

# PLEXIGLAS® Optical

## Rear projection (RP)

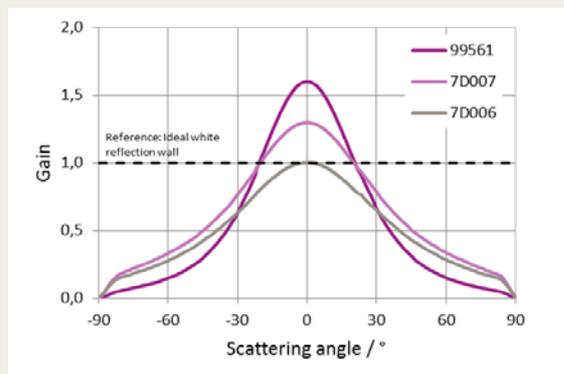
### Product

PLEXIGLAS® Optical (RP) was especially developed for rear projection to ensure optimal image generation in this demanding field of application.

The base material is highly transparent PMMA with its excellent light transmission (92%). It offers very good mechanical strength, which makes the rear projection screens extremely hard-wearing.

Different types of RP screens are offered that are optimized in contrast, gain and half-gain for various applications. All this is combined with an excellent price/performance ratio and a tough configuration.

### Gain chart



### Properties

The light grey color of PLEXIGLAS® Optical (RP) enables very good contrast. Any environmental light is absorbed by this color providing a brilliant image even less dark surroundings.

In the high-end PLEXIGLAS® RP products, highly effective light diffusing particles are concentrated in a thin surface layer using a new production method. This enables us to manufacture high resolution screens with very good brightness uniformity.

Besides the general properties of PLEXIGLAS® like

- excellent light transmission and brilliance
- outstanding weather resistance
- 100% recycling ability
- easy to fabricate
- high surface hardness
- light weight - half the weight of glass
- 11 times more break resistant than glass

PLEXIGLAS® Optical RP possesses the following properties:

- excellent light transmittance and superior quality picture
- antiglare surface structure
- high brightness uniformity
- suitable for multitouch and 3D
- mechanically robust und durable

### Applications

Based on these properties PLEXIGLAS® Optical (RP) is especially suitable for applications in:

- event technology, control rooms, rear projection television, digital signage
- multitouch systems

- rear projection using normal lenses, single- or two mirror technology

## Processing

PLEXIGLAS® Optical RP can be machined with the same parameters and equipment as standard PLEXIGLAS®. The following fabricating guidelines are available:

- Machining of PLEXIGLAS® (No. 311-1)
- Forming of PLEXIGLAS® (No. 311-2)
- Joining of PLEXIGLAS® (No. 311-3)
- Surface treatment of PLEXIGLAS® (No. 311-4)
- Fabricating tips of PLEXIGLAS® solid sheets (No. 311-5)

## Material Data

Elastic modulus (ISO 527-2/1B/1)	3300 MPa
Tensile strength (ISO 527-2/1B/5)	72 MPa
Elongation at break (ISO 527-2/1B/5)	4.5 %
Notched impact strength (ISO 179/1eA)	1.6 kJ/m <sup>2</sup>
Charpy (ISO 179/1fu)	15 kJ/m <sup>2</sup>
Vicat softening temperature (ISO 306, B50)	105°C
Water uptake (24h, ISO 62)	38 mg

## Technical Properties

	PLEXIGLAS® Optical (RP) 99561	PLEXIGLAS® Optical (RP) 7D006	PLEXIGLAS® Optical (RP) 7D007
Standard formats	Thickness 3 mm 3050 mm × 2050 mm 6000 mm × 2050 mm	Thickness 5 mm 2200 mm × 1600 mm 6000 mm × 1600 mm	Thickness 0.75 mm 1950 mm × 1100 mm
Color	Anthracite	Anthracite	Anthracite
Optical Data (DIN 5036)			
Gain	1.6	1.0	1.3
Half-Gain	± 24°	± 38°	± 36°
Light transmittance	42 %	45 %	40 %
Surface gloss ISO 2813		R(20°) ~ 3 R(60°) ~ 20 R(85°) ~ 20	R(60°) ~ 10

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Evonik Industries is a worldwide manufacturer of PMMA products sold under the PLEXIGLAS® trademark on the European, Asian, African and Australian continents and under the ACRYLITE® trademark in the Americas.

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