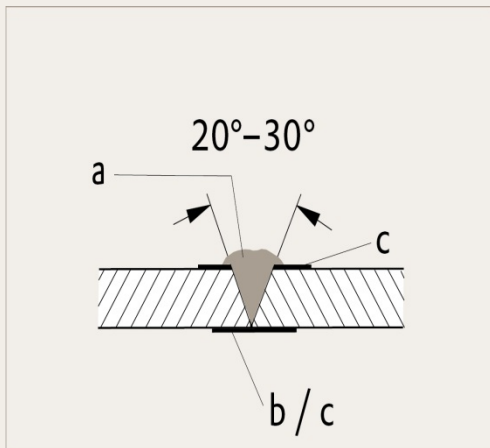


Technical Information

## ACRIFIX® 2R 0190

### 2-Component Polymerization Adhesive

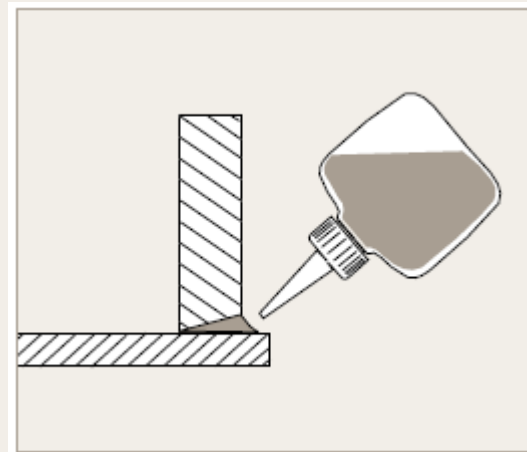


V-groove:

a = Adhesive

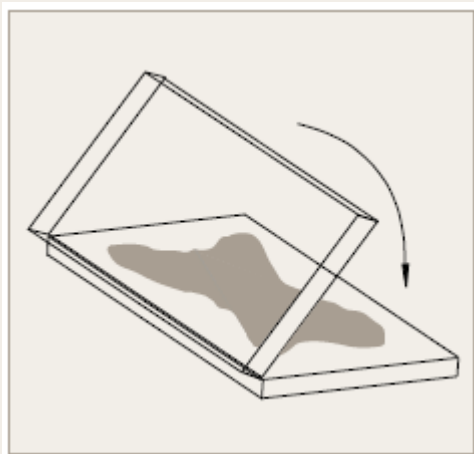
b = Adhesive tape with nonadhesive center strip

c = Adhesive polyester or cellulose tape



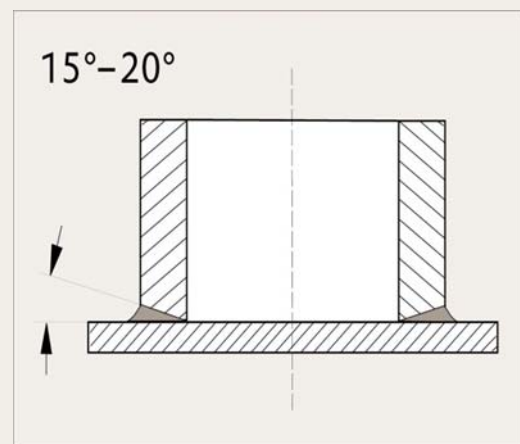
Angle joint:

Application of adhesive by PE glue dispenser



Area bonding:

Apply adhesive as a four-lobed dollop; fold down cover carefully from the edge.



Bonding a tube end

## Product and Use

### Type

2-Component polymerization adhesive. Clear, purplish viscous solution of an acrylic polymer in methyl methacrylate, which polymerizes completely upon addition of ACRIFIX® CA 0020.

### Applications

Preferably used for bonding acrylic (PMMA), i.e. PLEXIGLAS® GS, PLEXIGLAS® XT or parts made from PLEXIGLAS® molding compound, with one another, but also for other materials such as ABS, CAB, PS, PVC, SMS, UP and wood. The cured joints are almost colorless.

### Storage/Transport

Keep container tightly closed in a cool place. UN 1133

### Working Instructions

#### Preparing the Parts to Be Bonded

Degrease the surfaces to be bonded with ACRIFIX® TC 003, 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.

#### 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. 200 mbar). 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 (see drawings). 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

Roughening-up with abrasive paper (grit 230 to 320) 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 70 to 80 °C 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. If cavity adhesion cannot be prevented, the cavity must be rinsed gently with water for at least 20 minutes.

In case of tube adhesions it is also recommended to gently blow air through the tube during bonding. ACRIFIX® 2R 0190 may be colored with ACRIFIX® CO 9073, CO W074, CO 3075, CO 5076, CO 1077, for example.

For more details see our Guideline “Joining, Ref. No. 311-3”.

### Properties of Bonds

#### Further treatment of bonded parts:

3 to 6 hours after curing, sanding and polishing after 24 hours.

#### Tensile shear strength ( $v = 5 \text{ mm/min}$ ):

The bonds only acquire their final strength after about 24 hours or after immediate annealing as soon as the adhesive has cured.

### Tensile shear strength

Material (to itself)	annealed	
	non-annealed	(5 hrs at 80 °C)
PLEXIGLAS® GS 0F00:	33 ± 5 MPa	52 ± 5 MPa
PLEXIGLAS® XT 0A000:	35 ± 5 MPa	50 ± 5 MPa
PLEXIGLAS® Resist 65:	20 ± 3 MPa	35 ± 3 MPa
PLEXIGLAS® Resist 75:	17 ± 3 MPa	30 ± 3 MPa
PLEXIGLAS® Resist 100:	10 ± 3 MPa	18 ± 3 MPa

## Appearance

Almost clear. With higher amounts of ACRIFIX® CA 0020 and ACRIFIX® TH 0032, and temperatures > 70°C, discoloration is possible.

## Limitation of Liability

Our ACRIFIX® adhesives and other auxiliary agents 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



Highly flammable liquid and vapour. (H225)

Causes skin irritation. (H315)

May cause an allergic skin reaction. (317)

May cause respiratory irritation. (H335)

Keep away from heat/ sparks/open flames/hot surfaces. — No smoking. (P210)

Avoid breathing dust/fume/gas/mist/vapours/spray. (P261)

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

IF ON SKIN: Wash with plenty of soap and water. (P302 + P352)

Dispose of contents/container in accordance with local regulation. (P501)

## Typical values

Properties	Values
Viscosity; Brookfield II/12/20 °C:	1 800 ± 200 mPa · s
Density (20 °C):	~ 1,02 g/cm <sup>3</sup>
Refractive index n <sub>D</sub> <sup>20</sup> :	~ 1,44
Color:	clear, slightly purplish
Flash point (DIN 53213):	~ 10 °C
Solids content:	31 ± 1 %
Storage stability:	2 years after filling, if correctly stored
Storage temperature:	max. 30°C
Packaging materials:	Colored glass and aluminum
Thinner:	>10% ACRIFIX® TH 0032 Max. 10% ACRIFIX® TC 0030
Cleaning agents for equipment:	ACRIFIX® TC 0030/ ethyl acetate
Curing/pot life (at 200 g adhesive, 20 °C) :	
with 3 % ACRIFIX® CA 0020:	~ 60 min/~ 25 min
with 5 % ACRIFIX® CA 0020:	~ 50 min/~ 20 min

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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.

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, also with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

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