AUXILIARY PRODUCT

ALTUGLAS® ADHESIVE P10

Type:
Two component transparent, polymerisable adhesive. This adhesive is a viscous solution of PMMA in MMA monomer. A catalyst (Altuglas® Additive B), added at the time of use, causes the monomer to polymerise into PMMA.

Area of application:
For bonding Altuglas® CN and EX in different applications such as signs, signboards, shop 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. In these instances, preliminary testing is recommended.
In order to obtain optimal adhesion conditions, the adhesive joint should be between 0.5 mm and 1 mm thick. Altuglas® edges are chamfered for assembling angles.

Types of bonding:
- Edge-to-edge bonding (casing, boxes)
- Angled bonding with chamfered edges (signs)
- Edge onto surface bonding (raised sign lettering)
- Surface to surface bonding (chessboards, decorative panels, flat lettering)

This list of examples is not exhaustive.

Properties:

Viscosity at 20°C (Brookfield)	:	1200 – 1800 MPa
Density at 20°C	:	1.05 g/cm3
Flash point	:	10°C
Solids content	:	≈ 31%
Storage temperature	:	Maximum 30°C
Colour	:	Transparent, with a light violet tint.

Safety measures for use:
We strongly recommend that you close receptacles tightly as soon as you have taken the quantity you require.
Use precision equipment for weighing the adhesive and the B component: 4 parts Altuglas® Additive B to 100 parts Altuglas ® P10 with regard to mass or volume. Fit a cap onto the application tubes to avoid these becoming blocked and do not store the adhesive in the tubes for more than 10 minutes.
Do not apply if the temperature is lower than 17ºC, in a damp atmosphere or on a damp or wet surface.

Toxicology and safety:
Altuglas® Adhesive P10 contains MMA. MMA is highly flammable and its vapours can cause irritation to the skin, eyes and respiratory tracts.
- Do not inhale the vapours
- Work in a well-ventilated area
- Avoid contact with the skin and eyes

Altuglas® Adhesive P10 has a closed cup flash point of 10ºC, which makes it flammable.
Store well away from heat and any source of ignition.
Do not smoke whilst using the product.
Altuglas® Additive B can irritate the eyes and respiratory tracts. Avoid all contact with the eyes and mucous membranes.

Safety measures for storage:
Closed packaging should be stored in a dry, well-ventilated place. If stored closed in its original packaging, hermetically sealed and at a maximum temperature of 30ºC, Altuglas® Adhesive P10 and Altuglas® Additive B can be kept for up to two years from the date of packaging. Altuglas® Additive B should be stored away from light at a temperature between 8°C and 30°C.

Packaging:
Altuglas® Adhesive P10 is supplied in full cartons containing 12 bottles of 500 g or 1 kg, and also 4 canisters of 5 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.
Altuglas® Additive B is packaged separately but supplied with Altuglas® Adhesive P10.

Altuglas® is a registered trademark and Altuglas International is a trademark belonging to Arkema.

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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

Polymerisable adhesives originate from a deposit of material and can counterbalance the roughness of surfaces. Preferably roughen the surfaces of the joint face in order to improve the contact surface. Dry-sand the previously machined edges and sand the smooth sides with sandpaper. 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

After incorporating and mixing the Altuglas ® Additive B catalyst, close the mixing vessel and leave to rest for 5 to 10 minutes to allow for the natural dissipation of any air bubbles. Do not shake or jolt at this stage.

In cases of pre-assembly, the adhesive may be applied in the area of the joint using a syringe or polyethylene bottle fitted with a nozzle. Other means, such as coating by casting, can be used for large surfaces. Joints should be maintained under pressure by clamping moderated to between 50 and 300 g/cm^3.

Drying and hardening time:

The external surface of the glued joints will dry in approximately 2 hours at 20°C (indication of time). Hardening varies according to the thickness, temperature and hygrometry. It is usually possible to handle glued objects (carefully) after 2 to 3 hours but a minimum period of 24 hours must be respected before any machining. Complete hardening is achieved after heating in a ventilated oven for 1 to 3 hours at 80ºC (or for 2 to 5 hours at 60ºC for thermoformed parts). Polymerisation of Altuglas® Adhesive P10 is accompanied by a reduction in volume of approximately 15%. The volume of adhesive to be applied must always be greater than the volume of the joint face cavity.

Adhesive properties produced with Altuglas® Adhesive P10:

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 60ºC 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	:	45 to 50 MPa
After heating at 60ºC	:	48 to 53 MPa

Our Altuglas® Adhesives were developed exclusively for use with our Altuglas® products. Any recommendations and guideline for workshop practice therefore refer exclusively to Altuglas® products.
Technical data given in this leaflet have been obtained in our laboratories and can be used as a guideline. They should be considered as typical values. The buyer is responsible for their use and processing, and is also liable of observing any third-party rights.

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