



1-C-MS-Adhesive

Examples for Application

- Used for bonding and sealing in automotive and vehicle body manufacture
- For assembly bonding
- Skirting, laying of laminate and cable ducts
- Stair construction and building trade
- Bonding of façades (cassette) - sandwich elements
- Glass bonding in furniture and display cabinet construction
- Solar systems and wind power plants
- Fixation of signs
- Apparatus and plant construction
- Diverse industrial fields

Special Properties

- Very low emission*
- elastic adhesive joint
- Solvent-free
- Compatible with natural stone
- Not foaming
- Low shrinkage
- Good adhesion characteristics to different surfaces
- Surface can be smoothed well
- High strength of adhesive joints
- Compensates the expansion of different materials
- Good weather resistance outdoors
- Good UV-stability
- Can be over-coated with many paint systems
- Can subsequently be powder-coated

Certificates / Test reports

According to EN15651-1 classified as F-EXT-INT-CC 20 HM

According to EN15651-4 classified as PW-EXT-INT-CC 20 HM

According to EN 13501-1 classified as fire class E

ISEGA, Aschaffenburg

Can be used in the foodstuffs-related sector, for example for the jointing and bonding of wall and floor areas in companies which are preparing and processing foodstuff.

Declaration of no-objection No.: 62091 U 24

ILAK, Wettenberg

Salt spray test as per DIN EN ISO 9227

Test report No.: 9-5-18/2

GEV, Düsseldorf

*Classified in the EMICODE class EC1^{PLUS} in compliance with the criterions of the GEV.

Licence No.: 5022



French VOC-Emission class A+

Technical Data

Basis	1-C-humidity-cross-linking silane-terminated polymer
Colour hard-dry	black
Density as per EN 542 at +20 °C (+68 °F)	approx. 1.54 g/cm ³ (12.85 lb/gal)





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Shore hardness as per DIN 53505	approx. 55 Shore A
Viscosity as per plate-plate (2 s ⁻¹) at +25 °C (+77 °F)	approx. 600 000 mPa.s (600 000 cP)
Breaking elongation as per DIN 53504	approx. 350 %
Skin formation time – dry at +20 °C (+68 °F), 50 % r. H., applied quantity 500 µm (19.7 mil)-PE/PVC	approx. 12 min**
Curing speed at +20 °C (+68 °F) , 50 % r. H.	approx. 4 mm (158 mil) in 24 h
Curing time at +20 °C (+68 °F), 50 % r. H. until it reaches the final strength	approx. 7 d
Processing temperatures adhesive and substrates	from +5°C (+41 °F) to +30 °C (+86 °F)
Temperature application range of the cured adhesive joint	from -40 °C (-40 °F) to +100 °C (+212 °F)
Subsequent powder coating after reaching the final strength	20 min/to +180 °C (+356 °F)
Tensile shear strength as per DIN EN 1465, Alu/Alu, 0.2 mm (7.9 mil) joint at +20 °C (+68 °F)	approx. 3.1 N/mm ² (450 psi)

**After production, while it is stored, skinning time changes from approx. 8 min to approx. 20 min.

Processing as an adhesive

General Information

With increased air humidity or after the adhesive has been sprayed with water, the skinning time will be clearly shorter.

Paint the bonded workpieces only after the adhesive has cured completely; if they are painted too early, formation of paint bubbles cannot be excluded.

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

Skinning, joining times, as well as the required press and following processing times can only be determined accurately by self-tests because they depend on material, temperature, applied quantity, air humidity, material humidity, thickness of adhesive film, press power, 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 of PVC, ABS, PC, PET, GRP on the basis of polyester or polyamide and powder-coated surfaces should only be done after pre-treatment of the bonding surfaces with the activator COSMO® CL-310.110 by wiping.

Bonding of concrete, cellular concrete, sandstone and building brick should only be done after pre-treatment of the bonding surfaces with the activator COSMO® CL-310.110 by brush (up to 50 ml/m² (1.41 fl oz/yd²)).

Bonding

The adhesive is applied one-sided as bead on one of the parts to be bonded.

If non-absorbing materials are bonded (material humidity <8 %), water must be "sprayed very finely" onto the adhesive to achieve complete curing.

The workpieces must be fit together and pressed within the skinning time.





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After they have been fit together, the parts must be fixed and pressed until functional strength has been reached.

Remove oozing adhesive when it is fresh.

Bonding of metals

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.

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.

If metals are bonded with absorbent materials (e.g. wood, building materials, etc.), humidity can be transported slowly through the absorbent material, through the bonded joint, to the metallic surface and here, it can cause corrosion damages on the metal. Therefore, the metallic bonding surface must be equipped with an appropriate corrosion protection, e. g. varnish, powder coating!

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).

Processing as a sealant

General Information

With increased air humidity or after spraying the compound with the smoothing agent, the skinning time will be significantly shorter.

The sealant is not recommended for use on substrates such as polyethylene, silicone, butyl rubber, neoprene, EPDM, bitumen or tar-containing substances (black paint).

Do not allow the sealant to cure in the presence of curing silicone sealants.

Avoid contact with solvent-based cleaners during curing.

Usually, it can be easily coated over, but this should be checked before because of the variety of paint and lacquer systems.

Skinning and joining times, as well as further processing times can only be determined accurately by doing your own tests, because they depend on material, temperature, applied quantity, air humidity, material humidity, joint geometry and other criteria. For processing, appropriate safety allowances must be planned by the user in addition to the specified guiding values.

Preparation

Acclimatise the product before the application.

The substrates of the joint must be dry, free from dust and grease, and cleaned.

On concrete and plaster joints, loose components must be brushed off.

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 of PVC, ABS, PC, PET, GRP on the basis of polyester or polyamide and powder-coated surfaces should only be done after pre-treatment of the bonding surfaces with the activator COSMO® CL-310.110 by wiping.

As a substrate preparation for concrete, aerated concrete, sandstone and brick, we recommend pretreating the adhesive surfaces with the activator COSMO® CL-310.110.

In order to arrive at optimal joint geometry and to avoid three-flank adhesion, the joint should be backfilled with a closed-cell PE round cord.

In order to arrive at visually flawless joints, we recommend masking the joint edges with a suitable adhesive tape.





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Sealing

The sealant must be introduced into the joint evenly and without bubbles by means of a hand-held or compressed air gun.

The smoothing of the sealant surface must take place within the skinning time.

To facilitate smoothing, we recommend using the smoothing agent COSMO® SP-870.160.

Remove the masking tape immediately after smoothing.

Remove excess sealant when it is fresh.

Important instructions

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

For PVC-bonding, also read our technical information "Testing and evaluation of PVC-bonding with STP/MS adhesives of the product series COSMO® HD".

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.

Cured adhesive can only be removed mechanically.

Storage

Store the hermetically closed original trading units in a dry place at temperatures of +15 °C (+59 °F) to +25 °C (+77 °F) no direct sun radiation.

While transported within the usual transport times, the product may be exposed to temperatures from -30 °C (-22 °F) to +35 °C (+95 °F).

Storage life in unopened original packaging: 15 Months

Packaging

310 ml (10.48 fl oz) PE-Euro cartridge, net weight:

470 g (16.6 oz)

600 ml (20.29 fl oz) Alu/PP-tube bag, net weight: 910 g (2.0 lb)

Other trading units on request.

Accessories

COSMO® CL-310.110 - Activator



Industrieverband
Klebstoffe e.V.