

Product:

Cast acrylic sheets of various colour shades and dimensions with a smooth and shiny surface offer a wide spectrum of use:

- glazing
- facades
- balcony railings
- bulkhead walls
- interior equipment
- for making illuminants
- advertising boards and signs
- acrylic goods
- office equipment and products
- rooflights: domes and canopies
- interior equipment in the automobile and caravan industries

Characteristics of cast acrylic sheets:

- exceptional optical clarity
- high surface hardness
- high resistance to wear
- long lifespan
- lighter weight in comparison to glass
- functionality and aesthetics
- easy processing
- easy cleaning and maintenance
- material in accordance with acrylic sheet standards
- environmentally friendly (100% recycling)

Applications

The Pureglaze cast acrylic sheets are in accordance with the European standards for cast acrylic sheets ISO 7823-1 and due to their characteristics, they are suitable for processing:

Dimensions

- Thickness:

Thickness (mm)	3	3.2	4	5	6	8	10	12	15	20	25	30
Tolerance (mm)	± 0.7	± 0.7	± 0.8	± 0.9	± 1.0	± 1.2	± 1.4	± 1.6	± 1.9	± 2.4	± 2.9	± 3.4

- Standard sheet sizes:

1550 x 1550 mm	2550 x 1300 mm
2240 x 1120 mm	2250 x 1750 mm
1750 x 1750 mm	2400 x 1750 mm
2040 x 1540 mm	2550 x 1850 mm
1950 x 1950 mm	
2400 x 1600 mm	
2450 x 1400 mm	

- Dimension tolerances:

Tolerance (mm)	Length / width (mm)
0 / + 1.5	up to 1000
0 / + 3	from 1001 to 2000
0 / + 4.5	from 2001 to 3000
0 / + 0.3%	from 3001 and more

- Perpendicular cut: ± 0.7 mm / m
- Other thicknesses and sizes are available on request

Colours

Colour	Code
Transparent	000
Opal	011
White	041
White	035
White - LED	036
White - LED	037
Yellow	222
Yellow orange	223
Fluorescent yellow ^T	261*
Yellow ^T	283
Orange	324
Fluorescent orange ^T	361*
Red	411
Pink	445
Red ^T	472
Brown ^T	575
Brown ^T	590
Green	636
Green	625
Green ^T	671
Green	691
Blue	713
Blue	730
Blue	735
Blue ^T	775
Blue ^T	790
Grey ^T	978
Black	910
Black	911

^T – transparent, *Dimension: 2400 x 1600 mm

Colour tolerances

Colour/Parameter	ΔE	ΔL	Δa	Δb
White	1.2	1.2	0.3	0.4
Pastel	1.3	1.2	0.4	0.5
Other	1.6	1.6	0.3	0.6

Technical conditions
Standard characteristics

Parameter	Value	Unit	Condition	Standard
Tensile strength	73.3	MPa	≥ 70	ISO 527-1
Elasticity modulus	3050	MPa	≥ 3000	ISO 527-1
Elongation at fracture	5.7	%	≥ 4	ISO 527-1
Strain (Charpy without cuts)	19	kJ/m ²	≥ 13	ISO 179-1/1eU
Vicat softening temperature (VST)	111.6	°C	≥ 105	ISO 306 Method B50
Dimensional changes	1.0	%	≤ 2.5	SIST EN ISO 7823-1, Annex A
Luminous transmission (420 nm)*	91.6	%	≤ 90	ISO 13468-2
Luminous transmission after UV irradiation (1000 h, 420 nm)	90.4	%	≤ 88	ISO 13468-2
Continuous use temperature	≤ 70	°C	/	/

*Transparent

Parameter	Value	Unit	Standard
Density	1.18	g/cm ³	ISO 1183 A
Flexural strength	117	MPa	ISO 178
Heat deflection temperature (HDT)	98	°C	EN ISO 75-2
Coefficient of elongation temperature	6,1 x 10 ⁻⁵	K ⁻¹	ZAG
Water absorption	0.011	%	ISO 62 method 1

Visual quality

- Error tolerance on sheets that are smaller than: ≤ 1mm² or φ = 1.12mm, but they must not be within area surface of 1m²
- Error tolerance on sheets: 1 to 3mm² or φ 1.12mm to φ 1.95mm on min. distance of 500mm, there can be two errors (same or different) wherever on the sheet
- Unacceptable imperfections: ≥ 3mm² or φ = 1.12 mm or more than three size errors

Processing

- cutting to desired dimension or shape
- thermoforming
- bending
- milling
- turning
- drilling
- grinding
- polishing
- gluing
- printing / decorating
- with laser

Thermoforming

- It is a process where we form cast acrylic sheets by heating them to softening temperature or forming temperature, then we form them into a desired shape in a model and cool them to the temperature at which the finished product becomes stable.
- Optimal thermoforming temperatures for surface sheets are between 175 and 185 °C.
- The sheets need to be heated evenly throughout the thickness and surface of the sheet. The heating speed depends on the type of heating (radiation, touch, heat transmission), therefore surface temperature control is recommended.

- Insufficient heating time or temperature can cause uneven sheet heating and, consequentially, uneven shaping, while heating for too long, or at a temperature that is too high, can cause overheating and material damage (bubbles, colour change, sticking, other damages).
- An important factor is also the cooling of shaped elements. Cooling conditions need to be set in such a way that the entire product surface is cooled, especially with the binding system. This way, the inner tensions in a material that have been formed during the formation process are released. After shaping, we need to cool the product to 70 and 80 °C in order for it to stay shaped. With this, we prevent fractures or deformations to the product after its removal from the model.
- Before thermoforming, the sheets need to be stored at room temperature for 24 hours.

Protection and storage

- Pureglaze sheets are protected on both sides with polyethylene protective film. Before thermoforming, the protective film needs to be removed because traces of glue may be found on the product after forming.
- The maximum number of sheets on a single pallet is proportional to the weight of the sheets. The maximum allowed weight is 1000kg. Every pallet is additionally protected on the lower and upper parts with a PP film and marked with a code.
- Pureglaze sheets should be stored in a dry and covered place and not be exposed to direct sunlight. Long exposure to sunlight may damage the protective PE film which is not UV stable. It may tear and leave glue marks at removal.
- Full sheets are coded or marked.
- Pureglaze acrylic sheets are not environmentally hazardous. Potential waste needs to be disposed at regulated landfills and taken to local authorised waste collectors.

Maintenance and cleaning

- Only use pressurised water (WAP) to clean the products or a combination of non-aggressive cleaning agents and water (alkaline solutions, pH < 12), 3% phosphoric acid, regular detergents. Due to the sensitivity of the surface to scratches and cuts, do not use coarse cleaning fabrics.
- Do not use window cleaning sprays, aggressive kitchen cleaning cleaners and solvents based on benzene, alcohol, carbon tetrachloride, solvents and colour or petrol thinners. These agents may permanently damage the surface.
- Small random scratches may be removed by polishing. If the damage is larger, Whitesales supplies a repair set in desired colours for the reconstruction of the damaged part of a material.

Handling

- Manual handling of sheets may cause injuries due to sharp edges, therefore wear suitable gloves.
- Fibres from clothes that remain on the tile surface may sublime into the sheet during thermoforming and stains remain on the sheets that cannot be removed. We recommend wearing light (white, grey) cotton protective wear.
- The sharp edges on sheets may damage the PE film when sliding them on top of each other. Manual handling of sheets should be carried out by at least two persons or use a manipulator.

Information, and especially recommendations, that refer to the use and final use of Whitesales products are provided in good faith and are based on Whitesales current knowledge and experience in regards to the products, whether they are correctly stored, correctly handled or used in normal conditions in accordance with Whitesales recommendations. In practice, the differences in materials, surfaces and actual conditions are such that, based on this information or any other written recommendations or any other advice, we cannot guarantee the suitability for a special purpose, nor can we take any responsibility that arises from any legal relationship. Whitesales reserves the right to change the characteristics of its products. Third party ownership rights need to be respected. All orders are subject to our current sales and supply conditions. Users should always check the latest local technical sheet publication for the product. We can send a copy on request.

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