its Superior Durability

Raw Material

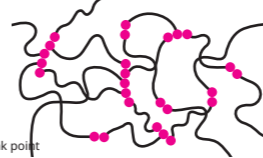
Special Multifunctional Acrylate
 Used in inks, hard coating materials, etc.



Curing

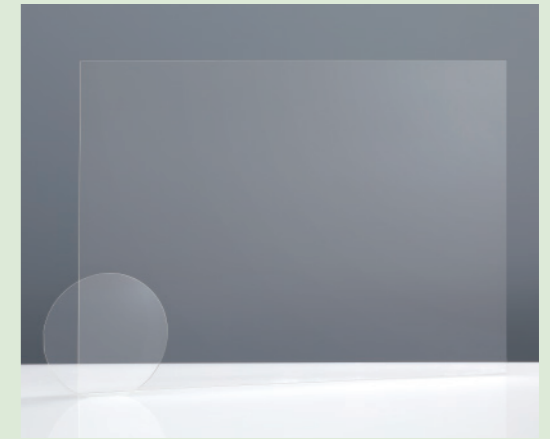
After Curing

Three-dimensional crosslinked structure of the special multifunctional acrylate
 Toughened by a three-dimensional crosslinked structure



Acrylic Sheet / Polycarbonate Sheet

Subject to dissolving under heat or chemical exposure due to not being crosslinked.



ARONIX Sheet
 Thickness: 0.5 mm to 3 mm, Size: 550 × 400 mm

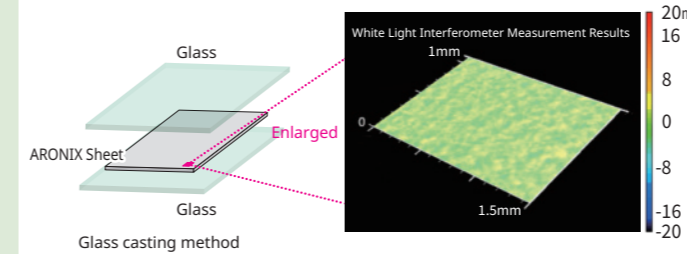
[Feature 1] Excellent heat resistance (no deformation above 200°C)

	ARONIX Sheet	PMMA (Acrylic Sheet)	PC (Polycarbonate)
After Heating	200°C × 30 min 	150°C × 5 min 	180°C × 5 min

[Feature 2] Excellent chemical resistance

	ARONIX Sheet	PMMA (Acrylic Sheet)	PC (Polycarbonate)
Acetone	48h 	1h 	1h

[Feature 3] Surface smoothness equivalent to glass



[Feature 4] Anti-reflective (AR) coating can be deposited directly without a hard coat

	AR Configuration
ARONIX Sheet	Direct AR deposition possible
Comparison: PMMA (Acrylic Sheet)	Substrate requires a hard coat

Key Differentiator

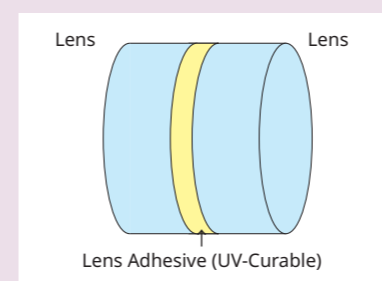
Lens Adhesive

Our adhesive formulation technology enables precise refractive index matching with lens materials.

[Features]

- Solvent-free
- Adjustable refractive index to match the lens material
- UV curable

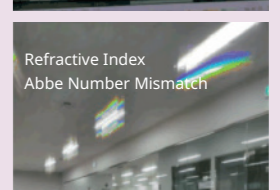
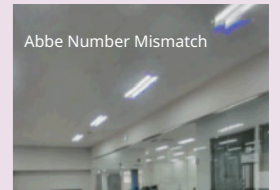
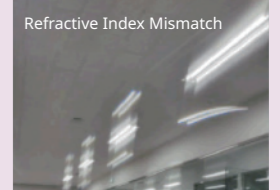
[Intended Applications]



	ARONIX UCX-851	ARONIX LCR-0629B
Appearance		
System	Cationic	Acrylic
Target Lens	For COP	For Polycarbonate
Viscosity mPa·s	250 to 380	11,000
Refractive Index	1.54	1.50

[Comparison]

*When UCX-851 is not used



Abbe Number: A measure of a material's chromatic dispersion (the variation of refractive index with wavelength).