

## DATA SHEET

### AR-139: Optical Coating

**AR-139** is a Moisture Cured hard anti reflective coating, with a refractive index of 1.39. It has a Pencil Hardness of 2H. It has good adhesion to glass, metals, oxides and plastics. It is a strong liquid repellent, allowing non-stick properties and easy removal of grease, various oils, solvents, and water. It allows for easy slipping of a finger, which is important in touch screens.

The product is supplied as a 60% solids content diluted in a mixture of fluorinated and non-fluorinated solvents. The non-diluted product is a highly viscous resin at ambient conditions.

The material cures upon exposure to ambient moisture. The cured product is an inert with a very low surface energy.

#### Properties

	Liquid state
RI liquid at 589 nm	1.391
Density of 60% solution, g/cm <sup>3</sup>	1.35
Viscosity, cps @ 25°C	100-400
	Cured state
RI cured at 589 nm	1.395
RI cured at 950 nm	1.391
Density of cured coating, g/cm <sup>3</sup>	1.41
Hardness	2H
Adhesion	V. high
Appearance	Clear Colorless Hard Solid

The product is supplied pre-filtered to below 1 micron particles.

#### Storage

1. Avoid unnecessary exposure to moisture.
2. Long term storage should be at ambient conditions of 0-30°C.
3. Keep container closed to avoid moisture penetration.
4. The shelf life is 6 months.

#### Application

The material is intended to be coated by any common coating technique such as: spin coating; spraying; dipping; roll coating, etc. The material can be diluted. See relevant links in the Technical Support page in our website.

Be aware of the risk of gelation, if the material is left in an opened bottle.

Curing schedule:

1. 20-60 min at ambient conditions (For 200 micron layers. Thicker layers take longer. High humidity accelerates the curing process).
2. One hour in an oven at 80-100°C.
3. For dilution and cleaning use polar solvents such as acetone or butyl acetate.

**Safety:** Refer to the SDS.

Note: The above information is believed to be reliable, but it is not to be taken as a representation, warrantee or guarantee. Customers should perform their own QC, QA and evaluation tests.

Updated: September 13, 2022