

## OPTOOL DSX

### Antifouling Agent

Water, Oil, and Stain Resistant Coating; Reduced Finger Printing

### Characteristics

Fluorosolvent-borne modified PFPE.

Forms a durable bond to glass surfaces.

Effective on surfaces coated with SiO<sub>2</sub>.

Highly transparent in the visible spectrum.

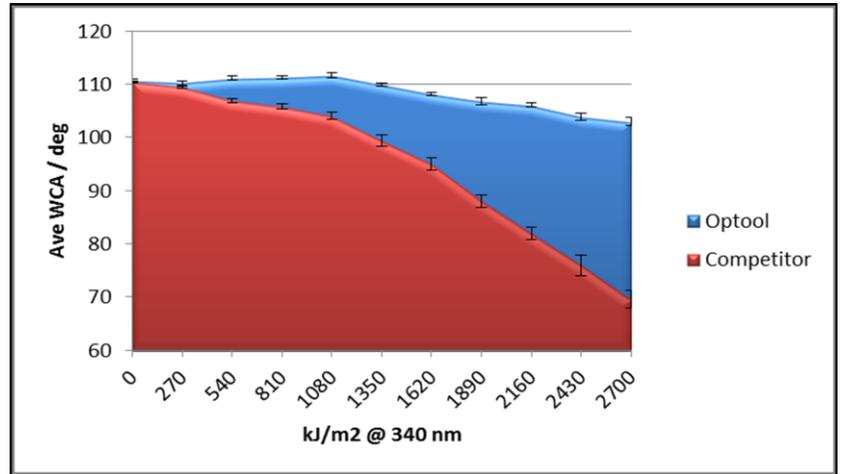
Can be applied by physical vapor deposition.

Can be applied by wet methods, such as spray, dip, spin, or flow coating.

Significantly reduces static and kinetic coefficients of friction of bare glass.

### Accelerated Xenon Arc Testing

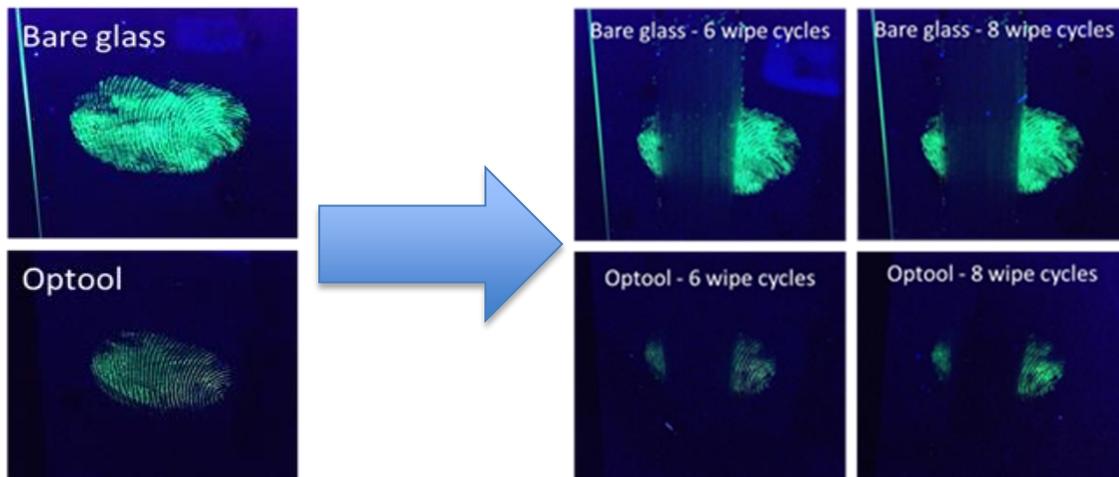
Modified ASTM G-155 Cycle 1 from 0.35 to 1.5 W/m<sup>2</sup>



Properties*	Optool	Bare Glass
Water Contact Angle	≥109°	<10°
n-Hexadecane Contact Angle	65°	<10°
Fingerprint Mitigation	Excellent	Poor
Easy Clean	Excellent	Poor
Kinetic Coefficient of Friction	0.08	0.15
Steel Wool Abrasion Resistance	4000 cycles	--

\*Typical properties are not suitable for specification purposes.

### Typical Performance Characteristics

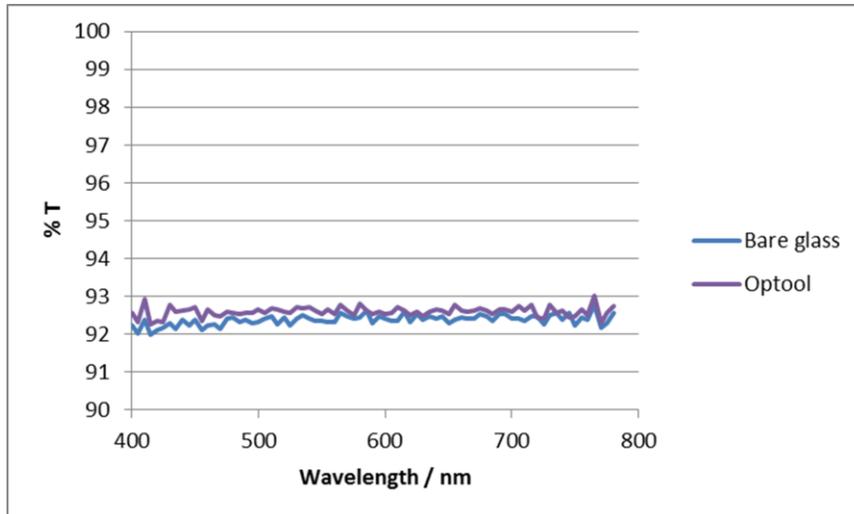


Fingerprint Transfer to Bare glass (top) and Mitigation on Optool-treated glass (bottom)

Fingerprint Cleaning on Bare glass (top) and Optool-treated glass (bottom)

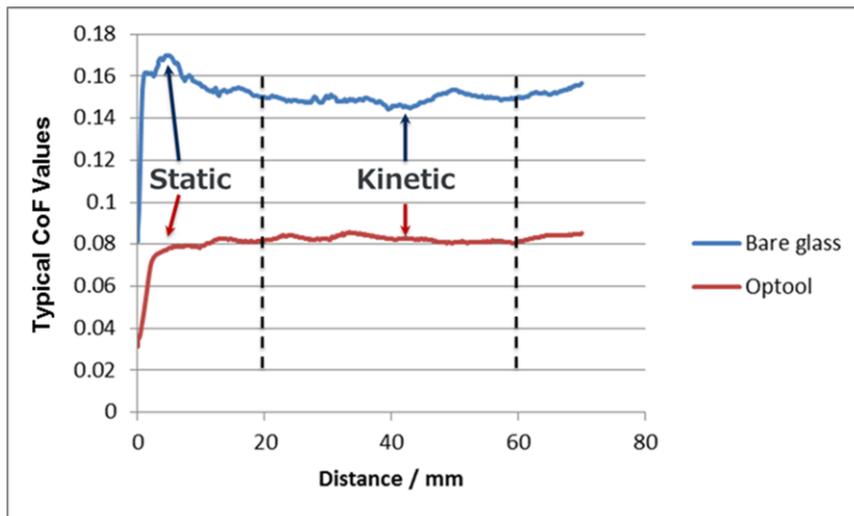
## Optical Properties:

Optool has excellent optical properties in the visible spectrum. A thin layer, approximately 10 – 15 nm thick, will not distort the optical characteristics of the glass to which it is applied. The %T across the visible spectrum is “flat”.



## Haptics:

Optool will significantly reduce the static and kinetic coefficients of friction. Thus, fingers glide easily and smoothly across a glass surface, leading to a much-improved touch sensation.



## Application Methods:

### Wet Methods (Spray, Spin, Dip, Flow, etc.):

Clean the substrate prior to treating the substrate with Optool.

Plasma, UV/Ozone, or chemical cleaning are generally effective.

Prepare a dilute Optool solution by diluting in perfluorohexane or other suitable fluorinated solvents, such as hydrofluoro ethers.

A starting point dilution is to reduce the Optool to 0.1% by wt.

Apply the dilute solution evenly across the substrate surface.

### Dry Methods (Physical Vapor Deposition):

Optool can be pelletized.

Pellets are heated in the PVD system to vaporize the Optool material.

For best results, a SiO<sub>2</sub> adhesion layer should be deposited on the substrates immediately before depositing the Optool.

### Post-processing/Curing Methods:

#### Low Temperature/Elevated Humidity

60C, 90% RH, 1 hour

#### Elevated Temperature/Ambient Humidity

150C, 30 min

### Handling Instructions:

Read and understand the SDS.

Work in a well ventilated area.

Wear the appropriate PPE, including gloves and safety glasses.