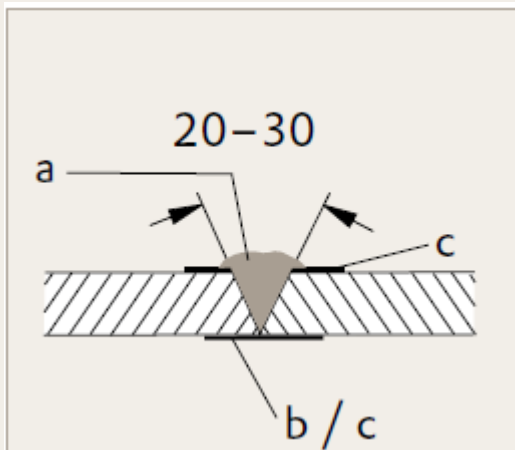


Technical Information

ACRIFIX® 1R 0192

1-Component Polymerization Adhesive

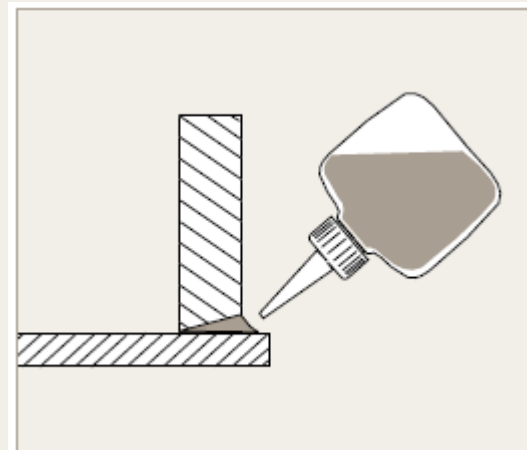


V-groove:

a = Adhesive

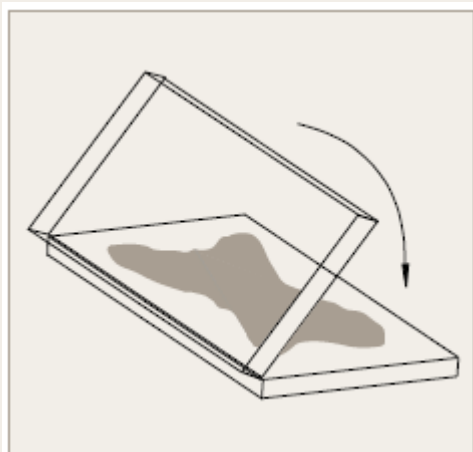
b = Adhesive tape with nonadhesive center strip

c = Adhesive polyester or cellulose tape



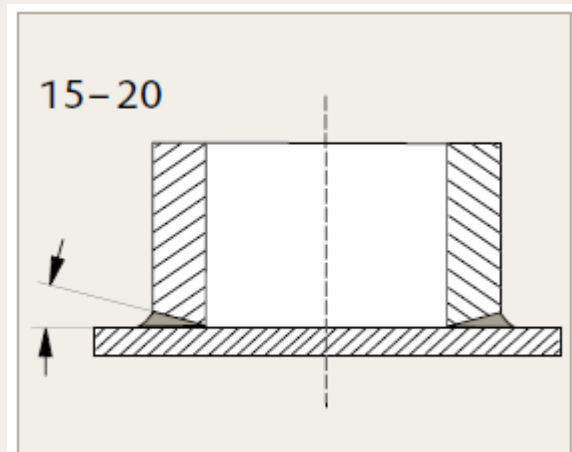
Angle joint:

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

1-Component polymerization adhesive. Clear, purplish viscous solution of an acrylic polymer in methyl methacrylate, which polymerizes on exposure to **light**.

Applications

Preferably for transparent edge and area bonds of clear acrylics, i. e. PLEXIGLAS® GS, PLEXIGLAS® XT and parts made of PLEXIGLAS® molding compound, but also for other clear plastics such as CAB, PC and PS.

Storage/Transport

Keep container tightly closed in a cool place **protected against light**.
UN 1133

Working Instructions

Preparing the Parts to Be Bonded

Degrease 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.

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 (see drawings). 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 840 are to be 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 70 to 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. If cavity adhesion cannot be prevented, the cavity must be rinsed gently with water for at least 20 minutes.

In case tube adhesions it is also recommended to gently blow air through the tube during bonding. For more details see our Guideline “Joining, Ref. No. 311-3”.

Properties of Bonds

Further treatment of bonded parts:

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

Tensile shear strength (v = 5 mm/min):

Material (to itself; cured with illuminant 840)	annealed (5 hrs at 80 °C)	
	non-annealed	
PLEXIGLAS-GS 233/0F00:	28 ± 5 MPa	48 ± 5 MPa
PLEXIGLAS-XT 20070/0A000:	32 ± 5 MPa	50 ± 5 MPa

Appearance

Clear, almost colorless; surface may be slightly yellowish.

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.

Curing (System: polymerization by light)

illuminant	curing period (at 25 °C)	
Fluorescent lamp, illuminant 840 Cool White:	15 –30 min	Bond/lamp and lamp/lamp spaced at approx. 20 cm and 10 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 840:	1.5–3 h	
Sunlight:	10 –20 min	
Pot life (at 200 g in glass vessel exposed to diffuse ambient lighting):	~ 30 min (at 25 °C)	

Typical values

Properties	Values
Viscosity; Brookfield II/12/20 °C:	1 800 ± 200 mPa · s
Density (20 °C):	~ 1,02 g/cm ³
Refractive index n _D ²⁰ :	~ 1,44
Color:	clear, slightly purplish
Flash point (DIN 53213):	~ 10 °C
Solids content:	32 ± 2 %
Storage stability:	2 years after filling, if correctly stored
Storage temperature:	max. 30° C
Packaging materials:	Aluminum/ colored glass
Thinner:	ACRIFIX® TC 0030, max. 10 %
Cleaning agents for equipment:	ACRIFIX® TC 0030 or ethyl acetate

Safety Measures and Health Protection

Labeling according to Regulation (EC) 1272/2008

Danger, contains methylmethacrylate



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)

IN CASE OF CONTACT WITH SKIN: Wash with plenty of soap and water. (P302+P352)

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

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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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