

Plexiglas[®] Reflect[™] Acrylic Resin for Lighting

Achieve higher luminaire light output through optimal reflectance.

For more than 70 years, Plexiglas[®] acrylic resins have played a vital role in the development of durable, weatherable lenses for commercial, industrial, residential, and roadway lighting. Plexiglas[®] acrylic resins are materials of choice for leading light system manufacturers, resin processors, molders, specifiers, and designers for incandescent, fluorescent, high intensity discharge (HID), and now light emitting diode (LED) technologies.

Altuglas International is pleased to offer a new acrylic solution that enables luminaire manufacturers to consider an efficient alternative to coated metal or coated plastic.

Plexiglas[®] Reflect[™] resin offers enhanced reflectance when compared to other plastics and matches the high performance of coated metal and coated plastic.

Plexiglas[®] Reflect[™] resin is formulated to exhibit excellent UV resistance and weatherability, and is easily processed using injection molding or extrusion. This new product can be used in combination with lenses made from other Plexiglas[®] resins, including our Plexiglas[®] Diffuse[™] resins.

THICK LAYER APPLICATIONS

Plexiglas[®] Reflect[™] MI7M-66204 resin is specifically formulated to be blended with other Plexiglas[®] resins to offer a cost effective balance of excellent reflection performance, impact resistance, and low gloss in a wide range of extruded thicknesses.

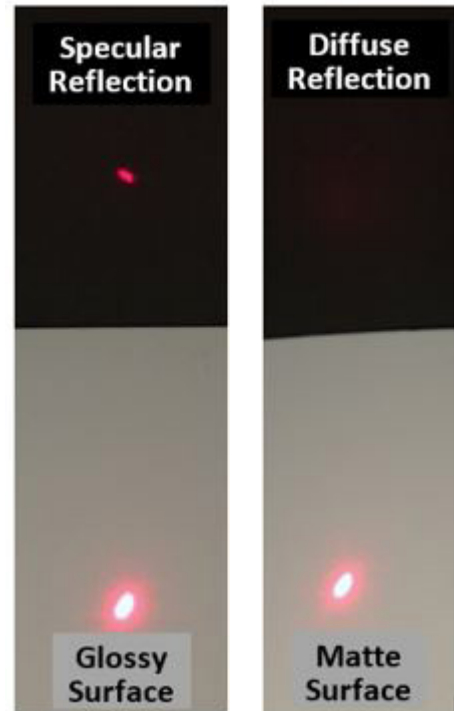
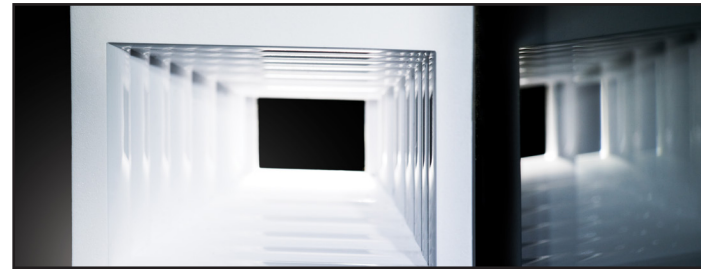
THIN LAYER APPLICATIONS

Plexiglas[®] Reflect[™] MI7M-66204 resin is specifically designed to offer excellent reflection performance in very thin layers and is suitable for use in film or co-extrusion processes. Please ask us for details!

BENEFITS

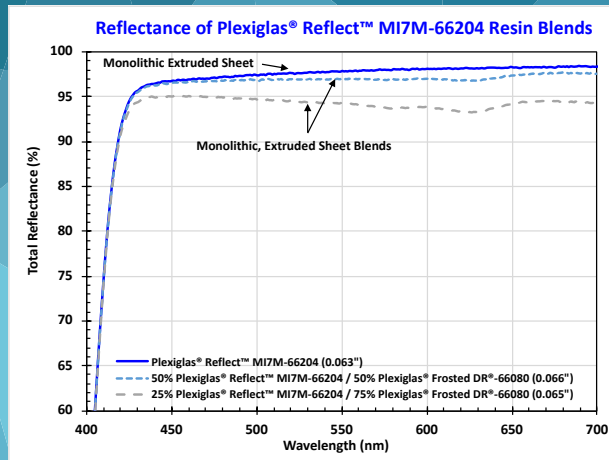
Plexiglas[®] Reflect[™] MI7M-66204 resin provides OEMs and optics suppliers with:

- Outstanding reflectivity to increase light output vs. other plastics
- Diffuse reflective, white surfaces (Matte)
- Compatibility with LEDs and other light sources
- Excellent UV resistance and weatherability
- Ease of processing (extrusion, co-extrusion, thermoforming, and cutting)
- Co-extrudable with Plexiglas[®] Diffuse[™] resins in profile applications
- A lightweight alternative to coated metal

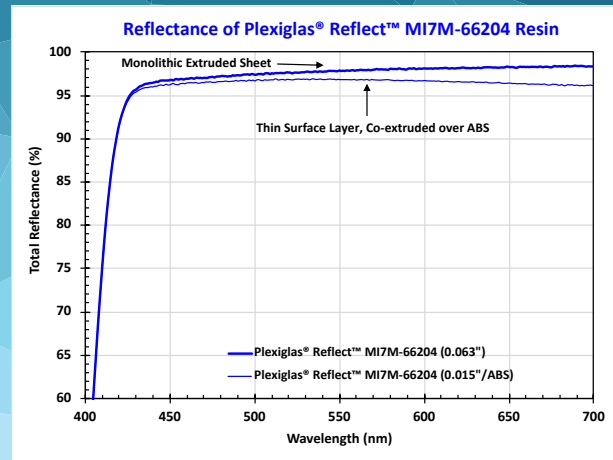


Reflected laser beam from samples made using a glossy white reflective material and Plexiglas[®] Reflect[™] MI7M-66204 (matte) resins, respectively, projected onto a black wall in a dark room.

EXTRUDED SHEET BLENDS



EXTRUDED SHEET (MONOLITHIC & CO-EXTRUDED)



Extruded sheets from Plexiglas® Reflect™ MI7M-66204 resin blends provide a range of good to outstanding reflectivity in the visible light spectrum.

TYPICAL PROPERTIES ¹	TEST METHOD	UNITS	PLEXIGLAS® REFLECT™ MI7M-66204
OPTICAL²			
Reflectance @ 450 nm	ASTM E903	%	97.1
Reflectance @ 550 nm	ASTM E903	%	98.2
Reflectance @ 650 nm	ASTM E903	%	98.6
PHYSICAL			
Melt Flow Rate (230°C/3.8kg)	ASTM D1238	g/10 min	1.4
Specific Gravity	ASTM D792	-	1.25 – 1.35
Mold Shrinkage	ASTM D955	%	0.3 – 0.6
Water Absorption (24 hr immersion)	ASTM D570	% wt gain	0.3
MECHANICAL			
Tensile Strength @ Maximum	ASTM D638	MPa (kpsi)	46 (6.7)
Tensile Elongation @ Break	ASTM D638	%	21
Tensile Modulus	ASTM D638	GPa (kpsi)	2.3 (340)
Flexural Strength @ Maximum ³	ASTM D790	MPa (kpsi)	69 (10)
Flexural Modulus ³	ASTM D790	GPa (kpsi)	2.4 (355)
Notched Izod Impact @ 23°C (73°F)	ASTM D256	J/m (ft-lb/in)	27 (0.5)
Rockwell Hardness	ASTM D785	M-Scale	62
THERMAL			
DTUFL - 0.455 MPa (66 psi), annealed ⁴	ASTM D648	°C (°F)	104 (220)
DTUFL - 1.82 MPa (264 psi), annealed ⁴	ASTM D648	°C (°F)	100 (213)
Vicat ³ - 50°C/hr, 10N (122°F/hr, 2.2 lb)	ASTM D1525	°C (°F)	107 (225)
Vicat ³ - 50°C/hr, 50N (122°F/hr, 11.2 lb)	ASTM D1525	°C (°F)	98 (208)
FLAMMABILITY²			
Fire Resistance	ASTM D635	Class	HB

- 1 - Values reported are averages measured on 3.2 mm (0.125") thick samples (unless otherwise noted) and should not be used for specification purposes.
- 2 - Values reported are averages measured on 1.5 mm (0.060") thick, monolithic samples.
- 3 - Values reported are averages measured on 6.4 mm (0.250") thick, monolithic samples.
- 4 - Deflection Temperature Under Flexural Load (DTUFL) Annealing Cycle: 16 hours @90°C (194°F), slow cool.

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