

Technical Information

ACRIFIX™ 2R 0190 Specialty Bonding Agent

Product and Use

Two-component polymerization adhesive. Clear, purplish viscous solution of an acrylic polymer in methyl methacrylate, which polymerizes completely upon addition of ACRIFIX™ CA 0020 (catalyst).

Applications

Preferably used for bonding acrylic (PMMA), i.e. ACRYLITE® FF and ACRYLITE® GP acrylic sheet or parts made from ACRYLITE® molding compounds, as well as to other thermoplastics such as ABS, PET, PC, PS, PVC and to other materials such as wood. The cured joints are almost colorless.

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_D^{20} : ~ 1.44

Color: clear, slightly purplish

Flash point (Closed Cup): ~ 50°F/10°C

Solids content: 31 +/- 1%

Storage stability: 2 years after filling,
if correctly stored

Packaging material: HDPE, PP, aluminum and glass

Thinner and Cleaner: ACRIFIX™ TC 0030

Cleaning agents for equipment:

ACRIFIX TC 0030 or ethyl acetate

Curing / pot life (at 200 g adhesive, 68°F/20°C):

with 3% ACRIFIX CA 0020: ~ 60 min / ~ 25 min

with 5% ACRIFIX CA 0020: ~ 50 min / ~ 20 min

Safety Measures and Health Protection

Contains methyl methacrylate. Irritating to eyes, respiratory system and skin. Sensitization by skin contact possible. Keep away from any source of ignition. Avoid contact with skin. In the event of contact with eyes, rinse immediately with plenty of water and consult a doctor. Wear suitable protective gloves.

Storage / Shipping

Keep container tightly closed in a cool place.

Preparing the Parts to be Bonded

Degrease the surfaces to be bonded with water containing a detergent (washing-up liquid), or with ACRIFIX TC 0030 (thinner / cleaner). 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 158-176°F (70 to 80°C). If annealing is not possible, we recommend the use of ACRIFIX™ 1S 0105 or ACRIFIX™ FF acrylic cement (only for commercial use). These presuppose that the surfaces to be bonded are flat and without V-grooves or superimposed layers, however.

Preparing the Adhesive

Add 3 to 6% ACRIFIX CA 0020 to ACRIFIX 2R 0190 and stir until no more striation is visible. In the covered container, air bubbles may be allowed to rise to the surface of the adhesive, but they can also be removed in a vacuum desiccator (min. 5.9 in. Hg). As soon as the ACRIFIX 2R 0190 mixture becomes thick and noticeably warm (end of pot life), it should no longer be used.

Bonding Technique

Fix the parts to be bonded in the desired position and apply suitable adhesive tape to seal the joint and to protect surrounding areas. Introduce ACRIFIX 2R 0190 into the joint either directly from the mixing vessel or by means of a glue dispenser or disposable syringe, and avoid bubble formation.

Other Measures

Roughing with abrasive paper (230 to 320 grit) improves the adhesion to untreated surfaces of cast acrylic (particularly block material). 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 2R 0190 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.

ACRIFIX 2R 0190 may be colored with colorants.

Properties of Bonds

Further treatment of bonded parts: 3 to 6 hours after curing.

Tensile shear strength (v = 2 in./min): The bonds only acquire their final strength after about 24 hours or after immediate annealing as soon as the adhesive has cured.

Material (to itself)	non-annealed	annealed (5 hrs at 176°F/80°C)
ACRYLITE FF sheet:	4786 +/- 725 psi	7542 +/- 725 psi
ACRYLITE GP sheet:	5076 +/- 725 psi	7252 +/- 725 psi
ACRYLITE® RESIST™ 65 acrylic sheet:	2900 +/- 435 psi	5076 +/- 435 psi

Appearance: almost clear

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) hereunder 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 buyer, and as buyer's exclusive remedy, seller will, within a reasonable time, supply buyer with 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 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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Technical Support

Visit the TechKnowledge Center at www.cyro.com where visitors have immediate access to FAQs, technical information, tips, and hundreds of other facts about ACRYLITE acrylic products.



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