



## 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
- Bonding of mirrors as per Technical regulations of the glazing trade No.11, current edition
- 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 mirror rear sides as per DIN EN 1036
- 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

**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, Institut für Lackprüfung**

Salt spray test as per DIN EN ISO 9227

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

**GEV**

\*Classified in the EMI CODE class EC1<sup>PLUS</sup> in compliance with the criterions of the GEV.

Licence No.: 5020



French VOC-Emission class A+

### Technical Data

<b>Basis</b>	1-C-humidity-cross-linking silane-terminated polymer
<b>Colour</b> hard-dry	white
<b>Density</b> as per EN 542 at +20 °C (+68 °F)	approx. 1.54 g/cm <sup>3</sup> (12.85 lb/gal)
<b>Shore hardness</b> as per DIN 53505	approx. 55 Shore A
<b>Viscosity</b> as per plate-plate (2 s <sup>-1</sup> ) at +25 °C (+77 °F)	approx. 600 000 mPa.s (600 000 cP)





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<b>Breaking elongation</b> as per DIN 53504	approx. 350 %
<b>Skinning time – dry</b> at +20 °C (+68 °F), 50 % r. H., applied quantity 500 µm (19.7 mil)-PE/PVC	approx. 12 min**
<b>Curing speed</b> at +20 °C (+68 °F) , 50 % r. H.	approx. 4 mm (158 mil) in 24 h
<b>Curing time</b> at +20 °C (+68 °F), 50 % r. H. until it reaches the final strength	approx. 7 d
<b>Operation temperature range</b>	from -40 °C (-40 °F) to +100 °C (+212 °F)
<b>Subsequent powder</b> coating after reaching the final strength	20 min/to +180 °C (+356 °F)
<b>Processing temperatures</b> adhesive and substrates	from +5°C (+41 °F) to +30 °C (+86 °F)
<b>Tensile shear strength</b> as per DIN EN 1465, Alu/Alu, 0.2 mm (7.9 mil) joint at +20 °C (+68 °F)	approx. 3.1 N/mm <sup>2</sup> (450 psi)

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

### 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/m<sup>2</sup> (1.41 fl oz/yd<sup>2</sup>)).

### 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.

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.



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### 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).

### Important instructions

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

For bonding of mirrors strictly observe the Technical regulations of the glazing trade No.11, current edition. For this topic, please also read our Technical Information "Bonding of mirrors".

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

KEEP OUT OF REACH OF CHILDREN !

KEEP HOBBOCK, DRUM, CONTAINER, e.g. TIGHTLY CLOSED !

USE ONLY FOR APPLICATIONS MENTIONED IN THE TECHNICAL DATA SHEET !

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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: 18 Months

### Packaging

310 ml (10.48 fl oz) PE-Euro cartridge, net weight: 470 g (16.6 oz)



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# COSMO® HD-100.400

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

Other trading units on request.

