

ALTUGLAS® ADHESIVE S2003E

Type:

Transparent, viscous, solvent adhesive with one single component.

Applications:

For bonding Altuglas® CN and EX in different applications such as signs, signboards, windows, etc.

This adhesive can also be used for bonding other plastic materials, such as polystyrene and ABS, after they have first been annealed as a precaution. Preliminary testing is recommended.

Types of bonding:

Edge-to-edge bonding (casing, boxes)

Angle bonding (signs)

Edge onto surface bonding (raised sign lettering)

The viscosity of S2003E enables the adhesive to be applied on one or both surfaces of the parts to be assembled.

Properties:

Viscosity at 20°C (Brookfield) : 4500 -5500 mPa.s

Density at 20°C : 1.01 g/cm³

Flash point : -6°C

Solids content : ≈ 20%

Storage temperature : between 15 and 30°C

Safety measures for use:

Altuglas® Adhesive S2003E is extremely volatile. Evaporation resulting from prolonged exposure to the air causes the adhesive to thicken. We strongly recommend that you close the receptacle tightly as soon as you have taken the quantity you require. A cap should be fitted to the application tubes to avoid these becoming blocked. Adhesive should not be stored in the application tubes for longer than 24 hours.

Toxicology and safety:

Altuglas® Adhesive S2003E does not contain chlorinated solvent.

Solvents are liable to cause irritation:

- Do not inhale the vapours
- Work in a well-ventilated area
- Avoid all contact with the skin and eyes

Altuglas® Adhesive S2003E is classed as highly flammable (F) and as an irritant (Xi). Store well away from heat and do not smoke whilst using the product.

Safety measures for storage:

Closed packaging should be stored in a dry, well-ventilated place. If stored in its original packaging, hermetically sealed and at a maximum temperature of 30°C, Altuglas® Adhesive S2003E can be kept for up to two years from the date of packaging.

Packaging:

Altuglas® Adhesive S2003E is packed in full cartons containing 12 bottles of 1 kg. Full cartons cannot be split. Bottles are made from aluminium for safety and corrosion reasons. Each individual package is labelled with important information from the safety data sheet and the production batch number.

Working instructions:

Internal stress relaxation:

The Altuglas® CN and EX to be glued can be the basis for internal stress created by various machining or forming operations. Internal stress therefore need to be reserved by annealing, with a risk of crazing when coming into contact with solvents contained in the adhesive. If machining (cutting or milling) operations have been performed with efficient cooling (clean water, water + air), it is sufficient to scratch the surfaces to be glued.

Disk polishing, forming and folding whilst still hot leads to an increased risk of crazing, making annealing necessary (see Altuglas technical brochure).

In cases of laser cutting and flame polishing, any subsequent bonding operation should be avoided without first annealing the parts.

Preparation of surfaces:

Speed is one of the key benefits of solvent-type adhesives. Also, after parts have been annealed, it is only the edges that require scraping. The surfaces to be glued must be completely dry and clean. Remove all traces of grease from the parts to be glued using petroleum spirit or a 50/50 mixture of water/methylated spirit. If necessary, the areas adjacent to the area being glued can be protected by a special adhesive strip made from adhesive-resistant material (e.g. polypropylene). If necessary, pre-assemble the parts with the help of the same adhesive strips.

Applying the adhesive:

Where there has been no pre-assembly, use a polyethylene bottle fitted with a nozzle to apply a thin line of glue on one of the two surfaces to be glued.

Exert a gentle and even pressure during application to ensure you do not squeeze all the glue out of the joint and to avoid the formation of shrinkage bubbles caused by the solvent evaporating.

To avoid frequent clogging of the nozzle, replace the cap each time after use. Where there has been pre-assembly, the adhesive can be applied in the area of the joint using a syringe.

Drying and hardening time:

The external surface of the glued joints will dry in approximately 30 to 35 minutes at 20°C (time indication).

Hardening varies according to the thickness, temperature and hygrometry. It is usually possible to handle glued objects (carefully) after 60 to 90 minutes but a minimum period of 48 hours must be respected before any machining.

Complete hardening is achieved after 15 to 20 days at a temperature of 20°C. If necessary, this can be accelerated by heating for several hours at 80°C (or 60°C only in the case of a thermoformed part).

Adhesive properties produced with Altuglas® Adhesive S2003E:

The mechanical stability is determined by tensile strength test parts formed by bonding together a number of items piece by piece. Measurements were made using test parts heated for 4 hours at 60°C as well as using test parts that had been left to harden naturally for 4 days at room temperature. The values below are given purely for guidance and do not in any way constitute a guarantee.

Tensile strength:

After 4 days of natural hardening : 28 to 32 Mpa

After heating at 60°C : 38 to 45 MPa