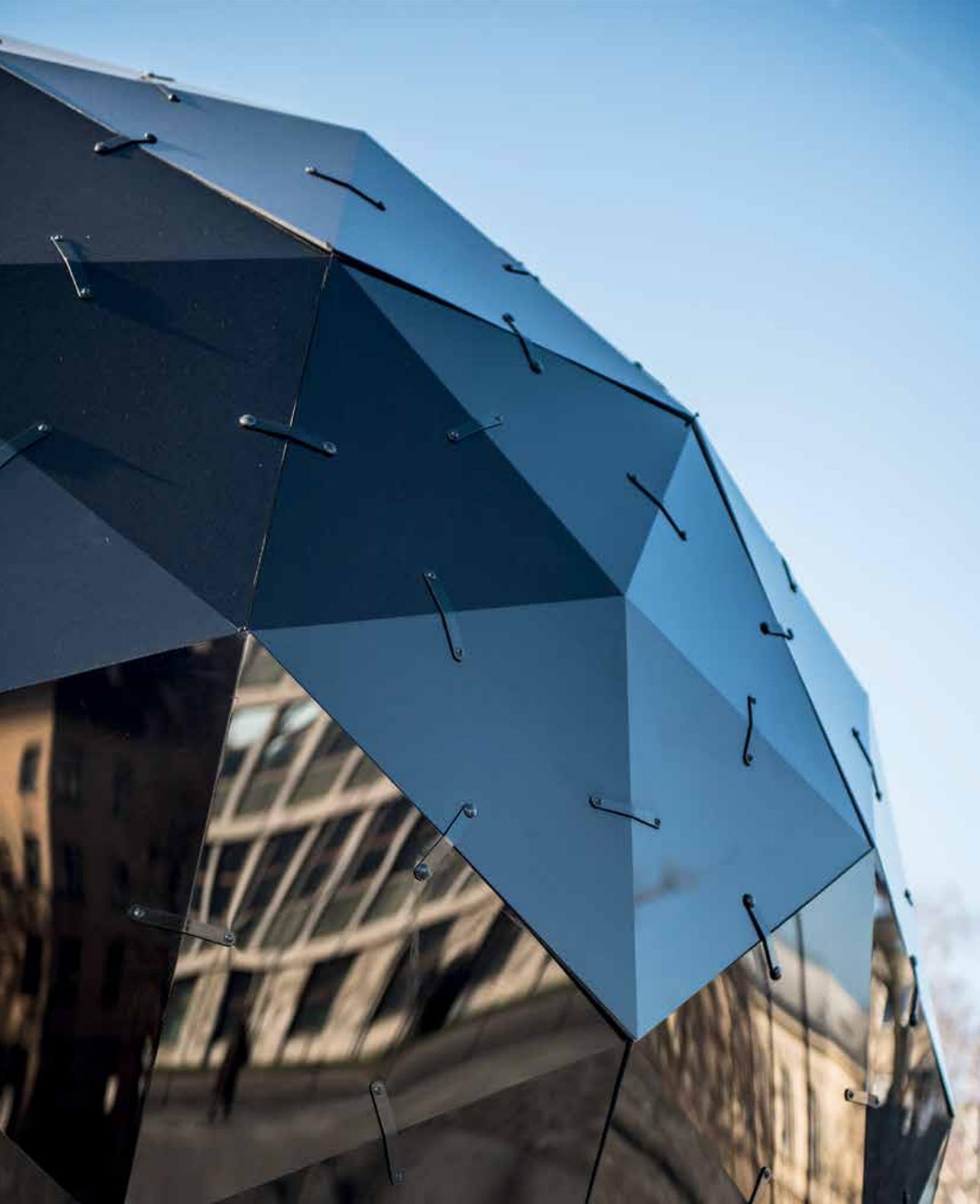


AKRIPOL **Aglas**

**AKRIPOL**

Plastoform Group



# Aglas



## Premium acrylic materials with excellent mechanical and chemical properties.

Due to their superb mechanical and chemical properties cast acrylic sheets present a challenge to architects, designers and planners, since they are the base for making a broad range of products. With Aglas sheets we can easily achieve an expressive design.



Natural Daylight



Protection



Energy Efficiency



Engineering



Spatial Solutions

The cover picture is Moonolith - an interactive installation in tribute to the moon and stars. (KUD MoTA)

## ABOUT COMPANY

Akripol is the leading Slovenian company for the production and processing of polymers and the production of cast acrylic sheets. It boasts a long tradition, as its beginnings date back to 1974. Today it is a modernly organised and successful company that provides high-quality functional products to its customers.

Cast acrylic glass is one of the most premium and versatile types of plastic. It can be produced to have various properties and functional surfaces with high luminous transmittance. Weather resistance ensures a long service life of cast acrylic glass in various applications, making it an ideal material for all outdoor projects. It is distinguished by elegance, brilliance and a harmony of colours. It gives various objects a clear, aesthetic appearance, protects them against weather influences, and reflects the world in all its colours.

Development, manufacture and marketing are carried out in accordance with the requirements of the international ISO 9001:2000 and 14001 quality standards.

In addition to the production of acrylic sheets, Akripol's production programme comprises the manufacture of skylights, noise protection barriers and cast polyamide products.

## ADVANTAGES OF ACRYLIC SHEETS

- transparency (light guide)
- durability
- lightness - lighter than glass
- weather resistance
- smooth shiny or mat (silky) surface
- high surface hardness
- thermoelasticity
- thermal, electrical and airborne sound insulation
- warm to the touch
- chemical resistance
- high UV-resistance
- especially suitable for vacuum forming and thermoforming
- usable in a temperature range from -30 to + 90 °C
- large number of gross sheet dimensions enables better efficiency

- suitable for printing, sanding, thermoforming, laser and waterjet cutting, simple cleaning and maintenance, sawing, drilling, cutting, planing, grinding, polishing, painting, engraving, etc.
- 100% recyclable

### Basic Properties of Cast PMMA Sheets – Required Values

Essential Characteristics	Required Values	Unit	Testing Method
Tensile strength	min. 70	MPa	ISO 527-2/1B/5
Elongation at break	min. 4	%	ISO 527-2/1B/5
Elasticity module	min. 3000	MPa	ISO 527-2/1B/5
Yield strength (Charpy without a notch)	min. 13	kJ/m <sup>2</sup>	ISO 179-1/1fU
Vicat softening temperature (VST)	min. 105	°C	ISO 306: method B50
Dimensional change at increased temperature	max. 2,5	%	ISO 7823-1 Annex A
Luminous transmittance			
• Transparent	min. 90	%	ISO 13468-2
• Transparent after UV ageing (UV radiation up to 420 nm 30 kWh/m <sup>2</sup> )	min. 88	%	ISO 13468-2

### Other Properties of Cast PMMA Sheets – Typical Values

Essential Characteristics	Required Values	Unit	Testing Method
Bending strength	from 100 to 115	MPa	ISO 178
Rockwell hardness	from 100 to 105		ISO 2039-2
Thermal expansion coefficient	7 x 10 <sup>-5</sup>	K <sup>-1</sup>	ISO 11359-2
Heat deflection temperature (HDT)	from 95 to 100	°C	ISO 75-2/A
Density	1,19	g/cm <sup>3</sup>	ISO 1183-1-:, method A or C, or ISO 1183-2
Water absorption	0,5	%	ISO 62:1999, method 1 (24 h, 23 °C)

### Heat transfer coefficient U

thickness	3 mm	5,4 W/m <sup>2</sup> K
thickness	5 mm	5,1 W/m <sup>2</sup> K
thickness	10 mm	4,5 W/m <sup>2</sup> K

\* Values vary according to the type of acrylic sheets and comply with the requirements of the ISO 7823-1:2003 standard for cast acrylic

## AGLAS PURE

Acrylic sheets of various colour shades and dimensions with a smooth and shiny surface.

### Possibilities for Use

- glazing
- façades
- balcony railings
- noise protection barriers
- interior furnishings – cabinets, small tables, chairs, shelves, stands, etc.
- for making lamps
- advertising boards and signs
- acrylic fancy goods
- office equipment and fancy goods
- for making skylights: dome skylights and canopies
- for making interior furnishings in the automotive and caravanning industry
- for making artistic products etc.
- mechanical engineering

### Dimensions

#### Formats

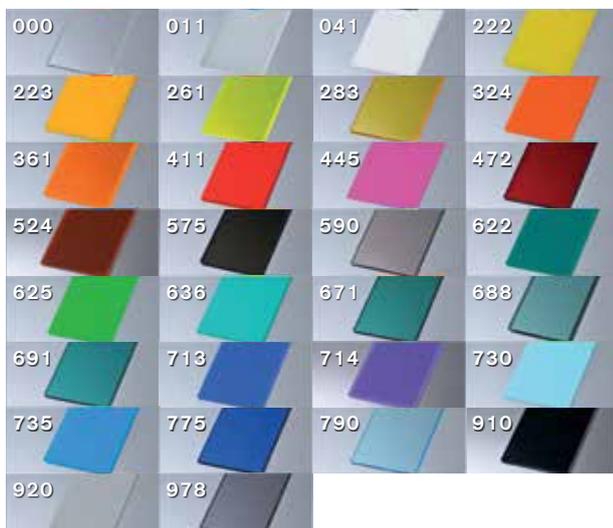
- standard dimension of colour sheets 2400 x 1600 mm
- standard dimensions of transparent colourless sheets 2400 x 1600 mm and 3050 x 2030 mm
- we manufacture over 15 different gross dimensions
- non-standard dimensions are possible based on a minimum quantity agreement

#### Thickness

- standard thickness of 3, 4, 5, 6, 8, 10, 12, 15, 20 and 30 mm

#### Standard Colours

We send the colour chart in a PDF file; if requested, we can also send you sheet samples.



## AGLAS SILK

Acrylic sheets with a mat surface – similar to ground glass. Because they can be combined with other materials, they are ideal for use in the furnishing of interiors.

### Possibilities for Use

- combining with wood or metal
- making dividing walls
- making skylight ceilings
- closet fillers
- making TV and stage sets
- making lamps
- interior furnishings and furniture

### Dimensions

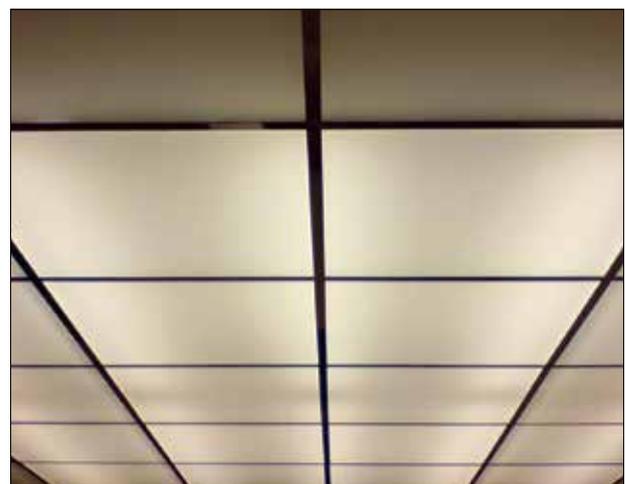
#### Formats

- standard dimension of Silk sheets 2550 x 1260 mm
- non-standard dimensions are possible based on a minimum quantity agreement
- the standard format includes the option of one-sided silk

#### Thickness

- standard thickness of 3, 4, 5, 6, 8, 10, 12 and 15 mm

#### Standard Colours



# AGLAS SHADE IRR

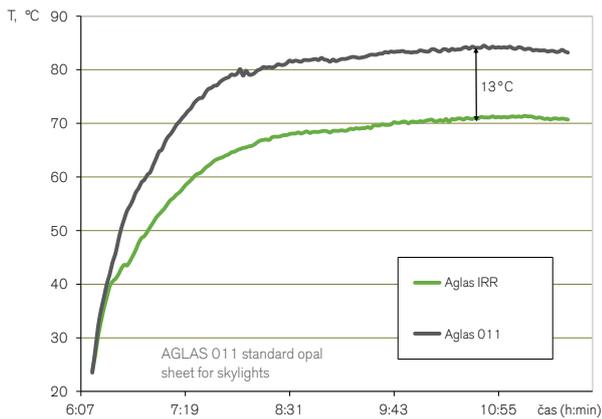
A special type of Aglas cast acrylic sheets with the basic characteristic that their structure contains built-in components that selectively transmit the visible part of light while reflecting thermal radiation (IR). The glazing of rooms exposed to high external temperatures with Aglas Shade IRR acrylic sheets makes the users of glazed rooms feel better and reduces the costs of air-conditioning.

## Possibilities for Use

- for making skylights: dome skylights and skylight bands
- corrugated, trapezium and ribbed skylight roofing
- canopies, covered car parks, stations

## Thermal Characteristics of Aglas Shade IRR

### Comparison of the thermal effect of opal 011 and IRR



Conditions: Thermally insulated, closed box, 30 x 30 x 30cm, covered with an acrylic sheet, above which (20cm) is an IR lamp (Osram Siccaterm IR 1, 250W). Measured is the air temperature 4cm above the bottom of the box, in the centre.

## Optical Characteristics

Aglas Shade are acrylic sheets with a characteristic bluish-purple reflection, whereas under the transmitted light they seem pale pastel green.

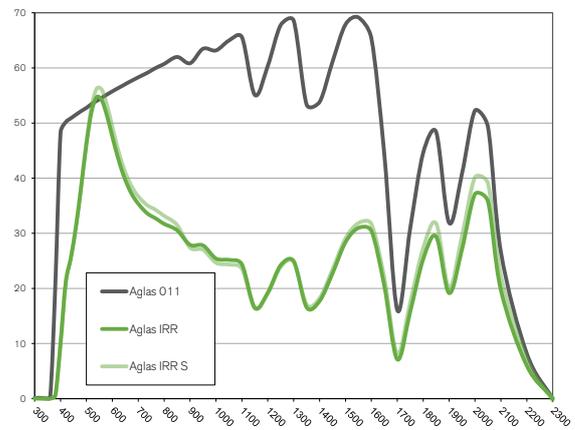
They are made in an opal colour. Aglas Shade has components built into the material that reflect light radiation.

## Comparison between Aglas Shade and Aglas Pure 011

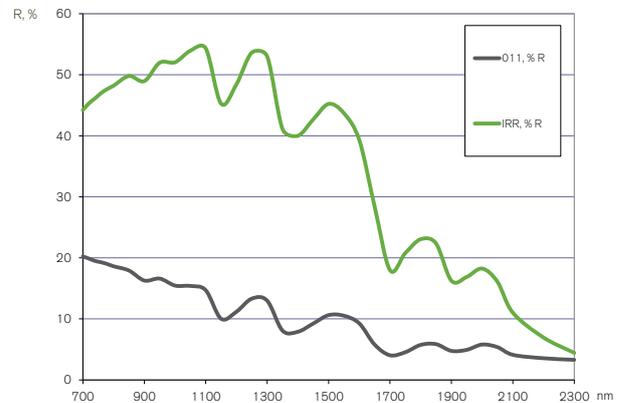
Aglas Pure 011 is a standard type of cast acrylic of a milk-white colour for roof glazing without a heat reflection effect.

Entire Solar Energy	Shade Pure 011	Visible Light	Shade Pure 011
Transmitted share	31 %	53 %	Transmitted share 50 %
Reflected share	39 %	18 %	Reflected share 29 %

### Transmission in near UV (300 - 380), visible (380 - 780) and IR spectrum (over 780nm).



### Reflection, 700 - 2300nm, Aglas 011 / Aglas IRR



## AGLAS MARINE

### Possibilities for Use

Aglas Marine acrylic sheets are used mainly for glazing vessels. They are also used for glazing buildings that are subject to similar extreme climate conditions as sea vessels.

Sheets of the Aglas Marine programme have improved UV resistance, resistance to solvents and to external factors.

### Dimensions

#### Formats

- standard dimension of sheets 2400 x 1600 mm
- non-standard dimensions are possible based on a minimum quantity agreement

#### Thickness

- standard thickness of 3, 4, 5, 6, 8, 10, 12, 15, 20 and 30mm

#### Colours

In the choice of colour we consider your wishes and needs.

### Atest HRB

For use in shipbuilding, the cast acrylic sheets of the Aglas programme have obtained the Certificate of the Croatian Register of Shipping – HRB.



## AGLAS BATH

Aglas Bath acrylic sheets are a special type of sanitary acrylic sheets, manufactured in accordance with the EN 263 standard for cast acrylic sheets that are used for making bathtubs, shower trays, sinks and parts of bathroom furniture. The cross-linked nature and specific chemical structure of these sheets enable high chemical resistance and easy, controlled shaping during thermoforming.

### Types of Sanitary Cast Acrylic Sheets

#### Aglas Bath - Standard

They are used for making standard bathtubs, shower trays and sinks. Their chemical structure enables easy and controlled shaping during thermoforming.

#### Aglas Bath - Easy Shaping

They are modified sanitary acrylic sheets that enable easier drawing of more demanding shapes of sanitary products due to their specific chemical structure. They are suitable mainly for making products that require extremely deep draws during thermoforming and for shaping extremely demanding shapes. In comparison with Aglas Bath – Standard Aglas sheets, these sheets must be thermoformed at slightly lower temperatures.

### Programme, Adapted to the Client

- cutting to size based on client's wishes
- adaptiveness and a short response time
- option of smaller batches
- advising on the processing of sheets into end products
- custom-made colours
- support and close cooperation in development
- large number of different gross sheet dimensions enables better efficiency for the user

### Examples of Use

Bath sheets are primarily intended for making bathtubs, shower stalls, sinks and parts of bathroom furniture.



## ACRYLIC BINDING RESINS

AKSA are acrylic binding resins that are used in combination with various fillers (quartz, ATH, etc.) for producing high-quality products in construction and elsewhere.

### Possibilities for Use

- window shelves
- counters
- wall and façade cladding
- interior furnishings
- floor cladding
- urban infrastructural equipment
- tabletops
- sinks
- artificial stones

### Standard Programme

#### AKSA 16

It is a two-component acrylic resin that does not contain solvents. It contains wax that reduces the emissions of acrylic vapours during solidification. The solidification of the resin is performed at room temperature with added solidifiers in the form of a paste or powder. It is intended for mixing with calcite sands with a grain size of up to several mm. The binding resin gives the end products an aesthetic appearance and good resistance to water and external weather influences. Composite masses with Akxa 16 are applied to a solidified foundation (gelcoat).

#### AKSA N

It is a three-component acrylic resin that does not contain solvents. It contains wax that reduces the emissions of acrylic vapours during solidification. The solidification of the resin is performed at room temperature with added solidifiers in the form of a paste or powder. Due to its three-component structure the resin is solidified more equally, has better colour stability, the products are well resistant to chemicals and to hydrothermal shocks, and can be thermoformed. Akxa N is a binder for composite masses of the "solid surface" type, which are applied directly onto the mould. It is also intended for mixing with ATH-type fillers.



## ACRYLIC ADHESIVE

Novopop is a two-component acrylic adhesive. It is used for bonding acrylic with acrylic. The adhesive is a colourless or coloured viscous resin which is solidified by adding an accelerator at room temperature.

### Standard Programme

#### Novopop RM

Novopop RM is a two-component reactive acrylic adhesive. The main component is acrylic resin, while the second component is an accelerator that triggers solidification at room temperature. Novopop does not contain solvents; during solidification, its liquid ingredients transform into a solid polymer that resembles cast acrylic.

#### Novopop T

Novopop T is a thicker form of Novopop RM and is intended for bonding vertical surfaces.

#### Repair - Resins

The two-component acrylic repair resin is used for repairing smaller damaged surfaces of acrylic bathroom furniture (bathtubs, shower stalls and sinks) and Akritop. It consists of an active acrylic colour component (component A) and an accelerator N (component B) and is supplied in a broad range of colours.

In addition to standard adhesives and binding resins, modified acrylic resins can be custom-made..





## Certificates:

- EN ISO 7823-1: 2003 certified
- ISO 9001 Certificate
- ISO 14001 Certificate
- EN 263 Certificate



More information:

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