

COSMO PU-220.180

*** COSMOPUR 859/805

2-C-PUR Reaction adhesive

Examples for Application

- Manufacture of sandwich and apron elements.
- Bonding of surfaces

Special Properties

- Elastic 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 weather-proofness
- Can be over-coated with many paint systems

Technical Data

Basis:	2-Component-PUR-reaction adhesive
Colour	
Hard-dry	Beige
Comp. A – COSMO PU-221.180	Beige-white
Comp. B – COSMO PU-265.120	Brown
Density	
as per EN 542 at +20 °C	
Mixture – COSMO PU-220.180	approx. 1.42 g/cm ³
Comp. A – COSMO PU-221.180	approx. 1.47 g/cm ³
Comp. B – COSMO PU-265.120	approx. 1.23 g/cm ³
Shore hardness	
as per DIN 53505	approx. 45 Shore D
Viscosity	
as per Brookfield (06/50 min ⁻¹) at +20 °C	
Mixture – COSMO PU-220.180	approx. 3 100 mPa.s
Mixing ratio	
Parts by weight	A : B = 100 : 20
Parts by volume	A : B = 4.2 : 1.0
Pot life	
of a 100 g batch at +20 °C	approx. 480 min
Processing time	
in the glue application roll at +20 °C	approx. 90 min
Processing time	
with (toothed) spatula at +20 °C	approx. 250 min



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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.

Functional strength

e.g. sandwich bonding at +20 °C approx. 16 h

Curing time

at +20 °C, 50 % r. H. to ~75 % approx. 24 h

until it reaches the final strength approx. 7 d

Minimum processing temperature

from +7 °C

Tensile shear strength

as per DIN EN 1465, Alu/Alu, 0.2 mm joint

at +20 °C 6.0 N/mm²

at +80 °C 2.5 N/mm²

Applied quantity Depending on carrier material 150-350 g/m²

Instructions for use

For sandwich bonding with dark material surfaces and depending on the material combination and use, adhesives with higher heat resistance, e.g. COSMO PU-220.120, must be used, if necessary.

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.

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.

The adhesive is homogeneously applied on one of the surfaces of the parts to be bonded using a lambs wool roll, or a glue application roll, within the processing time.

Due to the continuous increase of viscosity, after the processing time, the adhesive system in the glue application machine can be applied further using a (toothed) spatula.

After that, the workpieces are put together within the pot-life and pressed with a stacking pressure of 0.015 N/mm² (~1.500 kp/m²) 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.

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.

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.



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Galvanized sheet metals must generally be protected from 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.

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

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

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.

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.

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.

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

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 in the hermetically closed original packages, dry at temperatures of +15 °C to +25 °C, no direct sun radiation.

Storage life in unopened original packagings 12 Months.

Packaging

Comp. A – COSMO PU-221.180:

5 l PE bucket, net weight: 4.75 kg

13.2 l PE bucket, net weight: 12 kg

30 l PE-hobbock, net weight: 40 kg

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



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1 000 l container, net weight: 1 400 kg
 Comp. B – COSMO PU-265.120:
 1 000 ml metal bottle, net weight: 0.95 kg
 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-300.270 – Cleaner for machine



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