

ACRIFIX® 1S 0117

1-Component Solvent Adhesive

Product and Use

Type

1-Component solvent adhesive.
Thin-bodied, clear, colorless to slightly yellowish.

Applications

For making T-bonds and bonding narrow areas of all kinds of uncrosslinked PLEXIGLAS®, but also for other plastics such as PS, SBC, ABS, PVCu, CAB. ACRIFIX® 1S 0117 is not gap-filling. Excellent capillarity. The bond is firm within a short time. Rapid further treatment possible. High ultimate strength. For other materials, conduct prior tests.

Storage/Transport

Keep container tightly closed in a cool place.
UN 1133

Working Instructions

Normally, a sawn or milled edge of one article is bonded at right angles to the original surface of another. In areas where a high stress level is to be expected, avoid bonding or anneal the parts beforehand to relieve stress. The parts to be bonded must have a very accurate fit. Grooves and notches are not filled. Clean the adherents with petroleum ether or isopropyl alcohol before applying the adhesive. Either of two methods may be used:

a) Lock the two parts in position without adhesive and introduce ACRIFIX® 1S 0117 into the joint from a small nozzled bottle. The adhesive penetrates the joint by capillary action. From a sheet thickness of c. 5 mm onwards, the parts should first be put together with the aid of

spacers (e.g. stainless steel wire, c. 0.1 to 0.5 mm \varnothing) at right angles to the sheet edge, which are pulled out after introduction of the adhesive.
b) The appropriate edge of one of the parts to be bonded is dipped into ACRIFIX® 1S 0117 and placed in contact with the second part after allowing sufficient time for solvent action – PLEXIGLAS® XT about 30 sec., PLEXIGLAS® GS about 60 sec. After a short holding time, the bond is locked in position. When bonding sawn edges, bubble formation can be reduced by passing the edges over with a scraper or smoothing them with fine abrasive paper (grit 400 to 600 – if possible at right angles to the sheet edge), by milling or diamond cutting before the actual bonding process is started. Slight pressure applied to the bonded surface during drying can also reduce bubble formation.

Further Indications

1) The maximum pot life of ACRIFIX® 1S 0117 in an open dish is about 30 min. (or shorter, depending on ambient temperature), because its composition changes by evaporation of predominantly one component.

2) Whitening around the adhesive joint is due to water condensing from the air (especially if the room temperature is low).

Attention: When pre-bonding with ACRIFIX® 1S 0117, curing of ACRIFIX®2R adhesives can be impaired.

ACRIFIX®1S 0117 can turn yellow as a result of exposure to light, however the yellowing has no effect on the adhesion.

To increase viscosity, ACRIFIX® 1S 0117 can be mixed with ACRIFIX® 1S 0116 at any ratio. For further details please see our Guideline, "Joining Ref. No.: 311-3"

Properties of Bonds

Initial bond:

PLEXIGLAS® GS/PLEXIGLAS® GS: ~ 60 to 90 sec
PLEXIGLAS® XT/PLEXIGLAS® XT: ~ 30 to 50 sec

Subsequent treatment of bonded items:
not within the first three hours

Tensile shear strength ($v = 5$ mm/min; butt joints, free from bubbles):

Annealing increases the strength and also improves the weather resistance.

PLEXIGLAS® GS 233/0F00:

35 ± 5 MPa (non-annealed),
45 ± 5 MPa (annealed for 5 hrs at 80 °C)

PLEXIGLAS® XT 20070/0A000:

40 ± 5 MPa (non-annealed),
45 ± 5 MPa (annealed for 5 hrs at 80 °C)

Appearance:

Colorless, clear.
Rather more bubbles with PLEXIGLAS® XT and fewer with PLEXIGLAS® GS. Bleeding may occur with colored grades.

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 ethylformate, nitroethane, butan-1-ol.



Harmful if swallowed. (H302)
Highly flammable liquid and vapour (H225)
Causes serious eye irritation. (H319)
Causes skin irritation (H315)
Harmful if inhaled. (H332)
May cause respiratory irritation (H335).
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 victim to fresh air and keep at rest in a position comfortable for breathing.
P304+P340
IF IN 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; Brookfield A/60/20 °C:	~ 0.8 mPa · s
Density (20 °C):	~ 0.98 g/cm ³
Refractive index n _D ²⁰ :	~ 1.38
Color:	clear to yellowish; color does not affect bonding properties
Flash point DIN 53213:	< 4 °C
Solids content:	≤ 1 %
Storage stability:	2 years after filling, if correctly stored
Storage temperature: max. 30° C	
Packaging materials:	Colored glass and aluminum bottles (with inside coating)
Curing:	physically, through evaporation and absorption in the bonded articles.
Cleaning agents for equipment:	ethyl acetate

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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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Ref.-No. 391-22 September 2015