TroLase Textures, Ultra

Physical Properties	Specification	Test Method
Substrate	Impact Modified Acrylic (PMMA)	
Colors & Variance	See catalogue or visit our webshop https://shop.troteclaser.com/	
Thicknesses	1.6mm (+/-0.1mm) 3.2mm (+/-0.2mm)	
Sheet Sizes	1220 x 610 mm (+/- 0.2%) full sheet half 610 x 610mm / quarter 610 x 305mm	
Flatness	5mm max warp	
Fabrications Properties	Laser, Saw, Guillotine	
Engraving Depth	0.3mm	
Use	Exterior, Interior	
UV Light Resistance	Equivalent of 2 years without any color change or fading	500 hours QUV chamber
Color tolerance	ΔE max: 1.0	Measured following BS6923
Surface (only applies for Textures)	Texturized 4/5	Wool scale
Density	1.15 g/cm^3	ASTM D792
Izod impact strength	@ 20°C 58.5 J/m	ASTM D256
Tensile strength at break	5,511 PSI / 38 MPA	ASTM D-638 / ISO 527
Nominal strain at break	35%	ASTM D-638 / ISO 527
Vicat softening point (B/50)	88.5°C	ASTM D1525
Temperature resistance	from -40°C to +80°C	Internal Method
Scratch resistance	300 g	Internal Method with Sclerometer
Hardness	42M Rockwell	ASTM D785
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.

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Certifications: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018 (Certificate can be found on the Trotec-Website)

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Frequently Asked Questions

What different the TroLase Textures and Ultra from the rest of the TroLase series?
Other than the rest, these two product lines are not laminated with a top layer but consist out of two extruded sheets which will be pressed together, this results in very robust surface which can be used in harsh environments.

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 can a perfect white result be achieved when engraving a 2-ply material with white core and dark top colors?
Using the 'bottom up' engraving setting in your Ruby® or JobControl® laser software will minimize the re-distribution of color residue to the core color. Increasing power in 5 % increments can be helpful and multiple passes might be required to achieve your optimal result, though with TroLase materials only one pass brings a very good result.
In many cases, Z-offset (controlled de-focus) in the range of 1 mm - 2 mm will allow for a smoother engraving surface with a more intense color result.

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 do I reduce the dust generated during engraving or cutting?
It is recommended to set the parameters to engrave effectively through the color surface, while only as little as possible is being removed off the core material. Also, using a vacuum table and exhaust system to effectively remove the dust generated.
It can also help to use the Air assist function of the laser.

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?
Impact modified acrylic tends to show sticky edges after laser cutting, this is related to the rubber components used to avoid getting a brittle product. The edges can be processed with a scotch tape or cleaned with a cleaner like "Ultra Clean". To clean the surface in general any Household detergents can be used. Due to its robust surface, also ammonia or alcohol-based detergents can be used as an option. Do not use abrasives such as rubbing compounds or cleaners.

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.