COSMO® PU-220.150

*** COSMOPUR 850/805*

2-C-PUR Reaction adhesive

Examples for Application

- Manufacture of sandwich and parapet elements
- Bonding of surfaces

Special Properties

- semi-hard adhesive joint
- Solvent-free
- Good adhesion characteristics to several types of material surfaces, e.g. PVC-hard, GRP (ground), Alu, coloured glass, HPL etc. on diverse insulating materials, e.g. PUR-, PS-foam and mineral wool after appropriate preparation of the surfaces
- Good bonding strength at heat
- Good weather-proofness
- Can be over-coated with many paint systems

Technical Data

Mixture COSMO® PU-220.150 (Component A COSMO® PU-221.150 + Component B COSMO® PU-265.120)

Basis	2-Component PUR reaction adhesive
Colour hard-dry	beige
Density as per EN 542 at +20 °C	approx. 1.48 g/cm³
Shore hardness as per DIN 53505	approx. 65 Shore D
Viscosity as per Brookfield (06/50 min⁻¹) at +20 °C	approx. 3 000 mPa.s
Mixing ratio parts by weight	A: B = 100 : 20
Mixing ratio parts by volume	A: B = 4.0 : 1.0
Pot life of a 100 g batch at +20 °C	approx. 100 min
Processing time in the glue application roller at +20°C	approx. 35 min
Laying time/open time at +20 °C, 50 % RH, applied quantity 500 µm-PVC	approx. 155 min
Functional strength e.g. sandwich bonding at +20 °C	approx. 5 h
Curing time at +20 °C, 50 % r. H. until it reaches the final strength	approx. 14 d
Processing temperatures adhesive and substrates	from +7 °C until +30 °C
Temperature application range of the cured adhesive joint	from -40 °C to +110 °C
Applied quantity depending on the carrier material	approx. 150-350 g/m²
Tensile shear strength as per DIN EN 1465, Alu/Alu, 0.2 mm joint at +20 °C	approx. 16.0 N/mm²
Tensile shear strength as per DIN EN 1465, Alu/Alu, 0.2 mm joint at +80 °C	approx. 5.5 N/mm²

Component A COSMO® PU-221.150

Colour	beige-white
Density as per EN 542 at +20 °C	approx. 1.54 g/cm³
Viscosity as per Brookfield (06/50 min⁻¹) at +20 °C	approx. 6 000 mPa.s

Component B COSMO® PU-265.120

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Colour	brown
Density as per EN 542 at +20 °C	approx. 1.23 g/cm³
Viscosity as per Brookfield (02/50 min⁻¹) at +20 °C	approx. 350 mPa.s

General Information

The processing times become shorter at +30 °C to approximately half of the time, at +10 °C, they become longer to approx. double of the time.

If permanent humidity impact is expected, the bonded joints/bonded surfaces must additionally be sealed/protected using a "suitable sealant".

Bonding of materials with different longitudinal extension must be assessed regarding their long-term behaviour, especially when they are exposed to fluctuating temperature ranges.

The cured mass changes its colour due to UV radiation but not its strength in the cured bonded joint.

Pot-life, processing time, as well as the necessary pressing time or fixing time, can only be determined accurately by self-tests because they are strongly influenced by material characteristics, temperature, mixed quantity, applied quantity, and other criterions.. For processing, appropriate safety allowances shall be planned in addition to the specified guiding values.

Preparation

Acclimatise the product before the application.

The surfaces of the workpieces to be bonded must be dry, and free from dust and grease.

Depending on the material surface, check if the bonding result can be improved by grinding or applying of primer.

Polyolefins (among others PE, PP) cannot be bonded without preparation, e.g. plasma- or corona treatment. If PS-hard surfaces are bonded, generally we recommend using a primer.

Bonding

The binder component must be agitated before it is taken out/ partially taken out!

The binder component is mixed with the hardener component in the specified mixing ratio to be homogeneous.

In the processing time, the adhesive is homogeneously applied on one of the surfaces of the parts to be bonded using a lambskin roller or a glue application roller, or it is sprayed.

After that, the workpieces are put together within the pot-life and pressed with a stacking pressure of 0.015 N/mm² until they have reached the functional strength.

If covering layers are laid, make sure that no air is enclosed, provide for air vent in the adhesive joint, if necessary.

Remove oozing adhesive when it is fresh.

The processing time, and with this the time to reach the functional strength of the adhesive system, can be reduced by adding the accelerator COSMO® SP-900.110, as required.

The adhesive can be coloured by adding of paste paints COSMO® SP-620, usually up to 1 %, however not more than 3 %.

The accelerator COSMO® SP-900.110 and/or the paste paints COSMO® SP-620 can be added into the binder component together with the hardeners COSMO® PU-265 and with this, it can be mixed directly within the mixing process.

Bonding of metals

Bonding of aluminium, copper, brass: only on chemically pretreated or varnished surfaces; these materials cannot be durably bonded to be age-resistant without appropriate pre-treatment of the surfaces to be glued.

Due to the difficult definition of aluminium surfaces and qualities, we generally recommend gathering sufficient information from the supplier to prepare the planned bonding process optimally; sufficient qualification tests are required.

Due to their variety, age and, if necessary, additional treatment with oil or wax, anodized surfaces do not allow any general statement about wettability or bonding characteristics of these bonding surfaces.

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If stainless steel is manufactured or processed, auxiliary aids, e.g. wax, oil, etc, are often used, that usually cannot be removed by simple wiping away; it turned out that after the cleaning with solvent-based cleaning agents a clearly better bonding result will be achieved after grinding, or better sand blasting, of the surface and following cleaning with solvent.

Galvanized sheet metals must generally be protected from stagnant humidity that is permanently acting on it "formation of white rust". In this case, it must be excluded that occurring humidity can get onto the bonding surface.

Powder coatings with shares of PTFE cannot be bonded reliably without pre-treatment (e. g. plasma procedure).

Important instructions

Only instructed personnel in specialist firms are allowed to use the product!

Our user instructions, processing guidelines, product- and performance data, and other technical statements are only general directives; they describe only the condition of our products (values, determination of values on the date of completion) and the performances do not represent a warranty in the sense of § 443 BGB. Because of the wide variety of applications of the individual product and the relevant special conditions (e. g. processing parameters, material characteristics, etc.), it is up to the user to test it itself; our free expert advice for application provided in speech, writing, and as test is nonbinding.

Please, also consider the Safety Data Sheet!

Cleaning

Storage of application devices in COSMO® CL-300.340 prevents/slows down the curing time of the adhesive.

Remove the fresh, not cured adhesive from the surfaces and the tools using COSMO® CL-300.150.

The tools are cleaned with COSMO® CL-300.220 .

Cured adhesive can only be removed mechanically.

Storage

Store the hermetically closed original trading units in a dry place at temperatures of +15 °C to +25 °C no direct sun radiation.

While transported within the usual transport times, the product may be exposed to temperatures from -30 °C to +35 °C.

Storage life in unopened original packaging 12 Months.

Packaging

Comp. A – COSMO® PU-221.150:

200 l Metal clamping ring drum with inliner, net weight: 280 kg

1 000 l container, net weight: 1 400 kg

Comp. B – COSMO® PU-265.120:

10 l metal canister, net weight: 12 kg

200 l bung hole drum, net weight: 250 kg

Other trading units on request.

Accessories

COSMO® CL-300.340 – immersion solution and equipment cleaner

COSMO® CL-300.220 – cleaner for tools

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