

ACRIFIX® 1R 0192 Bright Reactive Cement

Product and Use

ACRIFIX® 1R 0192 Bright is a one-component polymerization adhesive. The clear, slightly purple viscous solution acrylic polymer in methyl methacrylate, polymerizes on exposure to light.

Applications

Preferably for transparent edge and area bonds of clear acrylic (PMMA), i.e. ACRYLITE® acrylic sheet, parts made of ACRYLITE® molding compounds with one another, but also for other clear plastics such as ABS, PET, PC, PS and PVC.

Typical Values of Properties

- Viscosity (Brookfield II/12/68°F/20°C): 1800 ± 200 cp
- Density/68°F/20°C: ~ 1.02 g/cm³
- Refractive index n_{D68}: - 1.44
- Color: clear, slightly purple
- Flash point (Closed Cup): < 39°F / 4°C
- Solids content: 32 ± 2%
- Storage stability: 2 years in the original container, if stored properly. Maximum 86°F / 30°C
- Packaging material: aluminum
- Curing: Physically by evaporation and absorption in the jointed parts
- Thinner: ACRIFIX® TC 0030, max 10%
- Cleaning agents for equipment: ACRIFIX® TC 0030 or ethyl acetate

Safety Measures and Health Protection

Contains methyl methacrylate. Irritating to respiratory system and skin. Sensitization by skin contact possible. Keep away from sources of ignition and do not smoke. Avoid contact with skin. Wear suitable protective gloves.

Storage/Transport

Keep container tightly closed in a cool place protected against light.

Curing (polymerization by light)

Light Source	Curing Period (at 5 hrs at 77°F/25°C)	
Fluorescent lamp, illuminant 25	15 – 30 min	Bond/lamp and lamp/ lamp spaced at approx. 10 cm and 20 cm, respectively
Superactinic UV-A fluorescent lamp, e. g. Philips TL.../05	10 – 15 min	
Tanning studio UV-A fluorescent lamp, e. g. Philips CLEO Performance	10 – 15 min	
Diffuse ambient lighting, illuminant 25	1.5 – 3 hrs	
Sunlight	10 – 20 min	
Pot life (at 200 g in a glass vessel exposed to diffuse ambient lighting)	~ 30 min (at 25 °C)	

Working Instructions

Preparing the parts to be bonded.

Degrease the surfaces to be bonded with water containing a wetting agent (such as detergent), or with ACRIFIX® TC 0030. 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 the air or oven at 158-176°F (70-80°C).

Bonding Technique

Fix the parts to be bonded in the desired position (avoid shading) and apply suitable adhesive tape to the joint and to protect surrounding areas. Introduce ACRIFIX® 1R 0192 into the joint either directly from the tube or by means of a glue dispenser or disposable syringe, avoiding bubble formation. Then expose the joined parts to a suitable light source (see *Curing*). For this, "ordinary" fluorescent lamps of illuminant type 25 are preferred since they provide optimal curing of ACRIFIX® 1R 0192 and require no special protective measures against UV radiation at the workplace.

Other Measures

Roughening-up with abrasive paper (grit 230 to 320) improves the adhesion to untreated surfaces of cast acrylic. Severely stressed bonds or those intended for outdoor exposure should be annealed for 2 to 4 hours at 158-176°F (70-80°C) immediately after curing. ACRIFIX® 1R 0192 must not get into closed cavities (e.g. double glazing, tube interiors), since the curing process is severely hampered at such sites, and there is a risk of stress cracking in the bonded parts.

Properties of Bond

Further treatment of bonded parts:

- 2 to 6 hours after curing
- sanding and polishing after 24 hours

Tensile shear strength (v = 2 in/min):

Material (to itself; cured with illuminant 25)	Non-annealed	Annealed (5 hrs at 76°F/80°C)
ACRYLITE® cast sheet	4060 ± 725 psi	6960 ± 725 psi
ACRYLITE® extruded sheet	4060 ± 725 psi	7250 ± 725 psi

Appearance

Colorless, clear. Less bubbles will form with ACRYLITE® cast sheet compared to ACRYLITE® extruded sheet.

Limitation of Liability

Our ACRIFIX® adhesives and other auxiliary agents were developed exclusively for use with our ACRYLITE® acrylic sheet products and are specially adjusted to the properties of these materials. Any recommendations and guidelines for workshop practice, therefore, refer exclusively to these products.

Seller's liability shall be limited to the purchase price of the product supplied (or to have been supplied) here-under in respect of which damages are claimed. All technical or other advice by seller, whether or not at buyer's request, with respect to the product, its processing, further manufacture, other use or resale or otherwise, is given gratis by seller and seller shall not be liable for, and buyer assumes all risk of, such advice and the results thereof. SELLER SHALL IN NO EVENT BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES, AND REGARDLESS WHETHER THE CLAIM IS BASED ON WARRANTY, CONTRACT, TORT, STRICT LIABILITY, NEGLIGENCE OR OTHERWISE.

Upon satisfactory proof of claim by the buyer, and as buyer's exclusive remedy, the seller will, within a reasonable time, supply the buyer with a replacement product of the same or equivalent type, free of charge, freight prepaid or, at seller's option, refund the purchase price for the product upon return of the product or other delivered material, or the unused portion thereof. Buyer charges for replacements and returns for credit will not be allowed unless authorized by the seller in writing.

For further information on safety measures, the exclusion of health risks when handling adhesives and on their disposal, see our Safety Data Sheet.



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