

## ACRIFIX® 1 R 0350

### 1-Component Polymerization Adhesive

#### Product and Use

##### Type

1-Component polymerization adhesive. quick-curing. Slightly cloudy, purplish, highly viscous solution of an acrylic resin in methyl methacrylate that polymerizes upon **exposure to UVA light**, gap-filling.

##### Applications

Preferably used for rapid bonding of double glazing, butt joints and area bonding of **clear** acrylic, e. g. PLEXIGLAS® GS, PLEXIGLAS® XT and parts made from PLEXIGLAS® molding compound, as well as some other transparent plastics. These must be separately tested for their compatibility.

##### Storage/Transport

Keep containers tightly closed in a cool place **protected from light**.  
**UN 1133.**

##### Working Instructions

###### Preparing the parts to be bonded

Clean the surfaces to be bonded with ACRIFIX® TC 0030, isopropyl alcohol or petrol ether. Internally stressed parts must be annealed before bonding in order to avoid stress cracking. The annealing conditions depend on the type of material, the degree of forming and the thickness of the parts to be bonded. Parts made of extruded and injection-molded acrylic should be annealed as a matter of principle. Typical annealing times – also for cast acrylic – are 2 to 4 hours in an airflow oven at 70 to 80 °C. It is important to

ensure that bonded parts are allowed to cool down slowly after annealing.

##### Bonding Technique

Fix the parts to be bonded in the desired position (avoid shading) and apply suitable adhesive tape to seal the joint and to protect surrounding areas. Introduce **ACRIFIX® 1 R 0350** into the joint by means of a suitable glue dispenser (PE) or disposable syringe, and avoid bubble formation. The adhesive may also be applied using mechanical metering units, but bear in mind that only suitable pumps should be used. Do not apply compressed air to the feed tank. The bond is then exposed to a suitable UVA light source until fully cured (see section “Curing”).

##### ACRIFIX® 1 R 0350/Area bonding

Apply the adhesive as a four-lobed dollop; fold down cover carefully from the edge.  
Attention: avoid layers exceeding 1 mm – adhesive may foam.

##### Other Measures

Roughening up with abrasive paper (grit 240 to 320) improves the adhesion to untreated surfaces of PLEXIGLAS®. Severely stressed bonds or those intended for outdoor exposure should be annealed for 2 to 4 hours at 70 to 80 °C **immediately after** curing.

To avoid stress cracking in closed cavities (e. g. double glazing, tube interiors), these must be carefully flushed with compressed air after bonding with ACRIFIX® 1 R 0350.

For more details see our Guideline "Joining, Ref. No. 311".

### Properties of Bonds

#### Further treatment of bonded parts:

1 to 2 hours after curing

**Tensile shear strength** ( $v = 5 \text{ mm/min}$ ;  
butt joint between two parts made of  
PLEXIGLAS® XT 0A000):  
30 to 35 MPa (non-annealed)  
38 to 42 MPa (annealed)

#### Appearance:

clear, almost colorless, slightly cloudy in thick layers

### Limitation of Liability

Our ACRIFIX® adhesives and other service products were developed exclusively for use with our PLEXIGLAS® products and are specially adjusted to the properties of these materials. Any recommendations and guidelines for workshop practice therefore refer exclusively to these products.

**Claims for damages, especially under product liability laws, are ruled out if made in connection with the use of products from other manufacturers. For further information on safety measures, the exclusion of health risks when handling adhesives and on their disposal, see our Safety Data Sheet.**

Availability according to the current sales range.

### Safety Measures and Health Protection

#### Labeling according to Regulation (EC) 1272/2008

**Danger:** contains methyl methacrylate, pentaerythritol tetraacrylate



Highly flammable liquid and vapour. (H225)

Harmful if swallowed. (H302)

Causes skin irritation. (H315)

May cause an allergic skin reaction. (H317)

Causes serious eye damage. (H318)

May cause respiratory irritation. (H335)

Harmful to aquatic life with long lasting effects. (H412)

Wear protective gloves/protective clothing/eye protection/face protection. (P280)

Call a POISON CENTER or doctor/physician if you feel unwell. (P312)

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. (P303+P361+P353)

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. (P304+P340)

IN CASE OF CONTACT WITH EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)

Dispose of contents according to local disposal regulations. (P501)

### Typical Values

Properties	Values
Viscosity; Brookf., II/6/20 °C	4500–6000 mPa · s
Density (20 °C):	~ 1.02 g/cm <sup>3</sup>
Refractive index $n_D^{20}$ :	~ 1.44
Color	slightly cloudy, purplish
Flash point; DIN 51213	~ 10 °C
Solids content	25 ± 2 %
Storage stability:	2 years after filling, given correct storage Storage temperature: max. 30°C
Packaging materials:	aluminum
Thinner	ACRIFIX® 1R 9019,
Cleaning agents for equipment:	ACRIFIX® TC 0030, ethyl acetate

## Curing

System:	light polymerization	
Illuminant	curing time (at 25 °C)	
· superactinic UV-A fluorescent lamp, e.g. Philips TL .../05	3-8 min	Bond/lamp and lamp/lamp spaced at approx. 20 cm and 10 cm, respectively
· UV-A fluorescent lamp for tanning beds, e. g. Philips Cleo Performance, from 40W	3-8 min	
· direct sunlight	2-5 min	
Pot life (at 200 g in glass vessel with diffuse indoor lighting)	~ 20 min (at 25 °C)	

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Evonik is a worldwide manufacturer of PMMA products sold under the PLEXIGLAS® trademark on the European, Asian, African and Australian continents and under the ACRYLITE® trademark in the Americas.

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