

# COSMO Adhesives

Transportation & Marine



**weiss**



## A strong partner

Weiss is representing top performance in the areas of adhesive and sandwich technology.

For many decades, Weiss has been very successful in setting new market standards in terms of quality and excellent services. With our comprehensive product line of adhesives and sandwich panels, we are covering a wide variety of different applications.



## Quality management

Basis for the quality assurance of our products and procedures is a documented and certified management system as per DIN EN ISO 9001-2008. For the production processes, this means that all products and each single batch are continuously monitored in our laboratory during the production process and after the completion they are tested in compliance with specified criteria.



## Development / Application engineering

It is very important to us to provide professional and innovative solutions with convincing advantages for production methods and of high efficiency in close cooperation with our customers. A highly motivated team of chemists and application engineers with long-term experience in development, modification and application of adhesives is on hand with help and advice for you.



## Tests

With our own test facilities we are not only able to test in compliance with DIN and EN standards but we can also evaluate your components (component sizes) under operating conditions in a practice-oriented way. In addition, we ensure the high quality of our products on the basis our cooperation with the most diverse testing institutes.



Traditional bonding technologies like riveting, soldering, welding, or screwing are more and more replaced by modern adhesive systems whereby they are offering numerous advantages.

Thus, adhesives, for instance, do not change the specific characteristics of the respective joint parts as it happens for welding. Furthermore, no bores are required that can weaken the structure of the materials, for instance for screws or rivets.

In addition to it, bonded joints ensure a more homogeneous distribution of forces over the whole bonded surface which results in an essentially higher total strength. Weiss is offering to you highly loadable adhesive systems for the most diverse fields of mobile applications and tailored to the special requirements in this market segments. With the help of our adhesives, ensure the required high quality of your product and achieve strengths that guarantee the safe and durable bonding of your joint parts also under extreme loads.



### Certified adhesive systems in the shipbuilding area *Approval BG Verkehr, Hamburg / Low flammability*

In the shipbuilding area, the provisions referring to the permitted products have been tightened in a way that for "all commercially used ships, yachts and boats" only tested and approved products are allowed to be used. The quality management system of Weiss complies with module D (quality assurance production) of the 2014/90/EU directive on marine equipment and the approved adhesive systems are subject to this quality assurance system.

These special requirements of shipbuilding are arguably met by the adhesives marked with the steering wheel.



### Our service

- Expert advice on selection of adhesives
- Proposals for optimization and rationalization of your work flows
- Trainings on handling of adhesives as well as on processing equipment technology



Weiss Chemie + Technik GmbH & Co. KG has been certified by the BG Verkehr, Hamburg as per DIN EN ISO 9001 : 2008 .

Due to their wide range of application possibilities, our one- and two-component adhesive systems for constructive bonding are suitable for bonding of the most different materials. Even under extreme conditions, our adhesives provide for safe and durable bonding of your joint parts, no matter whether it is used in trade or in the industrial sector.



## Elastic MS adhesives - *Compensate tensions*

	The multi-talent	The slow-acting one	The fast acting one	The clean one	The controlled one
<b>Product</b>	<b>COSMO HD-100.400</b>	<b>COSMO HD-100.440</b>	<b>COSMO HD-100.450</b>	<b>COSMO HD-100.460</b>	<b>COSMO HD-200.101</b>
<b>Emphasis</b>	All-rounder	Long open time	High-Tack / First-Tack	Bacteriostatic and fungistatic	2-K-MS with fast curing
<b>Viscosity (+25°C)</b>	~ 600,000 mPa*s	~ 500,000 mPa*s	~ 1,500,000 mPa*s	~ 500,000 mPa*s	~ 150,000 mPa*s
<b>Skinning time</b>	12 minutes	30 minutes	6 minutes	12 minutes	35 minutes
<b>Curing</b>	4 mm/24 h	4 mm/24 h	4 mm/24 h	2.3 mm/24 h	150 minutes (60 % of final hardness)
<b>Hardness Shore A</b>	55	48	60	50	60
<b>Elongation at break/Breaking elongation</b>	350 %	450 %	250 %	320 %	260 %
<b>Absorption of water</b> (stored for 14 days)	3.0 %	1.5 %	3.5 %	3.5 %	2.0 %
<b>Salt mist test</b>	Good			✓	✓
<b>Tensile shear strength, +20°C</b>	3.1 N/mm <sup>2</sup>	3.2 N/mm <sup>2</sup>	3.0 N/mm <sup>2</sup>	3.3 N/mm <sup>2</sup>	4.0 N/mm <sup>2</sup>
<b>No marking required</b>	✓	✓	✓	✓	
<b>Solvent-free</b>	✓	✓	✓	✓	✓
<b>EMICODE® EC1PLUS</b>	✓	✓	✓	✓	
<b>Can be coated over</b>	Good	Good	Satisfying	✓	✓
<b>Steering wheel / flame-resistant</b>					
<b>ISEGA / indirect food contact</b>	✓				
<b>ETAG 022 compatible</b>	✓	✓	✓	✓	✓
<b>Indoor and outdoor application</b>	✓	✓	✓	✓	✓
<b>Content / trading unit-cartridge</b>	310 ml	310 ml	310 ml	310 ml	400 ml
<b>Content / trading unit-tubular bag</b>	600 ml	600 ml	600 ml	600 ml	
<b>Standard colours</b>	White/black/grey	White	White	White	Grey

## High-strength PU adhesives - High strength of adhesive joint

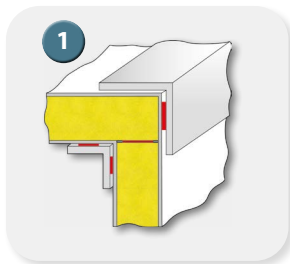
## High strength MS adhesive

	The multi-talent	The fast acting one	The high-strength one	The one with no marking
<b>Product</b>	<b>COSMO PU-200.180</b>	<b>COSMO PU-100.200</b>	<b>COSMO PU-200.330</b>	<b>COSMO HD-100.500</b>
<b>Emphasis</b>	All-rounder	Fast reaction time	Tough-hard adhesive joint	Tough-elastic adhesive joint
<b>Non-slump / pasty</b>	Yes	Yes	Yes	Conditional
<b>Viscosity (+25°C)</b>	140,000 mPa*s	90,000 mPa*s	25,000 mPa*s	70,000 mPa*s
<b>Skinning time / pot life</b>	90 minutes	2 minutes (wet)	50 minutes	5 minutes (wet)
<b>Functional strength</b>	420 minutes	15 minutes	300 minutes	30 minutes
<b>Hardness Shore D</b>	55	~45	60	
<b>Hardness Shore A</b>				72
<b>Tensile shear strength, +20°C</b>	12.5 N/mm <sup>2</sup>	8.5 N/mm <sup>2</sup>	19 N/mm <sup>2</sup>	5 N/mm <sup>2</sup>
<b>Solvent-free</b>	✓	✓	✓	✓
<b>EMICODE® EC1PLUS</b>				✓
<b>Can be coated over</b>	✓	✓	✓	✓
<b>Steering wheel / flame-resistant</b>	☼	☼		
<b>Content / trading unit-cartridge</b>		310 ml	2*310 ml	310 ml
<b>Mixing unit</b>	3.45 kg	465 g	910 g	490 g
<b>Standard colours</b>	Beige	Beige	Beige	White

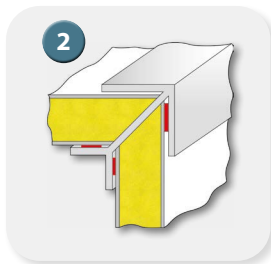


# Fields of application

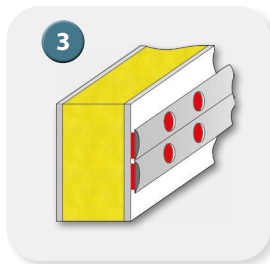
Roof angles



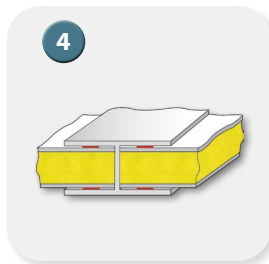
Corner angles



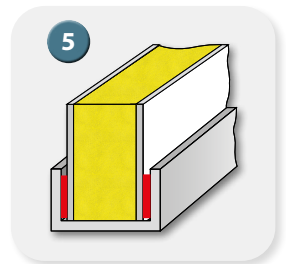
Strips



Butt joints



Stop beads



Motor caravan



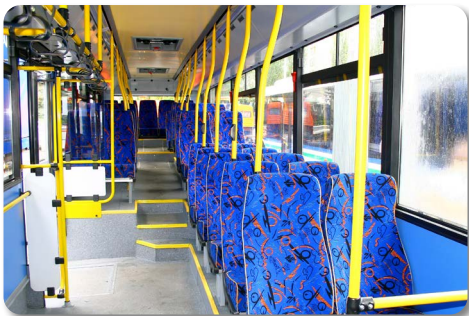
Refrigerated vehicle



Ambulance



Bus manufacture



Truck trailer



Manufacture of trains



## Examples of materials



ALU

GRP (sanded)



Plywood

Galvanized sheet metal



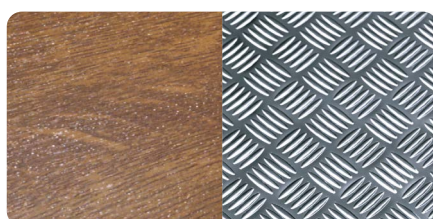
Stainless steel

PVC hard



Ceramics

Stainless steel



HPL

Galvanized sheet metal



EPDM

ALU

For preparation, we recommend our *activator*

**COSMO CL-310.110**

It cleans and activates bonding surfaces.

It improves bonding on PVC, ABS, PC, GRP on the basis of polyester or polyamide and powder coated surfaces.

Activation of non-absorbent, porous and smooth substrates.

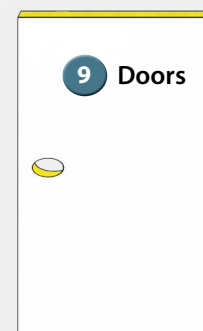
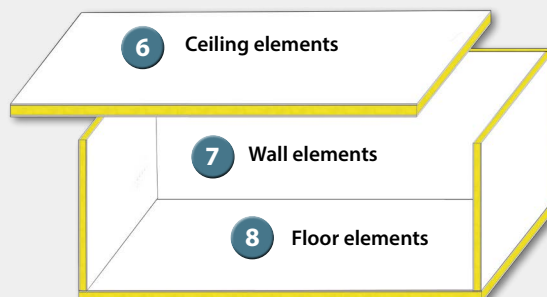


When composite panels are manufactured, very special requirements are put on the used adhesive system because different techniques of adhesive and a large number of materials or material combinations. To support you with the suitable adhesive in your industry, we have developed a wide variety of systems with the most different characteristics referring viscosity, thixotropy, processing and pressure.

	<b>COSMO PU-160.160</b>	<b>COSMO PU-160.130</b>	<b>COSMO PU-160.530</b>	<b>COSMO PU-160.540</b>
<b>Emphasis</b>	All-rounder 1-C-PUR	The slow-acting one	Specialist for nearly each surface	Fast cycle times
<b>Viscosity (+25°C)</b>	~ 3,500 mPa*s	~ 3,500 mPa*s	~ 6,500 mPa*s	~ 4,000 mPa*s
<b>Skinning time/pot life</b>	60 minutes	120 minutes (dry)	110 minutes	9 minutes
<b>Calorific value</b>	~ 30 MJ/kg	~ 30 MJ/kg	~ 30 MJ/kg	~ 30 MJ/kg
<b>Pressing time</b>	120 min	240 min	240 min	30 min
<b>Tensile shear strength, +20°C</b>	~ 7.5 N/mm <sup>2</sup>	~ 7.5 N/mm <sup>2</sup>	~ 6.0 N/mm <sup>2</sup>	~ 8 N/mm <sup>2</sup>
<b>Solvent-free</b>	✓	✓	✓	✓
<b>Can be coated over</b>	✓	✓	✓	✓
<b>Steering wheel / flame-resistant</b>	✘	✘		
<b>Foaming</b>	✓	✓	✓	✓
<b>Not foaming</b>				
<b>Density</b>	1.12 g/cm <sup>3</sup>	1.12 g/cm <sup>3</sup>	1.12 g/cm <sup>3</sup>	1.12 g/cm <sup>3</sup>

## Fields of application

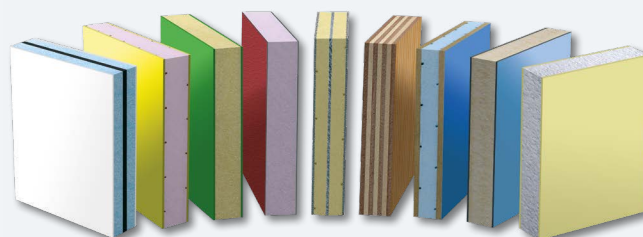
Surface bonding - composite panels



## COSMO Composite panels

In addition to adhesives, we are producing our own composite panels, consisting of high grade material components that are fit together with our approved adhesive system. Premium elements come out that fully convince with their quality, robustness and durability.

- COSMO Therm** (heat-insulating)
- COSMO Silent** (sound insulating)
- COSMO Protect** (penetration resistant)
- COSMO Design** (grooved)
- COSMO Tech** (individual)
- COSMO Frame** (frame widening)





ologies are applied for the appli-  
dividual production processes, we  
ssing times.



## Examples of materials

### Top coats

- **ALU** (aluminium)
- **PVC** (polyvinylchloride)
- **HPL** (high pressure laminated panels)
- **GRP** (glass fibre reinforced plastics)
- **CFK** (carbon fibre reinforced plastics)
- **EPO** (epoxy resin)
- **HD** (decorative films)
- **SPE** (plywood)
- **DSP** (thin chipboard)

### Core materials

- **XPS** (extruded polystyrene rigid foam)
- **PUR** (polyurethane rigid foam)
- **MIN** (mineral fibre insulating material)
- **PR** (polyurethane recycling panel)
- **EPS** (expanded polystyrene rigid foam)
- **PUR/AL** (polyurethane rigid foam/aluminium)

#### **COSMO PU-125.110** Minimum calorific value

~ 8,500 mPa\*s  
11 minutes  
~ 15 MJ/kg  
45 min  
~ 12 N/mm<sup>2</sup>  
✓  
✱  
✓

1.47 g/cm<sup>3</sup>

#### **COSMO PU-220.230** Marine 2-C-PUR flame-retardant

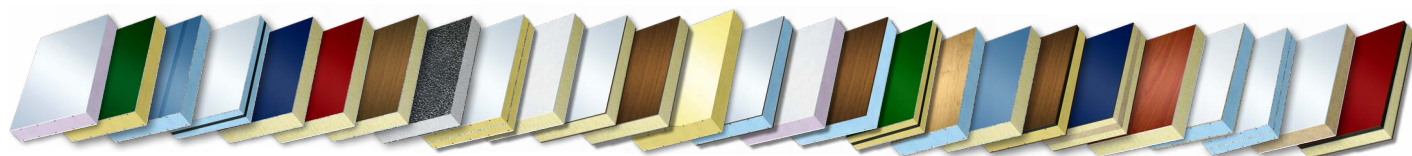
~ 2,500 mPa\*s (mixture)  
260 minutes  
~ 23 MJ/kg  
420 min  
~ 15 N/mm<sup>2</sup>  
✓  
✓  
✱  
✓

1.37 g/cm<sup>3</sup>

#### **COSMO PU-220.150** All-rounder 2-C-PUR

~ 3,000 mPa\*s  
100 minutes  
~ 25 MJ/kg  
300 min  
~ 16 N/mm<sup>2</sup>  
✓  
✓  
✓

1.48 g/cm<sup>3</sup>



Refrigerated vehicle



Truck trailer



Motor caravan



Ambulance



Ship cabin building



Delivery van



## Activator

### **COSMO CL-310.110**

It cleans and activates bonding surfaces. It improves bonding on PVC, ABS, PC, GRP on the basis of polyester or polyamide and powder coated surfaces.



## Primer / first coat

### **COSMO SP-830.110**

For adhesion promotion and improvement on various absorbent mineral substrates (primer).



## Manual pressure guns

### **COSMO SP-760**

Manual pressure guns for dosing from Euro / tandem chamber cartridges and tubular bags.



#### Designs

**COSMO SP-760.110** for 310 ml Euro cartridges

**COSMO SP-760.120** for 600 ml tubular bags

**COSMO SP-760.141** for 2 x 190 ml tandem cartridges

**COSMO SP-760.151** for 2 x 310 ml tandem cartridges

## Pressure guns

### **COSMO SP-750**

Pressure guns for dosing of Euro / tandem chamber cartridges and tubular bags.



#### Designs

**COSMO SP-750.111** for 2 x 190 ml tandem cartridges

**COSMO SP-750.121** for 2 x 310 ml tandem cartridges

**COSMO SP-750.130** for 310 ml Euro cartridges

**COSMO SP-750.140** for 600 ml tubular bags

## Surface nozzle for Adhesives and sealants

### **COSMO SP-810**

For easy processing of thixotropic and flowable adhesives. Due to the individual cut of the five openings, the application width of adhesive can be adjusted easily between 20 and 75 mm. For cartridges and bottles.



## Static mixing tubes

### **COSMO SP-800**

Static mixing tubes for homogeneous mixing of 2-C-adhesives for the use of tandem cartridges.

#### Special Properties

- Homogeneous mixing achieves constant adhesive quality
- Easy and safe handling of tandem cartridges with static mixers



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