



The Original.



Why PLEXIGLAS® is the better choice for your projects.

Polymerization process:

PLEXIGLAS®

The polymerization of PLEXIGLAS(R) starting with the monomer (Methylmethacrylate) in the water bath, produces a molecular weight of 4-5 million and is thus the highest molecular weight, that can be achieved in acrylic glass production. It therefore guarantees the highest strength and weather resistance.

Pressure polymerization of acrylic, slush cast

The slush casting is a mixture of Methylmethacrylate (Monomer) and polymer (molding compounds) percentage of up to 50%. The molding compounds have a molecular weight of 200.000. Crosslinker is also added to the recipe. The molecular weight from the slash cast cannot be detected by SEC (size exclusion chromatography), because it is almost one molecule. 50%, however, is a low molecular weight from molding compound which is only dissolved.

Clearness:

PLEXIGLAS®

There are no additives like in slash cast necessary. PLEXIGLAS® is crystal clear. Starting with the monomer the filtration can be done down to 1/1000 mm. There is no dust or haze visible.

Pressure polymerization of acrylic, slush cast

In slash casting, the molding compound and additives such as the crosslinker generate a distinct yellow cast, which is compensated by a bluing agent. However, this bluing effect is limited in time as the dyes degenerate. Using the molding compounds no filtration before the casting is possible. All abrasion from the mill, the feed system, packaging, will be in the product and generate a visible dust and haze.

Recycling:

PLEXIGLAS®

Casted PLEXIGLAS® can be recycled very well to 100%, because it is produced from pure MMA (Methylmethacrylate)!

Pressure polymerization of acrylic, slush cast

The moulding compound in slash casting contains approx. 10% methyl acrylate to make the moulding compound temperature resistant. This is a major disadvantage and obstacle to recycling, as it releases 10% toxic methacrylate. Recycling is extremely difficult, if at all possible.

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Production process, surface quality:

PLEXIGLAS®

The PLEXIGLAS® Blocks are produced between glass sheets, which guarantee a perfect surface finish.

Pressure polymerization of acrylic, slush cast

Acrylic material casted in steel forms have to be sanded and polished at the surface, which is an disadvantage.

Glueing:

PLEXIGLAS®

The achieved adhesive strength is quite high, due to the fact, that the surface of the blocks can be solved. This creates a solid connection to the block surfaces, which is one of the key factors for a high bond strength with a long life time.

Pressure polymerization of acrylic, slush cast

The bonding of cross-linked material is very difficult, because it is difficult to etch the surface of the material. The adhesive strengths only reach suboptimal values.

Röhm is the new name for the methacrylates business of Evonik Industries, which was just sold to the private equity firm Advent International for \$3.4 billion. Röhm holds the Plexiglas polymethyl methacrylate trademark everywhere but the US, where it belongs to Arkema. Based in Darmstadt, Germany, Röhm had 2018 sales of \$2.25 billion. The name honors the chemist Otto Röhm, who founded the business 85 years ago and cofounded Rohm and Haas.

RÖHM

Credit: Röhm