TroGlass Clear GS

Physical Properties	Specification	Test Method
Substrate	Casted Acrylic	
Variance	See catalogue or visit our webshop https://shop.troteclaser.com/	
Thicknesses and Sheet Size	2, 3, 4, 5mm: 1216 x 606mm (full sheet), half 606 x 606mm, quarter 606 x 301mm 6, 8, 10, 15mm: 1200 x 598 mm (full sheet), half 598 x 598mm, quarter 598 x 297mm 20mm: 1194 x 595mm (full sheet), half 595 x 595mm, quarter 595 x 295mm	
Tolerances Manufacturing	+/- (0,4 + (0,1 x s))	ISO 7823-1
Fabrications Properties	Laser, Saw	
Use	Exterior, Interior	
Impact strength	12,5 KJ/m2	ISO 179/1
Izod Impact	1,35 KJ/m2 in notch	ISO 180/1 A
Vicat Softening Point	>110°C	ISO 306A
Auto-ignition Temperature	467,78°C	ASTM D-1929
Volume Resistivity	>1.6 x 10^{16} ohm/cm	ASTM D-257
Electrical Strength	30 KV/mm	IEC 243
Light Transmission	>92% (3mm)	ASTM D-1003
Modulus of Elasticity	460,000 PSI / 3,171.59 MPa	ASTM D-638
Tensile Strength	@23°C 69 MPa	ISO 527
Elongation at Break	4.2%	ISO 527
Flexural Strength	116 MPa	ISO 178
Flexual Modulus	3,300 MPa	ISO 178
Water absorption	0,3% 24h	ISO R 62
Density	1,19g/cm3	ISO 1183
Hardness	100M Rockwell	ISO 2039-2
Flammability rating	UL94 HB EN13501 E	UL94 ISO13501

Restriction of Hazardous Substances (RoHS)/ U.L. Certification/Halogenated Materials Trotec has investigated the Restriction of Hazardous Substances (RoHS 3) directive issued by the European Union (directive 2015/863/EU). This RoHS directive prohibits the distribution of products after June 2015, which contain the following materials: lead, mercury, cadmium, hexavalent chromium, poly-brominated biphenyls and poly-brominated diphenyl ethers. The directive appears to apply to all products that operate on electrical power and contain electronic components. Trotec complies with the use and disclosure of all halogenated materials and does not incorporate poly-brominated biphenyls or poly-brominated diphenyl ethers in any of its products. Based on our audit, Trotec plastic sheet products are in compliance with this directive and do not contain any of the elements noted above or in the candidate list in accordance with the referenced directive. Our related MSDS documents may be found in the Trotec webshop (shop.troteclaser.com) at the related article and can be referenced for further information.

All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses, and that purchasers assume all risks and liability for the results of use of the products, including use in accordance with seller's recommendations, Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or by others. THERE IS NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PURPOSE. PRODUCTS WILL MEET SELLER'S STANDARD SPECIFICATIONS THEREFORE, BUT THERE ARE NO OTHER WARRANTIES FOR THE PRODUCTS DESCRIBED.

Certifications: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018

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Frequently Asked Questions

Should the protective masking film be removed before laser engraving/cutting and rotary engraving/cutting?
Please remove the protective coating before laser or rotary engraving.
Before cutting the materials, however, it is recommended to leave the protective masking in place when performing vector cuts if your application will permit. This will minimize residue and clean-up efforts.

How to improve the cutting / engraving result of a TroGlass product?
You can quickly and easily produce neon signs, regular signs, POS displays and more from acrylic. Without any additional post processing, the laser cut creates a glossy, flame-polished cutting edge. You can efficiently and inexpensively cut sheet material up to a thickness of 25 mm with the laser cutting machine. The acrylic is either engraved with the CO_2 laser or marked with the fiber laser. When processing with the CO2 laser, a matt surface is created after the laser engraving. Impressive laser engravings can be produced.
The rule of thumb is: you need approx. 10 watts of laser power per 1 mm of material. For optimal cutting of 3mm acrylic, 30 watts of laser power are required for a good production speed.

How do I use parameters in Ruby® and JobControl®?
In Ruby® and JobControl® you will find parameters optimized for quality and for speed.
"Quality" parameter sets are recommended for applications where fine detail and strong contrast is required.
"Speed" parameters are for time-efficiency orientated applications, where a reduced degree of detail in engraving is acceptable.

How to store laser materials correctly to avoid warping?
- The panels should be stored horizontally and flat
- Storage location should be dry and weatherproof (indoor)
- Average-temperature rooms without large fluctuations in room temperature and air humidity
- The material should not be exposed to direct sunlight, as the protective film can become porous if too much heat is generated
- Too long storage can have a negative effect on the protective film

Can there be dimensional and color deviations?
Any color deviations between the images shown in the shop and the actual items are due to electronic display or typographical reasons and are not considered mistakes. Depending on the batch, minor dimensional and color deviations may occur due to production.

How can the product be cleaned after processing?
Generally, there is no after processing necessary when working with pure acrylic. Avoid cleaners containing alcohol or ammonia.

What is a recycled acrylic product?
Due to its processing casted acrylic products can be produced out of 100% recycled content remaining the same aspects as virgin material. The acrylic characteristics can be reset/reactivated before feeding into the production process. With this you can reuse all pure acrylic products after its end of life. Trotec certified sustainable products are marked with the green “t”.

Icon Legend

Laser material
This material is suitable for processing on a laser device.

Rotary material
This material is suitable for processing with mechanical engraving devices.

Reverse engraving
This material is engraved from the back using mirrored graphics. The engraved area can be infilled or backlit to enhance the contrast against the colored background.

Front engraving
This material is engraved from the front side.

Exterior use
This material is tested for UV-resistance and suitable for outdoor use.

Indoor use
This material is suitable for interior applications.

Adhesive possible
Adhesive backing can be applied on selected materials.

UV-Print-Icon
This material is especially suitable for UV/ digital printing.

Grey Icons
All symbols in grey mean that the respective application does not apply.