



2K PU ADHESIVE

Two-part polyurethane adhesive for structural bonding

Description

2K PU Adhesive is a two component, room temperature curing, black coloured, odourless, thixotropic polyurethane adhesive specially designed for structural bonding of a wide range of materials as thermosetting and thermoplastic materials, steel, aluminium, concrete, wood and glass.

Technical data

| PROPERTIES | COMPONENT A | COMPONENT B | MIXED |
|------------------------------|-------------|-------------|--------------|
| Chemical base | Polyol | MDI | Polyurethane |
| Mixing ratio by volume | 1,00 | 1,00 | |
| Mixing ratio by weight | 0,84 | 1,00 | |
| Colour | Black | Amber | Black |
| Appearance | Liquid | Liquid | Thixotropic |
| Viscosity (mPa•s) | 2.500 | 3.000 | 50.000 |
| Relative density | 0,98 | 1,17 | 1,08 |
| Application temperature (°C) | | | +10 / +30 |
| Working time | | | 60 sec |
| Bonding time | | | 5 min |
| Fully cured time | | | 240 min |
| Temperature of exothermic | | | 80 |
| Hardness (Shore) | | | 80 D |
| Elongation (%) | | | 15% |
| Service Temperature (°C) | | | -36 / +100 |
| Shelf life (month) | | | 12 |
| Storage temperature (°C) | | | +20 / +30 |

Processing

The strength and durability of bonded joints depend on proper pre-treatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent in order to remove all traces of dust, dirt, oil and grease.

Pre-treatment of thermoplastics materials such as PVC, polycarbonate, polypropylene, PMMA, etc., can be made using a mixture of light ethers or with isopropanol. Use of strong solvents is not recommended due to the risk of damage to the plastic surface.

Pre-treatment of other surfaces can be made using acetone or trichloroethylene.

Petrol or other solvents should never be used.

Where possible, carry out a mechanical abrasion to remove paint from the surfaces (where necessary) and to increase strength and resistance of the adhesion. Let dry the pre-treated area before applying the adhesive.

Product Application

2K PU Adhesive is available in bi-component cartridge (side by side).

Anyway, blending should be made through static mixer composed by a minimum of 16 elements. A lower number of components doesn't allow a complete mixing. A higher number of components would increase speed of the chemical reaction of hardening. Static mixer are disposable.

Bi-components cartridges can be used through manual applicators or specific pneumatic tools, depending on capacity and cartridge shape.

The mixture must be applied directly from the mixer on the pre-treated dry surface. The optimal layer of adhesive that will guarantee the highest resistance for the joint should be at least 0.5 mm thick. The components have to be assembled before the adhesive starts curing and sealed with a steady pressure all over the gluing area.

Reaction Mechanism

The speed of the hardening reaction is mainly influenced by two factors, the application temperature and the application thickness. Being the reaction exothermic, the speed decreases as the thickness and temperature application increase.

Even if in smaller measure, the substrate influences the speed of reaction. Materials with a high coefficient of thermal conductivity will tend to slow down the reaction.

The maximal temperature of the reaction will be reached in 5 mm application thickness and is always lower than 80 °C.

The uncured materials must not be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected.

The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection.

The skin should be thoroughly cleaned at the end of each working period by washing with soap and warm water. The use of solvents has to be avoided. Disposable paper should be used to dry the skin.

Adequate ventilation of the working area is recommended.

These precautions are described in greater detail in the safety data sheet for the individual products and should be referred to for further information.

General Information

The information contained in this technical data sheet is to the best of our knowledge correct, being based on our knowledge and experience to date and cannot be used as a guarantee, due to the various different materials present on the market and the fact that the application conditions are not under our direct control and supervision.

ALWAYS CONSULT THE MATERIAL SAFETY DATA SHEET BEFORE USING THE PRODUCT.