

Description

OPTEC 2000 Lenses Coating material, provides a optically clear surface on Polycarbonate or Acrylic lenses that is nearly as scratch and abrasion resistant as glass with the broadest range of chemical and solvent resistance available. OPTEC 2000 is a transparent coating typically applied from 4 to 6 microns thick.

Applications

OPTEC 2000 can be used to enhance safety and esthetics in almost any lens application:

- Full Face Piece Respirator Lens Assemblies (SCBA)
- Optical Grade Lens Covers for Institutional Video Security Cameras
- Head Cover Lens Assemblies
- Hood Lens Assemblies
- Air-hat Helmet Lens Assemblies
- DOT Helmet Lens Assemblies
- Safety Glasses/Goggles/Face Shields
- Prescription and Non-prescription Plastic Eyeglass Lens (clear and tinted)

Typical Product Data:

The OPTEC 2000 formula and application process on polycarbonate lens moldings and extrusions results in no less than the following minimum specifications:

Luminous Transmittance

Type I – (Clear) 85% Minimum Transmittance

Type II – (Tinted) 17% to 23% Transmittance

Haze - <2% Maximum Average

Lens Defects – No defects larger than 0.07 square millimeters (pits, bubbles, inclusions, embedded foreign matter).

Abrasion Tests

Taber Abrasion Test (with 500 g. load on each wheel @ 1000 cycles. Haze % measured ASTM D 1003-6L.)

Result: 3.0-7.0 Δ Haze

Steel Wool Test (with #0000 Steel Wool Pad, 1.12" D @ 25psi & 5 cycles.)

Result: 1.0 Δ Haze

Summers Optical Coating Hardness Test, 2 ½ Pound

Result: <2% Δ Haze

Environmental Tests

Water Immersion Test (in tap water @ 65°C.)

Result: 500+hours with no cracking or loss of adhesion.

QUV Exposure Test (on QUV instr. Manuf. By Q Panel Corp. Cycle = 8 hrs. Uv @ 70°C & 4 hrs cond. Humidity @50°C.)

Result: 400+hours with no cracking or loss of adhesion.

RS Sunlamp Exposure Test

Result: 800+ hours with no cracking or loss of adhesion.

UV Light Yellowness Index Test (after 500 hrs. of QUV.)

Result: Index = 1-4

Haze after Boiling (Placed in boiling water for no less than 2 hours, then cooled for 1 hour)

Results: No evidence of peeling, <2% Δ Haze

Solvent Resistance Tests (with saturated cotton balls for 30 min).

Ethylene Glycol Anti-Freeze

Diesel Fuel

Gasoline

Heavy Duty Detergent

Heavy Duty Brake Fluid

Transmission Fluid (Type A)

Isopropyl Alcohol

Acetone

Result: <2% Δ Haze

Chemical Resistance Tests (applied and allowed to stand for no less than 6 hours)

Liquid Nerve Gas Agent GB

Liquid Nerve Gas Agent HD

Result: <2% Δ Haze

Impact Tests

Room Temperature Impact (1 inch steel ball dropped 50 inches onto front of lens)

Result: No fracture, chipping or crazing of coating

Low Temperature Impact (After conditioning at -40°C, ± 1°C for not less than 4 hours, drop 1 inch steel ball, 50 inches onto front surface of lens)

Result: No fracture, chipping or crazing of coating