TECHNICAL DATA SHEET

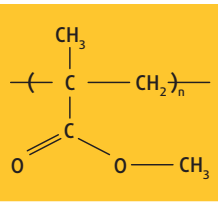
ALTUGLAS™ EX CLEAR-EX OPAL-EX WHITE-EX BLACK

The ALTUGLAS™ EX Clear, EX Opal, EX White and EX Black extruded products have the full range of different transparencies.

From completely clear, via opal, up to full opaque black. Numerous white shades and light transmissions are available. It is a transparent/translucent/opaque product commonly named « Acrylic Glass ». Half the weight of the glass and it can be easily thermoformed, bended, cut, drilled and glued. There's no limit to your imagination.

MAIN PROPERTIES

PMMA (POLYMETHYLMETHACRYLATE)



- Light weight
- Transparent to opaque
- Glossy
- UV resistant - No Yellowing
- Easy formable
- Easy machining

MAIN APPLICATIONS

- Furniture
- Shop fitting
- POP/POS, display
- Signage
- Glazing
- Skydome
- Machine cover
- Cosmetic

PACKAGING

- Our standard masking film transparent blue offers a strong adhesion thanks to an additional adhesive layer
- Our product is store on wood pallets with a cardboard sheet at the bottom and the top
- The sheets are protected by a clear polyethylene film covering the entire stack
- Strapped pallets
- The total weight of the pallet and sheets is less than one ton

STORAGE

The following rules have to be applied:

- Store the product in a dry place, indoors
- Place a polyethylene cover over the stack when a sheet is removed, to reduce moisture absorption
- Only use original delivery pallets
- Stack pallets of the same size and design to prevent waving
- Place pallets on even surfaces (floor or shelf)
- The durability of the protective film is limited (sensitive to UV, temperature, humidity and chemicals)

CERTIFICATES

- Our sheets rely to the norm ISO 7823-2 : 2003 regarding types, dimensions and characteristics

TECHNICAL DATA SHEET

TYPICAL VALUES

	Measurement Method	Unit	Value
General characteristics			
Density	ISO 1183	g/cm^3	1.19
Water absorption (24h)	ISO 62	%	0.3
Water absorption (8 days)	ISO 62	%	0.5
Thickness tolerance	sheet less than 3mm +/- 10 %; sheet 3mm to 20 mm +/- 5%		
Mechanical properties			
Modulus of elasticity (23 °C)	ISO 527-2	MPa	3300
Tensile strength (23 °C)	ISO 527	MPa	74
Charpy impact strength (un-notched)	ISO 179/2D	KJ/m^2	10
Surface hardness (Rockwell scale M)	ISO 2039	-	95
Thermal properties			
Vicat softening point (B50)	ISO 306	°C	105
Coefficient of linear expansion	ISO 11359	mm/m/°C	0.065
Maximum continuous service temperature	-	°C	80
Maximum heating temperature	-	°C	180
Linear shrinkage after heating	-	%	< 3
Forming temperature	-	°C	140 - 175
Optical properties - Light transmittance (3 mm)			
ALTUGLAS™ 200.10000 * (Clear)	ISO 13468	%	92
ALTUGLAS™ 200.27000 (Opal)	ISO 13468	%	33
ALTUGLAS™ 200.27005 (Opal)	ISO 13468	%	83
ALTUGLAS™ 200.27006 (Opal)	ISO 13468	%	68
ALTUGLAS™ 200.27007 (Opal)	ISO 13468	%	50
ALTUGLAS™ 200.27008 (Opal)	ISO 13468	%	38
ALTUGLAS™ 200.47001 (White)	ISO 13468	%	8
ALTUGLAS™ 200.48000 (Black)	ISO 13468	%	0
Flammability			
Self-ignition temperature	-	°C	~ 450
Melt behaviour when burning	-	-	Non drip
Euroclass classification	EN 13501	-	E
UL	UL 94	-	HB

* Haze 0,4

trinseo.com

The principles of Responsible Care® and sustainability influence the production of printed literature for Trinseo PLC and its affiliated companies. As a contribution toward the protection of our environment, Trinseo's printed literature is produced in small quantities and on paper containing recovered/post-consumer fiber and using 100 percent soy-based ink whenever possible.

Product Stewardship

Trinseo and its affiliated companies have a fundamental concern for all who make, distribute, and use their products and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products so that appropriate steps may be taken to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Trinseo products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Customers are responsible for reviewing their manufacturing processes and their applications of Trinseo products from the standpoint of human health and environmental quality to ensure that Trinseo products are not used in ways for which they are not suitable. Trinseo personnel are available to answer questions and to provide reasonable technical support. Trinseo product literature, including safety data sheets, should be consulted prior to the use of Trinseo products. Current safety data sheets are available from Trinseo.

No freedom from infringement of any patent owned by Trinseo or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the customer is responsible for determining whether products and the information in this document are appropriate for the customer's use and for ensuring that the customer's workplace and disposal practices are in compliance with applicable legal requirements. Although the information herein is provided in good faith and was believed to be accurate when prepared, Trinseo assumes no obligation or liability for the information in this document.

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS

TRINSEO REQUESTS THAT CUSTOMERS REFER TO TRINSEO'S MEDICAL APPLICATION POLICY HTTP://WWW.TRINSEO.COM/MEDICAL.HTM BEFORE CONSIDERING THE USE OF TRINSEO PRODUCTS IN MEDICAL APPLICATIONS. THE RESTRICTIONS AND DISCLAIMERS SET FORTH IN THAT POLICY ARE INCORPORATED BY REFERENCE.

For more information on products, innovations, expertise, and other services available from Trinseo, visit www.trinseo.com, or in the U.S. contact us at +1-855-TRINSEO (+1-855-874-6736).

DISCLAIMER

TRINSEO MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, IN THIS DOCUMENT; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE (INCLUDING MEDICAL APPLICATIONS) ARE EXPRESSLY EXCLUDED. SINCE THE CONDITIONS AND METHODS OF USE OF THE INFORMATION AND PRODUCTS REFERRED TO ARE BEYOND TRINSEO'S KNOWLEDGE AND CONTROL, TRINSEO DISCLAIMS ANY AND ALL LIABILITY FOR LOSSES OR DAMAGES THAT MAY RESULT FROM RELIANCE ON THE INFORMATION OR USE OF THE PRODUCTS DESCRIBED HEREIN. TRINSEO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, THAT THE USE OF ANY TRINSEO PRODUCT WILL BE FREE FROM ANY INFRINGEMENT CLAIMS.

GENERAL NOTICE

Any photographs of end-use applications in this document represent potential end-use applications but do not necessarily represent current commercial applications, nor do they represent an endorsement by Trinseo of the actual products. Further, these photographs are for illustration purposes only and do not reflect either an endorsement or sponsorship of any other manufacturer for a specific potential end-use product or application, or for Trinseo, or for specific products manufactured by Trinseo.If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Trinseo to change specifications and/or discontinue production, and (4) although Trinseo may from time to time provide samples of such products, Trinseo is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

For additional information not covered by the content of this document or to ensure you have the latest version of this document available, please refer to our website at www.trinseo.com/contact.

Follow us at:

TRINSEO™