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GB

2-Comp. Adhesives and Sealants



www.weicon.com

Plastic Metal

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2-Component Adhesives and Sealants





Plastic Metal

WEICON Plastic Metal is ideal for providing fast, cost effective and durable repairs and coatings to many different types of material. WEICON Plastic Metal is also suitable for tool and mould making.

The range consists of 19 different types to cover the various application requirements needed for industry. The system is complemented by a range of optional accessory products.

Composition

WEICON Plastic Metals are two-component epoxy resin systems. All types are supplied in a retail package which contains the resin and hardener components in the correct mixing ratios. Depending on type, the resin component is filled with either steel or aluminium powder or in some cases, a mineral filler (except Casting Resin MS 1000).

The different hardeners determine the viscosity and curing behaviour of each product type.

Characteristics

After mixing the two components, WEICON Plastic Metal hardens at room temperature to a firm, metal-like material which immediately adheres to almost every kind of surface.

Time of curing depends on the type. Unlike polyester resin, the material does not shrink while curing. The cured material may be machined, e.g.:

- drilled
- milled
- ground
- filled

WEICON offers a wide range of putty, liquid or brushable types with extremely high temperature and abrasion resistance.

All types show an excellent resistance to aggressive media.



Epoxy Resin Systems

Plastic Metal



Adhesives / Sealants

Technical Sprays

Technical Liquids

Assembly Pastes

Lubricants

Other

Applications

Many different materials may be reliably and durably bonded to themselves and among each other, e.g.:

- iron, steel, hard metal, bronze
- aluminium, brass and copper
- glass and ceramics, concrete and wood
- many rigid plastics (except PTFE, polyethylene and polypropylene)

For workshops and maintenance departments in all industries, WEICON Plastic Metal is the ideal product for:

- repairs on aluminium and light alloy
- reconditioning and repairing castings, pipes and tanks
- filling blowholes and microporosities
- working over shafts, sliding bearings, pumps and housings
- welding without preheating (wherever welding is problematic or impossible)



Spiral stirrer stainless steel
10953010

In industrial design and manufacturing, WEICON Plastic Metal is used for making moulds and models, in particular:

- as an aid for making moulds for rubber and injection moulded parts
- making dies
- templates and models for pre-production testing
- lining of cutting tool guides
- making fixing devices.

WEICON Plastic Metal is ideal for maintenance works and will give durable repairs without the need for expensive replacement parts.





WEICON A

Pasty, steel-filled, certified by Germanischer Lloyd

WEICON A is particularly suited for repair work such as the elimination of corrosion damage and pitting, repair of cracks and production of models.

The product can be used in machine construction, tool construction, model and mould making, the maritime industry and in many other applications.

0,5 kg  2,0 kg 
10000005 10000020



Technical Data

Basis	Epoxy resin steel-filled
Specific Properties	pasty
Mixing ratio by weight % (Resin/Hardener)	100:10
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	2,9 g/cm³
Viscosity of the mixture	1.000.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	80 MPa (11.600 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	21 MPa (3.000 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	34 MPa (4.900 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	3.500 - 5.000 MPa (510 - 730 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	90
Shrinkage	0,015%
Thermoforming resistance	+65°C (+149°F)
Colour	dark-grey
Temperature resistance	-35 to +120°C (-31 to +248°F)



WEICON B

Viscous, steel-filled

WEICON B is particularly suited for detailed reproductions in model and mould making, for the production of tools, templates, gauges and fixtures, for filling in blowholes and microporosities in castings and for general repair work where a casting compound is advantageous.

WEICON B can be used in machine construction, tool construction, model and mould making, and in many other applications.

0,5 kg  2,0 kg 
10050005 10050020

Technical Data

Basis	Epoxy resin steel-filled
Specific Properties	viscous
Mixing ratio by weight % (Resin/Hardener)	100:7
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	2,75 g/cm³
Viscosity of the mixture	200.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	110 MPa (15.950 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	21 MPa (3.000 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	52 MPa (7.500 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	3.500 - 5.000 MPa (510 - 730 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	90
Shrinkage	0,03%
Thermoforming resistance	+65°C (+149°F)
Colour	dark-grey
Temperature resistance	-35 to +120°C (-31 to +248°F)

Epoxy Resin Systems

Plastic Metal

WEIDLING C

Liquid, aluminium-filled,
up to +220°C (+428°F) high temperature resistant

The product is high temperature resistant after pre-curing at room temperature and post-curing (tempering) at +120°C (+248°F).

WEIDLING C is particularly suited for pouring out moulds and for making fixing devices and tools. WEIDLING C can be used in tool and mould making and in many other industrial applications.

0,5 kg ✓
10100005

2,0 kg ✓
10100020

Technical Data

Basis	Epoxy resin aluminium-filled
Specific Properties	liquid, high temp. resistant
Mixing ratio by weight % (Resin/Hardener)	100:8
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	1,62 g/cm ³
Viscosity of the mixture	25.000 mPa·s
Max. layer thickness per application	60 mm
Cure time mechanical loads	24 h
Final hardness	48 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	140 MPa (20.300 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	25 MPa (3.600 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	77 MPa (11.200 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	5.800 - 6.000 MPa (840 - 870 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	90
Shrinkage	0,01%
Thermoforming resistance	+130°C (+266°F)
Colour	grey
Temperature resistance	-35 to +220°C (-31 to +428°F)

WEICON BR

Pasty, bronze-filled

WEICON BR is particularly suited for filling in blowholes and for repairing and rebuilding bronze equipment parts and castings.

WEICON BR can be used in tool construction, model and mould making, and in many other industrial applications.

0,5 kg ✓
10420005

2,0 kg ✓
10420020

Technical Data

Basis	Epoxy resin bronze-filled
Specific Properties	pasty
Mixing ratio by weight % (Resin/Hardener)	100:100
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	1,80 g/cm ³
Viscosity of the mixture	650.000 mPa·s
Max. layer thickness per application	12 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	95 MPa (13.800 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	29 MPa (4.200 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	35 MPa (5.000 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	2.500 - 3.000 MPa (360 - 440 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	75
Shrinkage	0,02%
Thermoforming resistance	+50°C (+122°F)
Colour	bronze
Temperature resistance	-35 to +120°C (-31 to +248°F)



Repair of a
ship propeller



WEICON F

**Pasty, aluminium-filled,
non-corrosive and anti-magnetic**

WEICON F is particularly suited for applications on components made from aluminium, aluminium alloys, magnesium and other light metals. WEICON F can be used for inexpensive repairs of all types, for filling in blowholes on light metal castings and for the reconstruction of components.

WEICON F can be used in tool construction, model and mould making, and in many other industrial applications.

0,5 kg ✓
10150005

2,0 kg ✓
10150020



Reconditioning of an aluminium housing

Technical Data

Basis	Epoxy resin aluminium-filled
Specific Properties	pasty
Mixing ratio by weight % (Resin/Hardener)	100:20
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	1,6 g/cm ³
Viscosity of the mixture	880.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	61 MPa (8.800 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	20 MPa (2.900 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	37 MPa (5.400 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	1.500 - 2.000 MPa (220 - 290 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	84
Shrinkage	0,02%
Thermoforming resistance	+60°C (+140°F)
Colour	aluminium
Temperature resistance	-35 to +120°C (-31 to +248°F)



Epoxy Resin Systems

Plastic Metal

WEICON F2

Viscous, aluminium-filled

WEICON F2 is suited for the casting of models, moulds and templates, for the repair of porous and damaged castings, for the production of prototypes and holding devices, and for pouring out swages to test precision.

WEICON F2 can be used in tool construction, model and mould making, and in many other industrial applications.

0,5 kg  10200005
2,0 kg  10200020

Technical Data

Basis	Epoxy resin aluminium-filled
Specific Properties	viscous
Mixing ratio by weight % (Resin/Hardener)	100:14
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	1,45 g/cm ³
Viscosity of the mixture	200.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	43 MPa (6.200 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	14 MPa (2.000 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	26 MPa (3.800 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	1.500 - 2.000 MPa (220 - 290 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	79
Shrinkage	0,025%
Thermoforming resistance	+55°C (+131°F)
Colour	aluminium
Temperature resistance	-35 to +120°C (-31 to +248°F)


WEICON HB 300

Pasty, steel-filled, high temperature resistant

Weicon Plastic Metal type HB 300 is pasty, steel-filled and high temperature resistant up to +200°C (+392°F) (briefly up to +280°C/+536°F). It is processed with a mixing ratio of 1:1.

WEICON HB 300 is also suitable for applications on vertical surfaces and can be used for the repair and bonding of cast and metal parts, for filling in blow holes, for repairing damage to containers, carriages and machine parts and for sealing pumps and pipes.

WEICON HB 300 can be used in machine and system construction, in apparatus engineering, and in many other industrial applications.

1,0 kg  10450010

Technical Data


Basis	Epoxy resin steel-filled
Specific Properties	pasty, high temperature resistant
Mixing ratio by weight % (Resin/Hardener)	100:100
Pot-life +20°C (+68°F) (200 g preparation)	30 min.
Density of the mixture	2,34 g/cm ³
Viscosity of the mixture	1.700.000 mPa·s
Max. layer thickness per application	20 mm
Cure time mechanical loads	12 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	100 MPa (14.500 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	27 MPa (3.900 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	42 MPa (6.000 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	9.500 - 10.000 MPa (1.380 - 1.450 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	85
Shrinkage	0,015%
Thermoforming resistance	+120°C (+248°F)
Colour	dark-grey
Temperature resistance	-35 to +200°C (-31 to +392°F), briefly to +280°C (+536°F)


WEICON Ceramic BL

**Liquid, mineral-filled, extremely wear resistant
high temperature resistant from -35°C up to +180°C**

Weicon Ceramic BL is liquid, brushable, filled with silicon carbide and zirconium silicate, temperature-resistant up to +180°C and resistant to chemicals. It offers extreme wear protection and high abrasion resistance.

WEICON Ceramic BL is particularly suited for the lining of heavily stressed pump housings, as wear protection for slide bearings, slides, funnels and pipes and for the repair of castings, valves and blower fans. The product can be used in machine and system construction, in apparatus engineering, and in many other industrial applications.

0,5 kg 
10400005

2,0 kg 
10400020


Technical Data


Basis	Epoxy resin mineral-filled
Specific Properties	liquid, extremely wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:10
Pot-life +20°C (+68°F) (200 g preparation)	20 min.
Density of the mixture	1,9 g/cm ³
Viscosity of the mixture	40.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	12 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	115 MPa (16.700 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	25 MPa (3.600 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	98 MPa (14.200 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	9.000 - 9.500 MPa (1.310 - 1380 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	88
Shrinkage	0,02%
Thermoforming resistance	+80°C (+176°F)
Colour	blue
Temperature resistance	-35 to +180°C (-31 to +356°F)

WEICON Ceramic BL

Slow

Longer processing time than WEICON Ceramic BL

0,5 kg 
10405005

2,0 kg 
10405020

Technical Data

Basis	Epoxy resin mineral-filled
Specific Properties	liquid, extremely wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:15
Pot-life +20°C (+68°F) (200 g preparation)	40 min.
Density of the mixture	1,8 g/cm ³
Viscosity of the mixture	6.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	85 MPa (12.300 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	22 MPa (3.200 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	95 MPa (13.800 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	7.000 - 8.000 MPa (1.020 - 1.160 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	83
Shrinkage	0,02%
Thermoforming resistance	+80°C (+176°F)
Colour	blue
Temperature resistance	-35 to +180°C (-31 to +356°F)



Coating of a
centrex cone

Epoxy Resin Systems

Plastic Metal

WEICON Ceramic W

Pasty, mineral-filled, extremely wear resistant

WEICON Ceramic W is pasty, mineral-filled, temperature-resistant up to +150°C (+302°F) (briefly up to +260°C/+500°F) and resistant to chemicals. It offers high wear protection and abrasion resistance.

WEICON Ceramic W has a non-sag property and can be spread with a spatula. It can be applied on vertical surfaces and even overhead.

WEICON Ceramic W is suited for the bonding or lining of aluminium oxide stones in mill construction, for the lining of heavily stressed pump housings, as wear protection for slide bearings, slides and pipes and wherever darker products are not desired for optical reasons.

WEICON Ceramic W can be used in machine and system construction, mill construction, apparatus engineering, and in many other industrial applications.

0,5 kg ✓
10460005

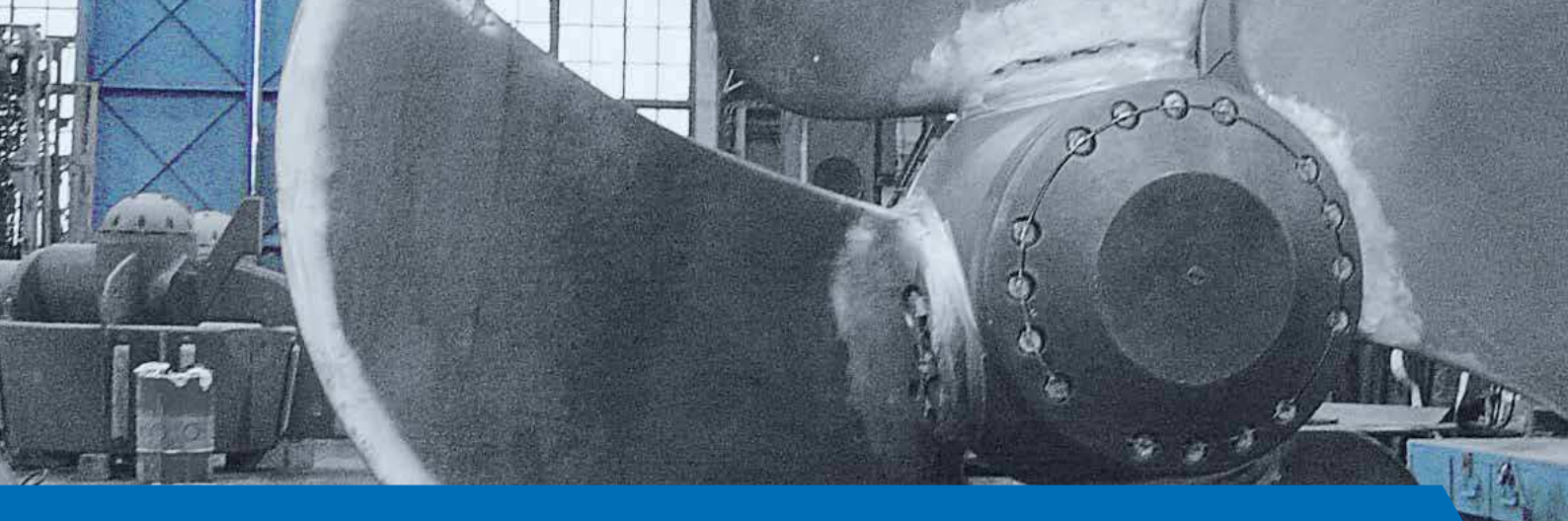
2,0 kg ✓
10460020

Technical Data

Basis	Epoxy resin mineral-filled
Specific Properties	pasty, extremely wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:33
Pot-life +20°C (+68°F) (200 g preparation)	120 min.
Density of the mixture	1,59 g/cm³
Viscosity of the mixture	600.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	24 h
Final hardness	48 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	140 MPa (20.300 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	30 MPa (4.350 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	90 MPa (13.000 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	4.500 - 5.000 MPa (650 - 730 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	85
Shrinkage	0,02%
Thermoforming resistance	+150°C (+302°F)
Colour	white
Temperature resistance	-35 to +200°C (-31 to +392°F), briefly to +260°C (+500°F)



Bonding of aluminium oxyd-stones





WEICON SF

Pasty, steel-filled, fast-curing, certified by Germanischer Lloyd

WEICON SF is particularly suited for quick repairs and the reconditioning of leaky pipelines, housings and gears, for anchorages, and for the production of fixing devices.

WEICON SF can be used in machine construction, tool construction, model and mould making, the maritime industry and in many other applications.

0,5 kg 
10250005

2,0 kg 
10250020



Technical Data


Basis	Epoxy resin steel-filled
Specific Properties	pasty, fast-curing
Mixing ratio by weight % (Resin/Hardener)	100:33
Pot-life +20°C (+68°F) (200 g preparation)	5 min.
Density of the mixture	1,7 g/cm ³
Viscosity of the mixture	800.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	3 h
Final hardness	6 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	52 MPa (7.550 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	15 MPa (2.180 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	40 MPa (5.800 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	2.500 - 4.000 MPa (360 - 580 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	82
Shrinkage	0,06%
Thermoforming resistance	+40°C (+104°F)
Colour	dark-grey
Temperature resistance	-35 to +90°C (-31 to +194°F)


WEICON ST

Pasty, metal-filled, non-corrosive

WEICON ST is suitable for versatile repairs and maintenance jobs performed on stainless steel machine parts and work-pieces such as tanks, pipelines, containers, funnels and flanges.

WEICON ST can be used in the chemicals industry, in the entire marine and inland water navigation sector, in wastewater systems, in the paper industry and in many other applications.

0,5 kg 
10410005

2,0 kg 
10410020

Technical Data

Basis	Epoxy resin metal-filled
Specific Properties	pasty, non corrosive
Mixing ratio by weight % (Resin/Hardener)	100:50
Pot-life +20°C (+68°F) (200 g preparation)	60 min.
Density of the mixture	1,64 g/cm ³
Viscosity of the mixture	550.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	80 MPa (11.600 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	27 MPa (3.900 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	38 MPa (5.500 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	2.000 - 2.500 MPa (290 - 360 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	80
Shrinkage	0,02%
Thermoforming resistance	+50°C (+122°F)
Colour	grey
Temperature resistance	-35 to +120°C (-31 to +248°F)

Adhesives / Sealants

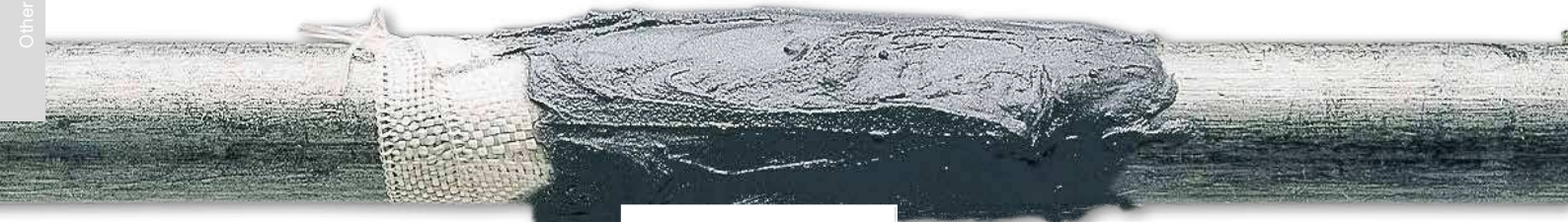
Technical Sprays

Technical Liquids

Assembly Pastes

Lubricants

Other



Emergency repair of a water pipe

Epoxy Resin Systems

Plastic Metal

WEICON TI

Pasty, titanium-filled, temperature-resistant up to +200°C (+392°F) (briefly up to +260°C/+500°F)

WEICON TI is particularly suited for repair work when high pressure resistance and resistance to chemicals are required, such as for pumps, valves, wearing plates, ball bearing seats, shafts and propellers and also for the lining of pump housings and slide bearings.

WEICON TI can be used in machine and system construction, in apparatus engineering, and in many other industrial applications.

0,5 kg ✓
10430005

2,0 kg ✓
10430020

Technical Data

Basis	Epoxy resin titanium-filled
Specific Properties	pasty, wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:33
Pot-life +20°C (+68°F) (200 g preparation)	120 min.
Density of the mixture	1,61 g/cm³
Viscosity of the mixture	550.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	24 h
Final hardness	48 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	105 MPa (15.200 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	35 MPa (5.100 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	100 MPa (14.500 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	4.500 - 5.000 MPa (650 - 730 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	80
Shrinkage	0,02%
Thermoforming resistance	+150°C (+302°F)
Colour	grey
Temperature resistance	-35 to +200°C (-31 to +392°F) briefly to +260°C (+500°F)

WEICON UW

Pasty, steel-filled, hardens under water as well as on damp and wet surfaces

WEICON UW is particularly suitable for repairs and reconditioning, for example on pipes, pumps, tanks and containers.

WEICON UW can be used in the entire marine and inland water navigation sector and in wastewater systems. It can be used in all applications where moisture and wetness lead to bonding difficulties.

0,5 kg ✓
10440005

2,0 kg ✓
10440020

Technical Data

Basis	Epoxy resin mineral-filled
Specific Properties	pasty, cures even under water
Mixing ratio by weight % (Resin/Hardener)	100:100
Pot-life +20°C (+68°F) (200 g preparation)	20 min.
Density of the mixture	1,35 g/cm³
Viscosity of the mixture	670.000 mPa·s
Max. layer thickness per application	12 mm
Cure time mechanical loads	4 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	60 MPa (8.700 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	30 MPa (4.350 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	38 MPa (5.500 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	2.000 - 2.500 MPa (290 - 360 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	70
Shrinkage	0,02%
Thermoforming resistance	+50°C
Colour	white
Temperature resistance	-35 to +120°C (-31 to +248°F)



Casting Resin MS 1000

Liquid, unfilled, low viscosity pure epoxy resin

WEICON MS 1000 Casting Resin is suitable for the most diverse applications, such as for casting electrical components, and can be blended by various fillers (in form of powder, fibres and fabric), e.g. for the production of highly filled backfilling compounds.

WEICON MS 1000 Casting Resin can be used in the electrical industry, in machine construction and in many other applications.

1,0 kg 
10520010

Technical Data

Basis	Epoxy resin unfilled
Specific Properties	liquid
Mixing ratio by weight % (Resin/Hardener)	100:20
Pot-life +20°C (+68°F) (200 g preparation)	20 min.
Density of the mixture	1,1 g/cm ³
Viscosity of the mixture	1.300 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	24 h
Final hardness	36 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	60 MPa (8.700 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	25 MPa (3.600 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	285 MPa (41.325 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	17.000 - 18.000 MPa (2.470 - 2.610 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	65
Shrinkage	0,2%
Thermoforming resistance	+50°C (+122°F)
Colour	transparent, slight inherent colour
Temperature resistance	-35 to +120°C (-31 to +248°F)

WEICON WP

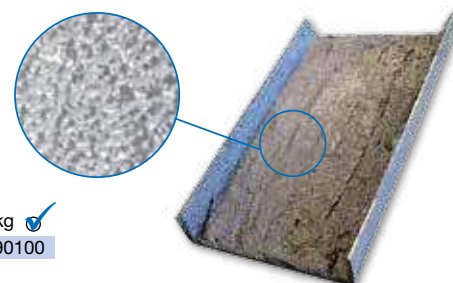
New


Pasty, ceramic-filled, extreme high resistance against abrasion and wear, high strength, residual elasticity and impact resistant


Weicon WP is suitable for the protection of strongly used surfaces. The coating with Plastic-Metal WP provides a high resistance against abrasion and wear and is very resistant against chemicals.

It avoids metal loss and replaces previously applied wear-resistant alloys, ceramic tiles and rubber linings as well as welded metal coatings.

Weicon WP can be used for the regeneration of worn-out metal surfaces or as a wear-resistant coating. A particularly high level of protection is achieved, when the wear is caused done by particles impacting sideways.



2,0 kg 
10490020

10,0 kg 
10490100

Technical Data

Basis	Epoxy resin ceramic-filled
Specific Properties	pasty, wear resistant, non-sag
Mixing ratio by weight % (Resin/Hardener)	100:100
Pot-life +20°C (+68°F) (200 g preparation)	approx. 30 Min.
Density of the mixture	2,5 g/cm ³
Viscosity of the mixture	900.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	96 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	51 MPa (7.400 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	22 MPa (3.200 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	35 MPa (5.100 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	2.500 - 3.000 MPa (360 - 440 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	80
Shrinkage	0,02%
Thermoforming resistance	+50°C (+122°F)
Colour	grey
Temperature resistance	-35 to +120°C

Epoxy Resin Systems

Plastic Metal

WEICON WR

Liquid, steel-filled, wear resistant

WEICON WR is suitable for areas where metal parts are subjected to strong wear due to friction, as repairs and recasting of shafts, for pouring out bearings and cutting and punching tools, for the production of casting and profile milling models as well as drawing moulds, for underpouring machines and foundations and as a wear-resistant underlayer before the final coating with WEICON Ceramic BL.

WEICON WR can be used in machine construction, tool construction, model and mould making, and in many other industrial applications.

0,5 kg ✓
10300005

2,0 kg ✓
10300020



Technical Data

Basis	Epoxy resin steel-filled
Specific Properties	liquid, wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:15
Pot-life +20°C (+68°F) (200 g preparation)	45 min.
Density of the mixture	2,3 g/cm³
Viscosity of the mixture	20.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	110 MPa (15.950 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	33 MPa (4.800 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	80 MPa (11.600 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	5.000 - 5.500 MPa (730 - 800 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	90
Shrinkage	0,02%
Thermoforming resistance	+65°C (+149°F)
Colour	black
Temperature resistance	-35 to +120°C (-31 to +248°F)

WEICON WR2

Pasty, mineral-filled, wear-resistant, highly abrasion-resistant

WEICON WR2 is particularly suitable for areas where the processing of casting compounds is not possible such as for the repair of conveyors, guides and sliding ways. It can also be used to prevent wear on metal surfaces exposed to high abrasion and erosion and can serve as a wear-resistant underlayer before the final coating with WEICON Ceramic BL.

WEICON WR2 can be used in machine and system construction, in apparatus engineering and in many other industrial applications.

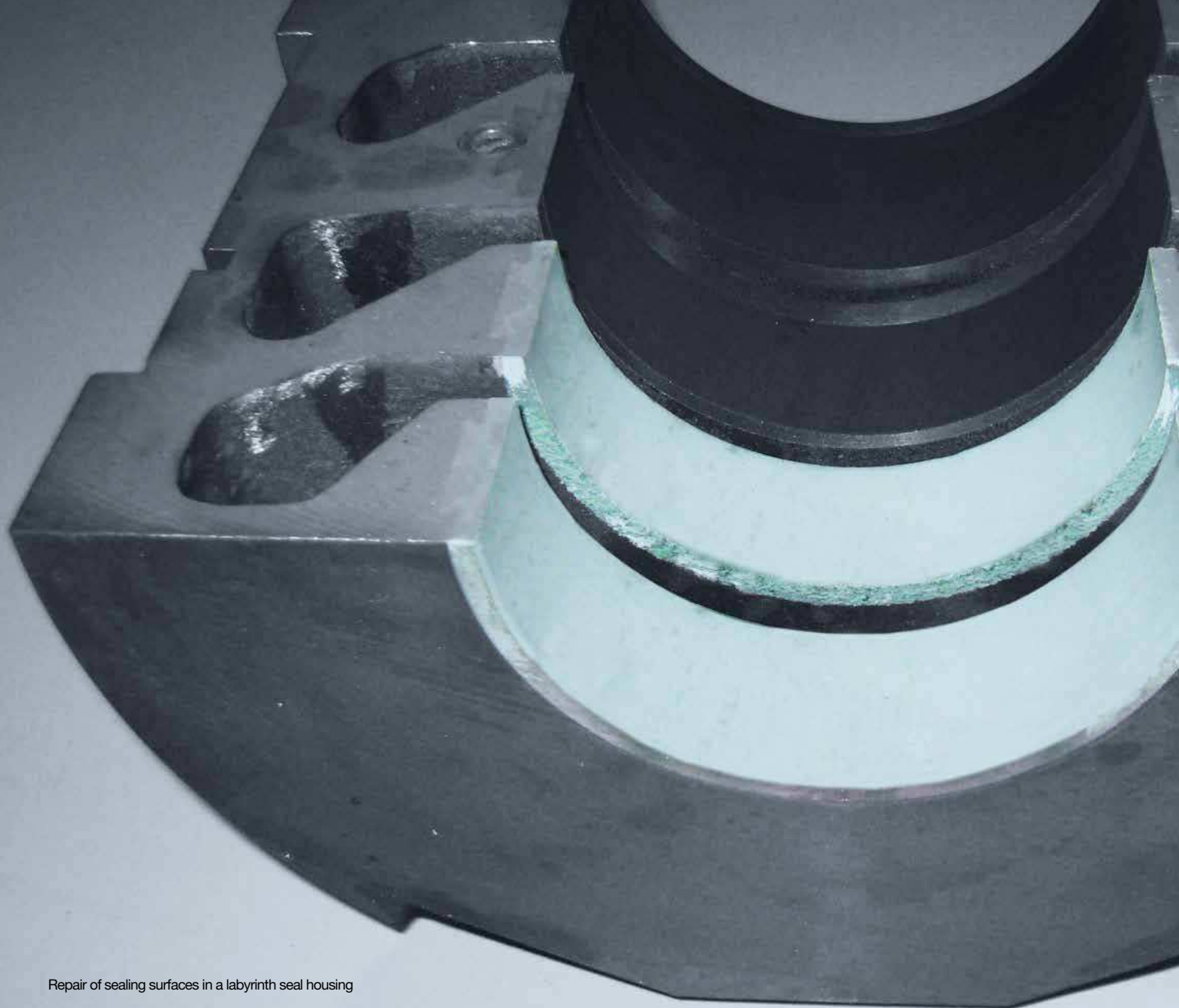
0,5 kg ✓
10350005

2,0 kg ✓
10350020

Technical Data

Basis	Epoxy resin mineral-filled
Specific Properties	pasty, wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:25
Pot-life +20°C (+68°F) (200 g preparation)	45 min.
Density of the mixture	1,67 g/cm³
Viscosity of the mixture	560.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
Final hardness	24 h
Mean compressive strength (+25°C/+77°F) DIN 53281-83	71 MPa (10.300 psi)
Mean tensile strength (+25°C/+77°F) DIN 53281-83	29 MPa (4.200 psi)
Mean flex. strength (+25°C/+77°F) DIN 53281-83	39 MPa (5.650 psi)
Strength E-Modul (+25°C/+77°F) DIN 53281-83	2.500 - 3.000 MPa (360 - 440 ksi)
Shore D (+25°C/+77°F) DIN 53281-83	82
Shrinkage	0,025%
Thermoforming resistance	+65°C (+149°F)
Colour	dark-grey
Temperature resistance	-35 to +120°C (-31 to +248°F)





Repair of sealing surfaces in a labyrinth seal housing

Epoxy Resin Putty

The kneadable universal repair compound

WEICON Epoxy Resin Putty is pasty (kneadable), mineral-filled, and temperature-resistant up to $+200^{\circ}\text{C}$ ($+392^{\circ}\text{F}$). It is processed with a mixing ratio of 1:1 and is machinable and overpaintable after curing.

WEICON Epoxy Resin Putty adheres to metal, wood, glass, rubber, ceramics, concrete and most plastics. It is resistant to petrol, oil, ester, saltwater and most acids and lyes.

WEICON Epoxy Resin Putty is suited for the sealing of pipelines and tanks, the fastening of screws and hooks, the reconditioning and repair of castings, the rebuilding of shafts, slide bearings, pumps and housings, the renewal of defective threads, the production of templates and models and for repair works on aluminium, light metal and injection moulded parts.

WEICON Epoxy Resin Putty can be used in machine construction, tool construction, model and mould making, and in many other industrial applications.

Epoxy Resin Systems

Epoxy Resin Putty



0,1 kg ✓
10500100

0,4 kg ✓
10500400

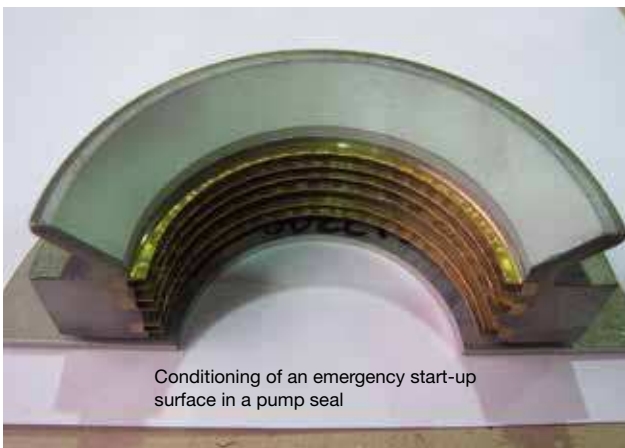
0,8 kg ✓
10500800

Technical Data

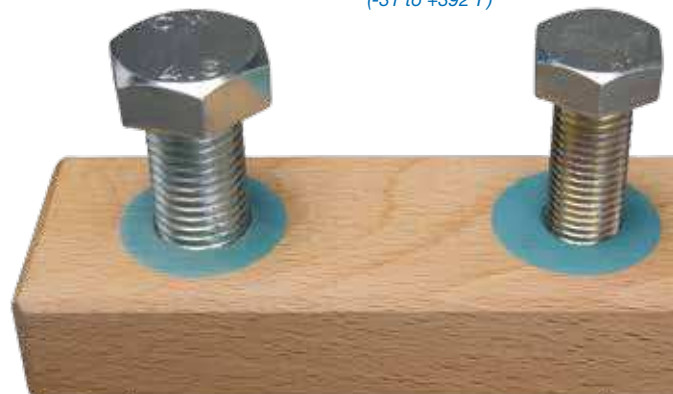
Basis	Epoxy resin mineral-filled
Specific properties	putty, high temp. resistant
Pot-life at +20°C (+68°F) (25 g material)	30 min.
Density of the mixture	2,0 g/cm³
Processing temperature	+10 to +35°C (+50 to +95°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour after curing	green
Gap covering power to max.	15 mm
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) after	2 h
Final strength (100% at +20°C/+68°F) after	3 h
Pressure (DIN 53281-83)	80 N/mm² (11.600 psi)
Shore hardness D	87
Tensile shear strength ac. to DIN 53283	30 N/mm² (4.400 psi)
Temperature resistance	-35 to +200°C (-31 to +392°F)



Repair of a gearbox-casing



Conditioning of an emergency start-up
surface in a pump seal



Adhesives / Sealants

Technical Sprays

Technical Liquids

Assembly Pastes

Lubricants

Other



Technical Data

Product type	WEICON Plastic Metal in non-cured condition										
	Basis	Specific Properties	Complete Packaging Sizes	Mixing ratio (Weight %)		Pot life at 20°C/+68°F (min.)	Density of the mixture g/cm³	Viscosity of the mixture mPa.s	Max. layer thickness per application mm	Cure times in h	
				Resin	Hardener					mechanical loads	final hardness
WEICON A	Epoxy resin steel-filled	pasty	0,5 kg 2,0 kg	100	10	60	2,90	1.000.000	10	16	24
WEICON B	Epoxy resin steel-filled	viscous	0,5 kg 2,0 kg	100	7	60	2,75	200.000	10	16	24
WEICON BR	Epoxy resin bronze-filled	pasty	0,5 kg 2,0 kg	100	100	60	1,80	650.000	12	16	24
WEIDLING C	Epoxy resin aluminium-filled	liquid, high temperature resistant	0,5 kg 2,0 kg	100	8	60	1,62	25.000	60	24	48**
WEICON F	Epoxy resin aluminium-filled	pasty	0,5 kg 2,0 kg	100	20	60	1,60	880.000	10	16	24
WEICON F2	Epoxy resin aluminium-filled	viscous	0,5 kg 2,0 kg	100	14	60	1,45	200.000	10	16	24
WEICON HB 300	Epoxy resin steel-filled	pasty, high temperature resistant	1,0 kg	100	100	30	2,34	1.700.000	20	12	24
WEICON Ceramic BL	Epoxy resin mineral-filled	liquid, extremely wear resistant	0,5 kg 2,0 kg	100	10	20	1,90	40.000	10	12	24
				100**2	15	40	1,80	6.000	10	16	24
WEICON Ceramic W	Epoxy resin mineral-filled	pasty, extremely wear resistant	0,5 kg 2,0 kg	100	33	120	1,59	600.000	10	24	48**
WEICON SF	Epoxy resin steel-filled	pasty, fast-curing	0,5 kg 2,0 kg	100	33	5	1,70	800.000	10	3	6
WEICON ST	Epoxy resin metal-filled	pasty, non corrosive	0,5 kg 2,0 kg	100	50	60	1,64	550.000	10	16	24
WEICON TI	Epoxy resin titanium-filled	pasty, wear resistant	0,5 kg 2,0 kg	100	33	120	1,61	550.000	10	24	48**
WEICON UW	Epoxy resin mineral-filled	pasty, cures even under water	0,5 kg 2,0 kg	100	100	20	1,35	670.000	12	4	24
WEICON WP	Epoxydharz ceramic-filled	pasty, wear resistant	2,0 kg 10,0 kg	100	100	30	2,5	900.000	10	16	96
WEICON WR	Epoxy resin steel-filled	liquid, wear resistant	0,5 kg 2,0 kg	100	15	45	2,30	20.000	10	16	24
WEICON WR2	Epoxy resin mineral-filled	pasty, wear resistant	0,5 kg 2,0 kg	100	25	45	1,67	560.000	10	16	24
WEICON Epoxy Resin Putty	Epoxy resin mineral-filled	pasty, high temperature resistant	0,1 kg 0,4 kg 0,8 kg	100	100	30	2,00	Paste	20	2	3
WEICON Casting Resin MS 1000	Epoxy resin unfilled	liquid	1,0 kg	100	20	20	1,10	1.300	10	24	36

*1 Can be machined after 16 hours at room temperature (+20°C/+68°F). After 48 hours at room temperature, temper-curing in four steps (3 h +50°C/+122°F, 2 h +90°C/+194°F, 2 h +130°C/+266°F, 1 h +170°C/+338°F). After temper – curing a permanent temperature resistance of +200°C (+392°F) is reached.

** WEICON Ceramic BL is supplied with a standard hardener.

Epoxy Resin Systems

Plastic Metal

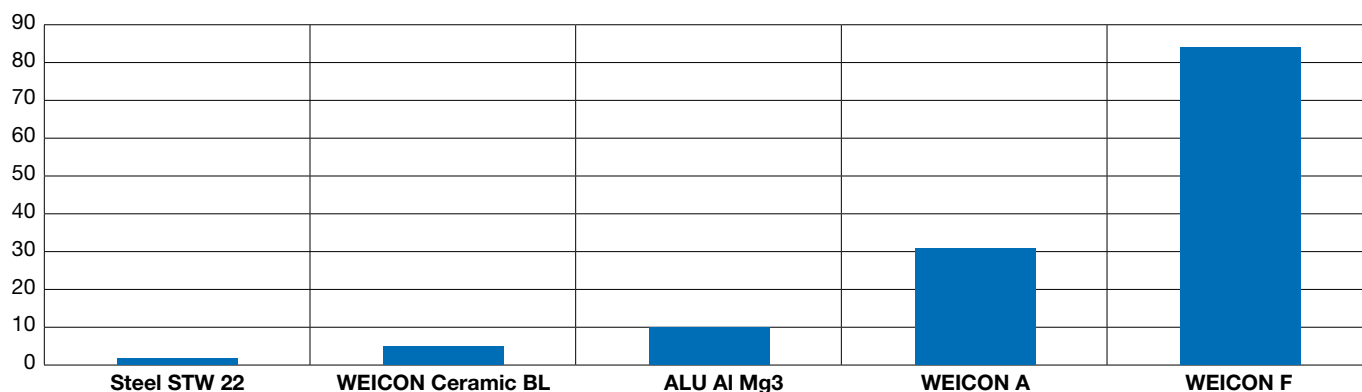
Technical Data

Product type	WEICON Plastic Metal in cured condition								
	Mean strength at +25°C (+77°F) acc. to DIN 53281-83 / ASTM D 1002						Thermo forming resistance °C (°F)	Colour after curing	Temperature resistance °C (°F)
	Com- pressive MPa (psi)	Tensile MPa (psi)	Flexural MPa (psi)	E-Modul MPa (ksi)	Shore hardn. D (ASTM D 1706)	Shrinkage %			
WEICON A	80 (11.600)	21 (3.050)	34 (4.950)	3.500 - 5.000 (500 - 725)	90	0,015	+65 (+149)	dark-grey	-35 to +120 (-31 to +248)
WEICON B	110 (15.950)	21 (3.050)	52 (7.200)	3.500 - 5.000 (500 - 725)	90	0,030	+65 (+149)	dark-grey	-35 to +120 (-31 to +248)
WEICON BR	95 (13.800)	29 (4.200)	35 (5.100)	2.500 - 3.000 (360 - 435)	75	0,020	+50 (+122)	bronze	-35 to +120 (-31 to +248)
WEIDLING C	140 (20.300)	25 (3.600)	77 (11.150)	5.800 - 6.000 (840 - 870)	90	0,010	+130 (+266)	grey	-35 to +220 (-31 to +428)
WEICON F	61 (8.850)	20 (2.900)	37 (5.350)	1.500 - 2.000 (215 - 290)	84	0,020	+60 (+140)	aluminium	-35 to +120 (-31 to +248)
WEICON F2	43 (6.250)	14 (2.050)	26 (3.750)	1.500 - 2.000 (215 - 290)	79	0,025	+55 (+131)	aluminium	-35 to +120 (-31 to +248)
WEICON HB 300	100 (14.500)	27 (3.900)	42 (6.100)	9.500 - 10.000 (1.380 - 1.450)	85	0,015	+120 (+248)	dark-grey	-35 to +200 briefly to +280 (-31 to +392 briefly to +536)
WEICON Ceramic BL	115 (16.700)	25 (3.600)	98 (14.200)	9.000 - 9.500 (1.300 - 1.380)	88	0,020	+80 (+176)	blue	-35 to +180 (-31 to +356)
	85 (12.300)	22 (3.200)	95 (13.800)	7.000 - 8.000 (1.010 - 1.160)	83				
WEICON Ceramic W	140 (20.300)	30 (4.400)	90 (13.100)	4.500 - 5.000 (650 - 725)	85	0,020	+150 (+302)	white	-35 to +200 briefly to +260** (-31 to +392 briefly to +500)
WEICON SF	52 (7.550)	15 (2.180)	40 (5.800)	2.500 - 4.000 (360 - 580)	82	0,060	+40 (+104)	dark-grey	-35 to +90 (-31 to +194)
WEICON ST	80 (11.600)	27 (3.900)	38 (5.500)	2.000 - 2.500 (290 - 360)	80	0,020	+50 (+122)	grey	-35 to +120 (-31 to +248)
WEICON TI	105 (15.200)	35 (5.100)	100 (14.500)	4.500 - 5.000 (650 - 725)	80	0,020	+150 (+302)	grey	-35 to +200 briefly to +260** (-31 to +392 briefly to +500)
WEICON UW	60 (8.700)	30 (4.050)	38 (5.500)	2.000 - 2.500 (290 - 360)	70	0,020	+50 (+122)	white	-35 to +120 (-31 to +248)
New WEICON WP	51 (7.400)	22 (3.200)	35 (5.100)	2.500 - 3.000 (360 - 435)	80	0,020	+50 (+122)	grey	-35 to +120 (-31 to +248)
WEICON WR	110 (15.950)	33 (4.800)	80 (11.600)	5.000 - 5.500 (725 - 800)	90	0,020	+65 (+149)	black	-35 to +120 (-31 to +248)
WEICON WR2	71 (10.300)	29 (4.200)	39 (5.650)	2.500 - 3.000 (360 - 435)	82	0,025	+65 (+149)	dark-grey	-35 to +120 (-31 to +248)
WEICON Epoxy Resin Putty	80 (11.600)	30 (4.350)	56 (8.100)	4.000 - 6.000 (580 - 870)	87	0,005	+95 (+149)	green	-35 to +200 (-31 to +392)
WEICON Casting Resin MS 1000	60 (8.700)	25 (3.600)	285 (41.300)	17.000 - 18.000 (2.460 - 2.610)	65	0,200	+50 (+122)	transparent, slightly inherent colour	-35 to +120 (-31 to +248)



Abrasion measurement according to Taber

With the standard procedure according to Taber, the abrasion resistance of different materials can be measured. Abrasion is caused by two friction rollers that are pressed to the rotating test sample with a pre-defined force. The test samples are plates made of the corresponding material. (Details are available upon request).



	Density (g/cm³)	Abrasion volume (mm³)
Steel STW 22	7,9	1,3
WEICON Ceramic BL	1,9	5
ALU Al Mg3	2,7	10
WEICON A	2,9	31
WEICON F	1,6	83



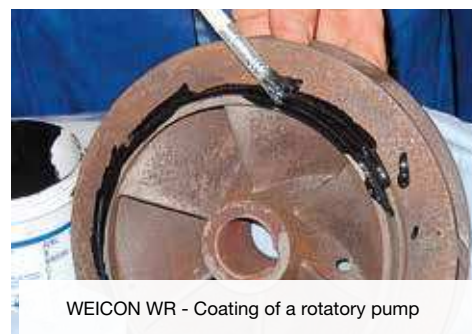
WEICON Ceramic BL - Coating of pipe bends



WEICON BR - Repair of a ship propeller



WEIDLING C - Repair of a turbo charger housing



WEICON WR - Coating of a rotatory pump

Epoxy Resin Systems

Plastic Metal

Chemical resistance of WEICON Plastic Metals after curing*

Acetic acid dilute < 5%	+	Hydrocarbons, aliphatic (crude oil derivatives)	+
Acetone	0	Hydrocarbons, aromatic (benzene, toluene, xylene)	-
Alkalis (basic materials)	+	Hydrochloric acid < 10%	+
Amyl acetate	+	Hydrochloric acid 10 - 20%	+
Amyl alcohols	+	Hydrofluoric acid dilute	0
Anhydrous ammonia 25%	+	Hydrogen peroxide < 30% (hydrogen superoxide)	+
Barium hydroxide	+	Impregnating oils	+
Butyl acetate	+	Magnesium hydroxide	+
Butyl alcohol	+	Maleic acid (cis-butenedioic acid)	+
Calcium hydroxide (slaked lime)	+	Methanol (methyl alcohol) < 85%	0
Carbolic acid (phenol)	-	Milk of lime	+
Carbon disulphide	+	Naphthalene	-
Carbon tetrachloride (tetrachloromethane)	+	Naphthene	-
Caustic potash solution	+	Nitric acid < 5%	0
Chlorinated water	+	Oils, minerals	+
Chloroacetic acid	-	Oils, vegetable and animal	+
Chloroform (trichloromethane)	0	Oxalic acid < 25% (ethanedioic acid)	+
Chlorosulphonic acid	-	Paraffin	+
Chromic acid	+	Perchloroethylene	0
Chroming baths	+	Petrol (92 - 100 octane)	+
Creosote oil	-	Phosphoric acid < 5%	+
Cresylic acid	-	Phthalic acid, phthalic acid anhydride	+
Crude oil	+	Potassium carbonate (potash solution)	+
Crude oil and crude oil products	+	Potassium hydroxide (caustic potash) 0 - 20%	+
Diesel fuel oil	+	Soda lye	+
Ethanol < 85% (ethyl alcohol)	0	Sodium bicarbonate (sodium hydrogen carbonate)	+
Ethyl alcohol	0	Sodium carbonate (soda)	+
Ethyl benzole	-	Sodium chloride (cooking salt)	+
Ethyl ether	+	Sodium hydroxide < 20% (caustic soda)	0
Exhaust gases	+	Sulphur dioxide	+
Formic acid > 10%	-	Sulphuric acid < 5%	0
Glycerine (trihydroxypropane)	+	Tannic acid dilute < 7%	+
Glycol	0	Tetralin (tetrahydronaphthalene)	0
Grease, oils and waxes	+	Toluene	-
Heating oil, diesel	+	Trichloroethylene	0
Humic acid	+	Turpentine substitute (white spirit)	+
Hydrobromic acid < 10%	+	Xylene	-

+ = resistant 0 = resistant for a limited time - = not resistant

* Storage of all WEICON Plastic Metals was at +20°C (+68°F) chemical temperature

Adhesives / Sealants

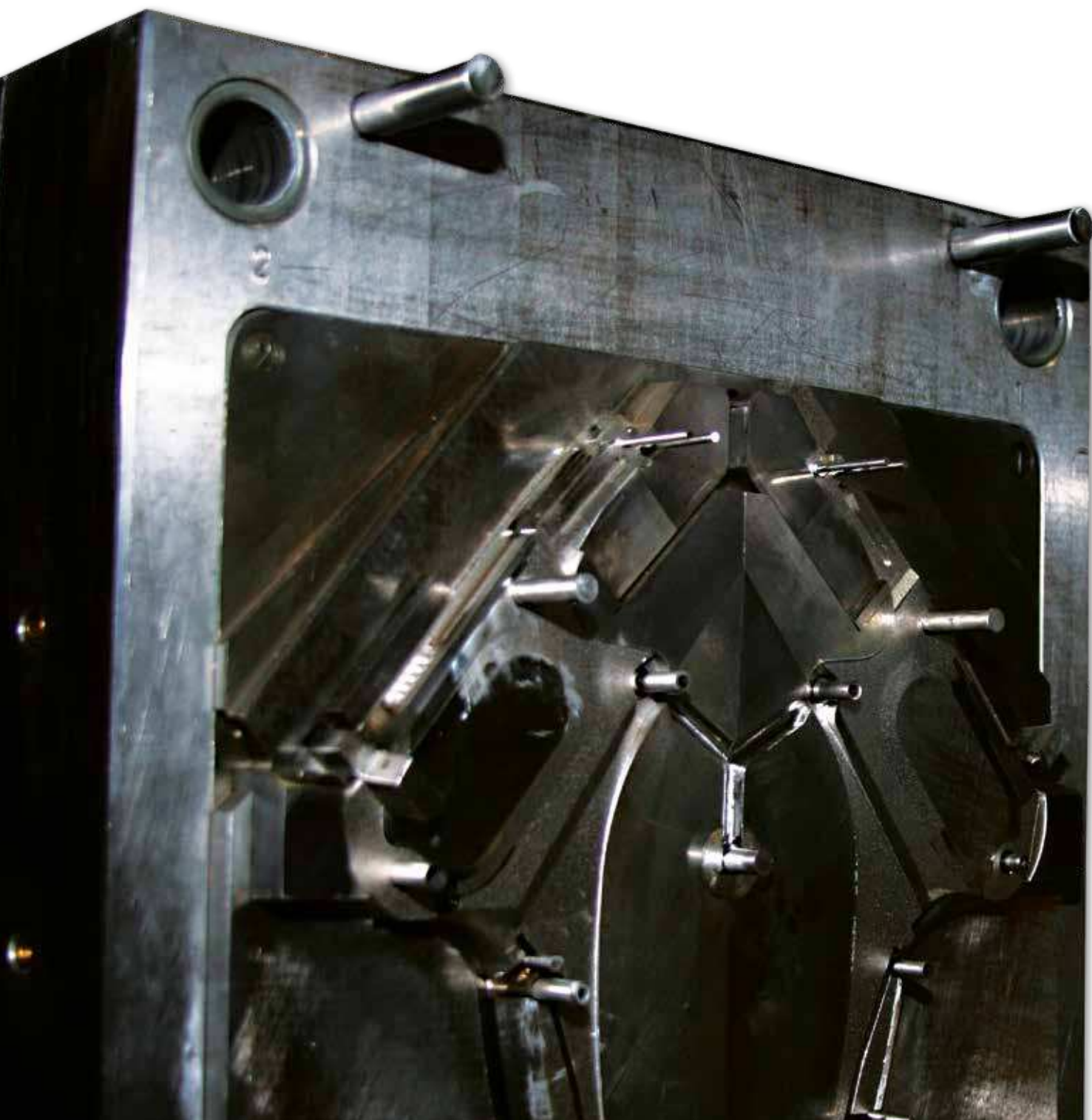
Technical Sprays

Technical Liquids

Assembly Pastes

Lubricants

Other



Epoxy Resin Systems

Mould Release Agent

Liquid F 1000

Solvent-containing

Liquid F 1000 is a release agent on a waxy basis for epoxy resins and polyurethanes.

It is especially suitable for release processes from smooth and non-absorbing surfaces.



250 ml ✓
10604025

1 l ✓
10604000

Technical Data

Basis	Wax, solvent-containing
Colour	white, milky
Consistency	liquid
Density at +20°C	0,71 g/cm ³
Consumption	50 to 100 ml/m ²
Application temperature	+15 to +25°C (+59 to +77°F)
Operational temperature	to +70°C (+158°F)

Wax P 500

Solvent-containing

Wax P 500 as a release agent on a waxy basis for epoxy resins and polyurethanes. It is especially suitable for release processes from rough and/or porous surfaces.



150 g ✓
10604515

500 g ✓
10604500

Technical Data

Basis	Wax, solvent-containing
Colour	white
Consistency	pasty
Density at +20°C	0,80 g/cm ³
Consumption	50 to 150 ml/m ²
Application temperature	+15 to +25°C (+59 to +77°F)
Operational temperature	to +50°C (+122°F)



Application

To ensure a perfect bond, the surfaces to be joined must be clean and dry (e.g., clean and degrease using Cleaner S or Plastic Cleaner). Smooth surfaces should be roughened, e.g. by sandblasting.

WEICON Repair-Sticks cover gaps of max. 15 mm per procedure. The pot life given is for a material quantity of 25 g at room temperature. If larger quantities are used, the curing time will be faster due to the typical heat reaction of epoxy resins (exothermic reaction).

Similarly, higher ambient temperatures shorten the cure time (as a rule of thumb, every +10°C (+50°F) increase above room temperature will halve working and curing time). Temperatures below +16°C (+61°F) will extend working and curing times considerably, while below about +5°C (+41°F), no reaction will take place at all.

Physiological properties / health and safety at work

WEICON Repair Sticks, when properly handled and completely cured, are toxicologically essentially harmless. When using these adhesives, the physical, safety technical, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.

Storage

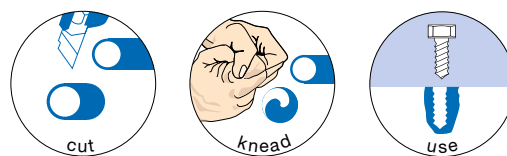
When kept at a constant room temperature of about +20°C (+68°F) and unopened in dry conditions, WEICON Repair Sticks will keep for at least 18 months. Avoid direct sunlight.

Epoxy Resin Systems

Repair Sticks

The uncomplicated solution for all repair and maintenance work.

Easy to use:



Always the right portion, even for small repairs.

WEICON Repair Sticks are temperature resistant from -50°C (-58°F) up to $+120^{\circ}\text{C}$ ($+248^{\circ}\text{F}$) (briefly up to $+150^{\circ}\text{C}/+302^{\circ}\text{F}$). They resist to alcohol, ester, salt water, oils, most acids and lyes, are free of solvents and cure with almost no shrinkage.

The cured product can be machined (drilled, filed, tapped) and overpainted without pre-treatment.

WEICON Repair Sticks bond:

- metal
- hard-plastics*
- fibre-reinforced materials
- wood
- glass / ceramic / stone

For various applications there are nine different Repair Sticks to choose from.

*Except for plastics such as polyethylene, polypropylene, polyacetal, polytetrafluoroethylene and other fluorinated hydrocarbons with naturally adhesive-rejecting surfaces.



Repair Stick Aluminium

Non-rusting, aluminium-filled

For the quick and nonrusting repair and bonding of metal parts. For the repair of cracks, holes and leaks in car bodies, gearboxes and tanks, window frames and profiles, and boats and models.

The WEICON Repair Stick Aluminium can be used in machine and system construction, in the automotive industry, in gear construction, window construction, model building and many other applications.

57 g ✓
10534057

115 g ✓
10534115



Technical Data

Composition	Epoxy resin aluminium-filled, paste
Pot-life at +20°C (+68°F) (25 g material)	4 min.
Density of the mixture	1,6 g/cm³
Processing temperature	+10 to +35°C (+50 to +95°F)
Curing temperature	+6 to +40°C (+41 to +104°F)
Colour after curing	aluminium
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	10 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	80 N/mm² (11.600 psi)
Shore hardness D	75
Average tensile shear strength after 7 days	4,2 N/mm² (610 psi) (aluminium sandblasted)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)

Repair Stick Aqua

For underwater applications, ceramic-filled

Ideal for quick repairs on damp and wet surfaces and for underwater applications.

For the repair and sealing of cracks, holes, and leaks in petrol and water tanks, radiators, electrical switchboards, sanitary installations and swimming pools.

The WEICON Repair Stick Aqua can be used in sanitary and heating system construction, electrical equipment, the maritime sector and many additional industrial applications.

57 g ✓
10531057

115 g ✓
10531115



Technical Data

Composition	Epoxy resin ceramic-filled, paste
Pot-life at +20°C (+68°F) (25 g material)	15 min.
Density of the mixture	1,9 g/cm³
Processing temperature	+10 to +40°C (+50 to +104°F)
Curing temperature	+6 to +40°C (+41 to +104°F)
Colour after curing	white
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	30 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	75 N/mm² (10.875 psi)
Shore hardness D	65
Average tensile shear strength after 7 days	6,2 N/mm² (899 psi) (steel sandblasted)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)

Epoxy Resin Systems

Repair Sticks

Technical Data

Composition	Epoxy resin ceramic-filled, pasty
Pot-life at +20°C (+68°F) (25 g material)	6 min.
Density of the mixture	1,9 g/cm ³
Processing temperature	+10 to +35°C (+50 to +95°F)
Curing temperature	+6 to +40°C (+41 to +104°F)
Colour after curing	concrete grey
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	15 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	80 N/mm ² (11.600 psi)
Shore hardness D	80
Average tensile shear strength after 7 days	4,8 N/mm ² (696 psi)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)

Repair Stick Concrete

Fast cure, ceramic-filled

Especially for quick repair and reconditioning of all concrete, stone and ceramic surfaces.

Fills and seals cracks and defects on masonry, stone, concrete and ceramic tiles and on bricks, borders, kerbstones, statues, tombstones and ornaments. It can also be used for the reinforcement of pegs, screws and anchors in outdoor and indoor areas.

The WEICON Repair Stick Concrete can be used in the construction industry, in gardening and landscaping, and in many other applications.



57 g ✓
10537057

115 g ✓
10537115

Repair of a cherub

Adhesives / Sealants

Technical Sprays

Technical Liquids

Assembly Pastes

Lubricants

Other



Repair Stick Stainless Steel

Non-corrosive, fast cure, stainless steel-filled, NSF approval, can be used in drinking water areas

For non-corrosive repair and reconditioning of stainless steel and other rustproof metals, such as those in tanks and containers, filling and packing machines, pipes, lines, pumps and housings.

Due to the quick mechanical loading capacity of the mended parts (approx. 60 minutes), expensive and longer downtimes are avoided.

The WEICON Repair Stick Stainless Steel can be used in tank construction and apparatus engineering, in the foods, cosmetic and pharmaceutical industries and in many other applications.



Clearance certificate for the direct use in the food industry, according to the NSF/ANSI (Standard 61)



57 g
10538057

115 g
10538115

Technical Data

Composition	Epoxy resin stainless steel-filled, pasty
Pot-life at +20°C (+68°F) (25 g material)	4 min.
Density of the mixture	2,0 g/cm ³
Processing temperature	+10 to +35°C (+50 to +95°F)
Curing temperature	+6 to +40°C (+41 to +104°F)
Colour after curing	grey
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	10 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	80 N/mm ² (11.600 psi)
Shore hardness D	75
Average tensile shear strength after 7 days	3,9 N/mm ² (599 psi)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)



Repair of a labelling machine

Epoxy Resin Systems

Repair Sticks

Repair Stick Wood

Residual elasticity, mineral-filled

For permanent repairs of wooden parts with residual elasticity and without shrinkage. For the repair of cracks and bore holes, broken out or broken off wooden parts and for the sealing of joints on windows and door frames, veneers, boards and planks, models and wooden toys.

WEICON Repair Stick Wood can be used in the wood and furniture industry, in model building and in many other applications.



28 g ✓
10532057

56 g ✓
10532115

Technical Data

Composition	Epoxy resin mineral-filled, pasty
Pot-life at +20°C (+68°F) (25 g material)	15 min.
Density of the mixture	0,9 g/cm³
Processing temperature	+10 to +40°C (+50 to +104°F)
Curing temperature	+6 to +40°C (+41 to +104°F)
Colour after curing	light beige
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	45 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	75 N/mm² (10.875 psi)
Shore hardness D	70
Average tensile shear strength after 7 days	6,2 N/mm² (899 psi) (Beech sanded)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)



Restoration of a picture frame

Repair Stick Plastic

Plastic-filled, NSF approval, can be used in drinking water areas

Especially for the permanent repair of plastic components and composite materials with residual elasticity such as window and door frames, panelling and bumper bars.

For the bonding of metal parts such as pipes and pipe bends, fittings and flanges, water tanks, pumps and housings.



57 g ✓
10536057

115 g ✓
10536115



Clearance certificate for the direct use in the food industry, according to the NSF/ANSI (Standard 61)

Technical Data

Composition	Epoxy resin and plastic fillers, pasty
Pot-life at +20°C (+68°F) (25 g material)	20 min.
Density of the mixture	1,6 g/cm³
Processing temperature	+10 to +40°C (+50 to +104°F)
Curing temperature	+6 to +40°C (+41 to +104°F)
Colour after curing	light blue
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	40 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	3 h
Final strength (100% strength/+20°C/+68°F) aft.	36 h
Pressure (DIN 53281-83)	65 N/mm² (9.400 psi)
Shore hardness D	65
Average tensile shear strength after 7 days	2,4 N/mm² (348 psi) (PVC sanded)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)



Repair Stick Copper

Extremely fast cure, copper-filled, NSF approval, can be used in drinking water areas

The WEICON Repair Stick Copper is suited for the very quick repair (processing time: 3 min) of cracks and leaks even on damp and wet surfaces such as pipes, pipe bends, fittings, flanges, copper gutters, sheets, water heaters, water tanks, hot, cold water lines, freezer and air conditioning systems.

The WEICON Repair Stick Copper can be used in tank construction and apparatus engineering, in the foods, cosmetic and pharmaceutical industries and in many other applications.



Clearance certificate for the direct use in the food industry, according to the NSF/ANSI (Standard 61)



57 g ✓

10530057

115 g ✓

10530115

Technical Data

Composition	Epoxy resin copper-filled, paste
Pot-life at +20°C (+68°F) (25 g material)	3 min.
Density of the mixture	1,9 g/cm ³
Processing temperature	+10 to +30°C (+50 to +86°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour after curing	copper
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	10 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	80 N/mm ² (11.600 psi)
Shore hardness D	80
Average tensile shear strength after 7 days	4,8 N/mm ² (696 psi) (copper sandblasted)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)

Adhesives / Sealants

Technical Sprays

Technical Liquids

Assembly Pastes

Lubricants

Other



Sealing of a copper tube

Epoxy Resin Systems

Repair Sticks

Repair Stick Steel

Fast cure, steel-filled, NSF approval, can be used in drinking water areas



It is particularly suited for the fast and high-strength repair and bonding of metal parts and for the patching and sealing of cracks, holes, and leaks in machine parts, tanks and pipelines, containers, pumps and housings, balcony railings, banisters, and torn-out threads.

The WEICON Repair Stick Steel can be used in machine and system construction, in tank construction and apparatus engineering, in the foods, cosmetic and pharmaceutical industries and in many other applications.

57 g ✓ 115 g ✓
10533057 10533115



Clearance certificate for the direct use in the food industry, according to the NSF/ANSI (Standard 61)

Technical Data

Composition	Epoxy resin steel-filled, pasty
Pot-life at +20°C (+68°F) (25 g material)	4 min.
Density of the mixture	2,0 g/cm³
Processing temperature	+10 to +35°C (+50 to +95°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour after curing	dark-grey
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	10 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	1 h
Final strength (100% strength/+20°C/+68°F) aft.	24 h
Pressure (DIN 53281-83)	80 N/mm² (11.600 psi)
Shore hardness D	75
Average tensile shear strength after 7 days	4,1 N/mm² (595 psi) (sandblasted)
Temperature resistance	-50 to +120°C (-58 to +248°F) (briefly to +150°C/+302°F)

Repair Stick Titanium

Wear resistant, titanium-filled, high temperature resistant up to +280°C (+536°F) (briefly up to +300°C/+572°F)



It is suited for the permanent and wear resistant repair and bonding of metal parts such as tanks and pipelines, aluminium, light metal and injection moulded parts, shafts and slide bearings, pumps and housings and torn-out threads.

The WEICON Repair Stick Titanium can be used in machine and system construction, tank construction and apparatus engineering, and in many other industrial applications.

57 g ✓ 115 g ✓
10535057 10535115

Technical Data

Composition	Epoxy resin titanium-filled, pasty
Pot-life at +20°C (+68°F) (25 g material)	70 min.
Density of the mixture	1,9 g/cm³
Processing temperature	+10 to +50°C (+50 to +122°F)
Curing temperature	+6 to +65°C (+43 to +149°F)
Colour after curing	grey-green
Gap covering power to max.	15 mm
Handling strength (35% strength/+20°C/+68°F) aft.	120 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) aft.	8 h
Final strength (100% strength/+20°C/+68°F) aft.	72 h (24h at +65°C/149°F)
Pressure (DIN 53281-83)	80 N/mm² (11.600 psi)
Shore hardness D	80
Average tensile shear strength after 7 days	5,1 N/mm² (740 psi) (Steel sandblasted)
Temperature resistance	-50 to +280°C (-58 to +536°F) (briefly to +300°C/+572°F)



Type selection table

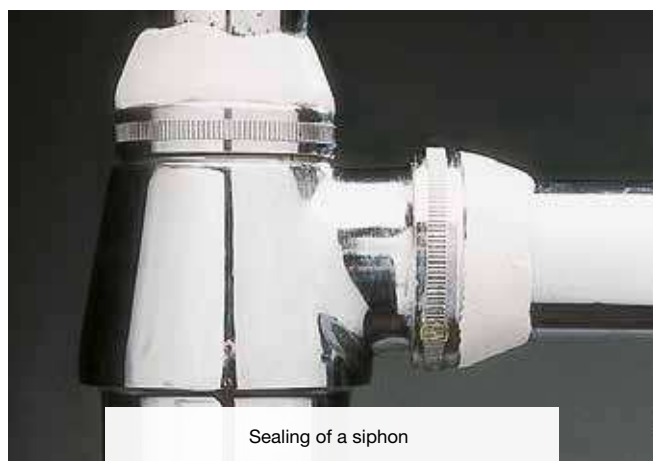
	Aluminium	Aqua	Concrete	Stainless steel	Wood	Plastic	Copper	Steel	Titanium
Metals (e.g. aluminium, cast iron, brass, stainless steel)	++	++	+	++	+	+	++	++	++
Hard plastics* (e.g. epoxy resin, rigid PVC)	+	++	+	+	+	++	+	+	+
Fibre-reinforced materials (e.g. GFRP, CFRP, fibreglass)	+	+	+	+	+	++	+	+	+
Wood (e.g. oak, beech, spruce, balsa)	+	+	+	+	++	+	+	+	+
Derived timber products (e.g. plywood, MDF)	+	+	+	+	++	+	+	+	+
Glass, ceramics	+	++	+	+	+	+	+	+	+
Stone (e.g. marble, granite, brick, concrete)	+	++	++	+	+	+	+	+	+
Rubber / elastomers	-	-	-	-	-	-	-	-	-

Highly suitable (++)

Suitable (+)

Not suitable (-)

*Except for plastics such as polyethylene, polypropylene, polyacetal, polytetrafluoroethylene and other fluorinated hydrocarbons with naturally adhesive-rejecting surfaces. Within the framework of the above type recommendations, bonding of dissimilar material pairs such as metals and plastics is also possible.



Sealing of a siphon



Repair of a PVC pipe

Epoxy Resin Systems

Repair Sticks

Technical Data

		WEICON Repair-Sticks in non-cured condition								
		Aluminium	Aqua	Concrete	Stainless steel	Wood	Plastic	Copper	Steel	Titanium
Basis:		Epoxy resin aluminium fillers	Epoxy resin ceramic fillers	Epoxy resin ceramic fillers	Epoxy resin stainless steel fillers	Epoxy resin mineral fillers	Epoxy resin plastic fillers	Epoxy resin copper fillers	Epoxy resin metal fillers	Epoxy resin titanium fillers
Nature:		putty								
Supplied in:		Stick								
Contents:		57 g / 115 g	57 g / 115 g	57 g / 115 g	57 g / 115 g	28 g / 56 g	57 g / 115 g	57 g / 115 g	57 g / 115 g	57 g / 115 g
Mixing proportion by volume resin / hardener (automatically):		1 : 1								
Pot-life with 25 g material and at +20°C (+68°F) (in minutes):		4	15	6	4	15	20	3	4	70
Density of the mixture (g/cm³):		1,6	1,9	1,9	2,0	0,9	1,6	1,9	2,0	1,9
Temperature °C (°F)	Processing: *1	+10 to +35 (+50 to +95)	+10 to +40 (+50 to +104)	+10 to +35 (+50 to +95)	+10 to +35 (+50 to +95)	+10 to +40 (+50 to +104)	+10 to +40 (+50 to +104)	+10 to +30 (+50 to +86)	+10 to +35 (+50 to +95)	+10 to +50 (+50 to +122)
	Curing:	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +40 (+43 to +104)	+6 to +65 (+43 to +149)
Colour after curing:		aluminium	white	concrete-grey	grey	light beige	light blue	copper	dark-grey	grey-green
Gap covering power to max.:*2		15 mm								
Curing time at bei +20°C (+68°F)	Handling strength (35% strength) aft.:	10 min.	30 min.	15 min.	10 min.	45 min.	40 min.	10 min.	10 min.	2 hrs.
	Capable of bearing mechanical loads (50% strength) aft.:	60 min.	60 min.	60 min.	60 min.	60 min.	3 hrs.	60 min.	60 min.	8 hrs.
	Final strength (100% strength) aft.:	24 hrs.	24 hrs.	24 hrs.	24 hrs.	24 hrs.	36 hrs.	24 hrs.	24 hrs.	72 hrs. (24 hrs. at +65°C/+149°F)
		WEICON Repair-Sticks in cured condition								
Pressure (DIN 53281-83) N/mm² (psi):		80 N/mm² (11.600)	75 N/mm² (10.875)	80 N/mm² (11.600)	80 N/mm² (11.600)	75 N/mm² (10.875)	65 N/mm² (9.425)	80 N/mm² (11.600)	80 N/mm² (11.600)	80 N/mm² (11.600)
Shore hardness D:		75	65	80	75	70	65	80	75	80
Average tensile shear strength after 7 days at +20°C (+68°F) in accordance with DIN 53283 N/mm² (psi):		Aluminium sandblasted	Steel sandblasted	Concrete	Stainless steel sandblasted	Beech sanded	PVC sanded	Copper sandblasted	Steel sandblasted	Steel sandblasted
		4,2 N/mm² (609)	6,2 N/mm² (899)	4,8 N/mm² (696)	3,9 N/mm² (566)	6,2 N/mm² (899)	2,4 N/mm² (348)	4,8 N/mm² (696)	4,1 N/mm² (595)	5,1 N/mm² (740)
Temperature resistance °C (°F):		-50 to +120, briefly +150 (-58 to +248, briefly +302)								-50 to +280, briefly +300 (-58 to +536, briefly +572)
Thermal conductivity (ASTM D 257):		0,65 W/m·K	0,50 W/m·K	0,50 W/m·K	0,60 W/m·K	0,30 W/m·K	0,40 W/m·K	0,70 W/m·K	0,60 W/m·K	0,50 W/m·K
Linear shrinkage:		< 1%								
Electrical resistance (ASTM D 257):		5 · 10 ⁻¹¹ Ω/cm								
Dielectric strength (ASTM D 149):		3,0 kV/mm								
Thermal expansion coefficient (ISO 11359):		30-40 x 10 ⁻⁶ k ⁻¹								

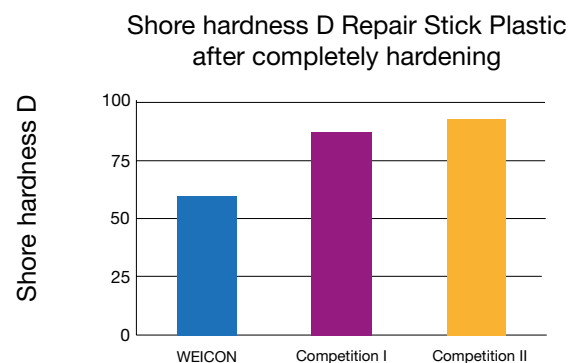
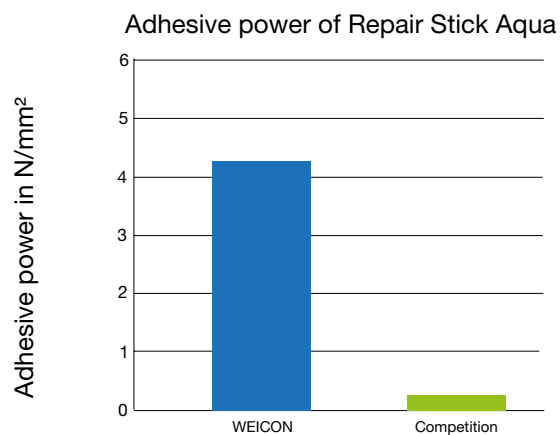
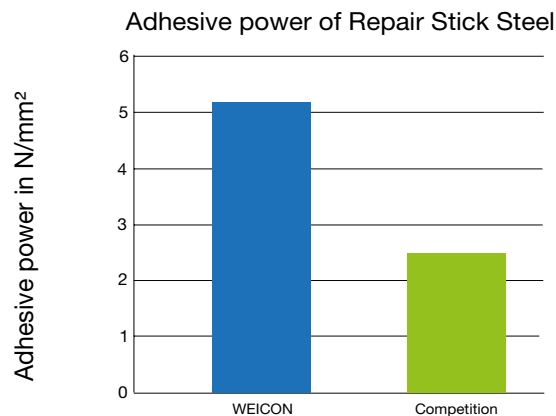
*1 For easier workability when ambient temperatures are low, the sticks should be warmed up to room temperature (20°C/+68°F) before application.

*2 Max. 15 mm per procedure

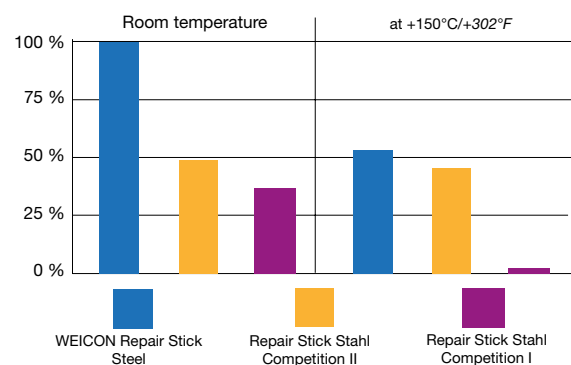


Test Results

We have conducted a series of laboratory tests to compare sticks from various countries. Some of the test results are summarised in the tables shown below.



Tensile shear strength on steel



WEICON Repair Stick Wood

A special item in the product range is the Repair Stick Wood. It was developed for carrying out repairs on furniture, shelving, etc. To enable a „seamless“ repair, it was given the same density as wood. Following curing it can be processed like wood, e.g. sanded and painted over. In the test shown below the WEICON Repair Stick floats on the surface like wood, while competitive products sink to the bottom due to their high density.



Epoxy Resin Systems

Repair Sticks

Chemical resistance of WEICON Repair Sticks after curing*

Acetic acid dilute < 5%	+	Hydrocarbons, aliphatic (crude oil derivatives)	+
Acetone	0	Hydrocarbons, aromatic (benzene, toluene, xylene)	-
Alkalis (basic materials)	+	Hydrochloric acid < 10%	+
Amyl acetate	+	Hydrochloric acid 10 - 20%	+
Amyl alcohols	+	Hydrofluoric acid dilute	0
Anhydrous ammonia 25%	+	Hydrogen peroxide < 30% (hydrogen superoxide)	+
Barium hydroxide	+	Impregnating oils	+
Butyl acetate	+	Magnesium hydroxide	+
Butyl alcohol	+	Maleic acid (cis-butenedioic acid)	+
Calcium hydroxide (slaked lime)	+	Methanol (methyl alcohol) < 85%	0
Carbolic acid (phenol)	-	Milk of lime	+
Carbon disulphide	+	Naphthalene	-
Carbon tetrachloride (tetrachloromethane)	+	Naphthene	-
Caustic potash solution	+	Nitric acid < 5%	0
Chlorinated water	+	Oils, minerals	+
Chloroacetic acid	-	Oils, vegetable and animal	+
Chloroform (trichloromethane)	0	Oxalic acid < 25% (ethanedioic acid)	+
Chlorosulphonic acid	-	Paraffin	+
Chromic acid	+	Perchloroethylene	0
Chroming baths	+	Petrol (92 - 100 octane)	+
Creosote oil	-	Phosphoric acid < 5%	+
Cresylic acid	-	Phthalic acid, phthalic acid anhydride	+
Crude oil	+	Potassium carbonate (potash solution)	+
Crude oil and crude oil products	+	Potassium hydroxide (caustic potash) 0 - 20%	+
Diesel fuel oil	+	Soda lye	+
Ethanol < 85% (ethyl alcohol)	0	Sodium bicarbonate (sodium hydrogen carbonate)	+
Ethyl alcohol	0	Sodium carbonate (soda)	+
Ethyl benzole	-	Sodium chloride (cooking salt)	+
Ethyl ether	+	Sodium hydroxide < 20% (caustic soda)	0
Exhaust gases	+	Sulphur dioxide	+
Formic acid > 10%	-	Sulphuric acid < 5%	0
Glycerine (trihydroxypropane)	+	Tannic acid dilute < 7%	+
Glycol	0	Tetralin (tetrahydronaphthalene)	0
Grease, oils and waxes	+	Toluene	-
Heating oil, diesel	+	Trichloroethylene	0
Humic acid	+	Turpentine substitute (white spirit)	+
Hydrobromic acid < 10%	+	Xylene	-

+ = resistant 0 = resistant for a limited time - = not resistant

*Storage of all WEICON Epoxy Adhesives was at +20°C/+68°F chemical temperature



WEICON Easy-Mix Mixing and Dosing System

Thanks to the modern mixing and dosing system, all types can be dosed cleanly and accurately automatically, mixed and applied in only one working operation.

In this way, a uniform quality and process assurance is guaranteed in a production series.

Product advantages:

- ready for use
- dosing, mixing and application in just one working operation
- tedious mixing by hand is no longer necessary, so that no mixing and dosing mistakes are possible
- speedy in application
- faster cycle times in series production possible
- economical in use, as minimal material wastage

WEICON Easy-Mix Hand Dispenser D50

Robust, fracture-resistant construction of fibreglass reinforced plastic (polyamide) with a metal trigger.



10653050



WEICON Mixing Nozzles

Quadro Mixing Nozzle

For all Easy-Mix types (except „Metal“)



10650005

Helix Mixing Nozzle

For Easy-Mix Metal



10650006

Epoxy Resin Systems

Epoxy Adhesives

WEICON Epoxy Adhesives

Fast, safe, economical

WEICON Epoxy Adhesives are cold-curing, solvent-free two-component systems with extremely strong bonding properties. They enable material bonds with high tensile and impact strength and are thus ideal for assembly, repairs and production.

In particular in cases of innovative constructions and bonds between different materials such as e.g.

- metals
- hard plastics
- fibre-reinforced materials (GRP, CFRP, fibreglass etc.)
- ceramics
- glass, stone
- wood etc.

today's requirements are ever more demanding (e.g., optically attractive joints coupled with very high strength). Frequently these materials are combined with one another, which leads to additional requirements.

Here the use of WEICON Epoxy Adhesives offer a number of advantages:

- When using WEICON Epoxy Adhesives, the surfaces of the materials are not altered as they are when e.g., soldering or welding is employed.
- No stresses are caused in the materials, and there is no need to use additional fixing methods.
- Through the use of thinner and lighter materials, simpler and more cost-effective constructions are often possible. This can sometimes result in considerable reductions in both weight and costs.

Application of all WEICON Epoxy Adhesives is by means of practical double syringes. By this method, both resin and hardener are delivered in a user-friendly manner in the 1:1 volume proportions. Time-consuming weighing up of the two components is no longer necessary.

Through the use of WEICON Epoxy Adhesives, there are to be found varied applications in all sectors, from simple repair and overhaul work to series applications in almost all branches of industry.

Application

To ensure a perfect bond, the surfaces to be joined must be clean and dry (e.g., clean and degrease using WEICON Surface Cleaner). Smooth surfaces should be roughened, e.g. by sandblasting.

Apply adhesive to only one of the surfaces to be bonded. WEICON Epoxy Adhesives will bridge a gap of 0.2 mm and of 2 mm (for Fast Metal Minute Adhesive minimum 0.5 mm and maximum 4 mm). The pot life given is for a material quantity of 10 ml at room temperature. If larger quantities are used, the curing time will be faster due to the typical reaction heat of epoxy resins (exothermic reaction). Similarly, higher ambient temperatures shorten the cure time (as a rule of thumb, every +10°C (+50°F) increase above room temperature will halve working and curing time). Temperatures below +16°C (+61°F) will extend working and curing times considerably, while below about +5°C (+41°F), no reaction will take place at all.

Physiological properties / health and safety at work

WEICON Epoxy Adhesives, when properly handled and completely cured, are toxicologically essentially harmless. When using these adhesives, the physical, safety technical, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.

Storage

When kept at a constant room temperature of about +20°C (+68°F) and unopened in dry conditions, WEICON Epoxy Adhesives will keep for at least 18 months. Avoid direct sunlight. If these storage instructions are disregarded, the storage life will be reduced to six months.

Epoxy resins are fundamentally liable to crystallise at temperatures of less than +5°C (+41°F). This effect is accentuated by wide variations in temperature such as can frequently occur during transport in winter. This also has a negative effect on working qualities, curing and technical details, although these effects can be reversed by warming up to a maximum of +50°C (+122°F) (no naked flame). In the case of WEICON Epoxy Adhesives, careful selection and combination of the base resins (bisphenol A and F) ensures a reduction of crystallisation.

Easy-Mix S 50

Viscous, self-levelling, very short pot life, fast-curing, extremely high adhesive force

WEICON Easy-Mix S 50 can be used on numerous materials such as metal, plastic, fibre reinforced materials, ceramics, glass, stone and wood.

WEICON Easy-Mix S 50 is suited for quick repair and maintenance work and is ideal for industrial series production with short cycle times.



50 ml ✓
10650050

Technical Data

Basis	Epoxy resin unfilled
Nature	viscid
Supplied in	double cartridge
Content	50 ml
Mixing ratio by volume (Resin/Hardener)	1 : 1
Pot life with 10 ml material at +20°C (+68°F)	4-5 min.
Density of the mixture	1,15 g/cm³
Viscosity of the mixture at +20°C (+68°F)	8.500 mPa·s
Processing temperature	+10 to +30°C (+50 to +86°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour	slightly yellowish, clear
Gap covering power to max.	2 mm
Handling strength (35% strength/+20°C/+68°F)	30 min.
Capable of bearing mechanical loads(50% strength/+20°C/+68°F) after	1 h
Final strength (100% strength/+20°C/+68°F)	24 h
Average strength (+25°C/+77°F) DIN 53281-83	
Pressure	9 MPa (1.300 psi)
Tensile	40 MPa (5.800 psi)
Torsion	58 MPa (8.400 psi)
Shore hardness D	65
Average tensile shear strength as per DIN 53283 on	
Steel, sand-blasted	20 N/mm² (2.900 psi)
Aluminium, sand-blasted	19 N/mm² (2.800 psi)
Rigid PVC, roughened	13 N/mm² (1.900 psi)
Temperature resistance	-50 to +80°C (-58 to +176°F)

Easy-Mix N 50

Viscous, self-levelling, normal pot life, normal-curing, high adhesive force

WEICON Easy-Mix N 50 can be used on numerous materials such as metal, plastic, fibre reinforced materials, ceramics, glass, stone and wood.

WEICON Easy-Mix N 50 is suited for manufacturing processes with assembly and positioning carried out at different times.



50 ml ✓
10650150

Technical Data

Basis	Epoxy resin unfilled
Nature	viscid
Supplied in	double cartridge
Content	50 ml
Mixing ratio by volume (Resin/Hardener)	1 : 1
Pot life with 10 ml material at +20°C (+68°F)	45 min.
Density of the mixture	1,07 g/cm³
Viscosity of the mixture at +20°C (+68°F)	7.500 mPa·s
Processing temperature	+10 to +40°C (+50 to +104°F)
Curing temperature	+10 to +40°C (+50 to +104°F)
Colour	slightly yellowish, clear
Gap covering power to max.	2 mm
Handling strength (35% strength/+20°C/+68°F)	120 min.
Capable of bearing mechanical loads(50% strength/+20°C/+68°F) after	24 h
Final strength (100% strength/+20°C/+68°F)	72 h
Average strength (+25°C/+77°F) DIN 53281-83	
Pressure	2 MPa (300 psi)
Tensile	35 MPa (5.100 psi)
Torsion	50 MPa (7.300 psi)
Shore hardness D	55
Average tensile shear strength as per DIN 53283 on	
Steel, sand-blasted	17 N/mm² (2.500 psi)
Aluminium, sand-blasted	16 N/mm² (2.300 psi)
Rigid PVC, roughened	11 N/mm² (1.600 psi)
Temperature resistance	-50 to +80°C (-58 to +176°F)

Epoxy Resin Systems

Epoxy Adhesives

Easy-Mix N 5000

Liquid, self-levelling, shorter pot life, fast-curing, extremely high adhesive force

Easy-Mix N 5000 can be used on numerous materials such as metal, plastic, fibre reinforced materials, ceramics, glass, stone and wood and is suited for connections where appearances are important.



50 ml ✓
10650250

Technical Data

Basis	Epoxy resin unfilled
Nature	liquid
Supplied in	double cartridge
Content	50 ml
Mixing ratio by volume (Resin/Hardener)	1 : 1
Pot life with 10 ml material at +20°C (+68°F)	20 min.
Density of the mixture	1,07 g/cm³
Viscosity of the mixture at +20°C (+68°F)	5.000 mPa·s
Processing temperature	+10 to +35°C (+50 to +95°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour	almost colourless, crystal clear
Gap covering power to max.	2 mm
Handling strength (35% strength/+20°C/+68°F)	60 min.
Capable of bearing mechanical loads (50% strength/+20°C/+68°F) after	3 h
Final strength (100% strength/+20°C/+68°F)	48 h
Average strength (+25°C/+77°F) DIN 53281-83	
Pressure	10 MPa (1.500 psi)
Tensile	40 MPa (5.800 psi)
Torsion	50 MPa (7.300 psi)
Shore hardness D	65
Average tensile shear strength as per DIN 53283 on	
Steel, sand-blasted	21 N/mm² (3.000 psi)
Aluminium, sand-blasted	19 N/mm² (2.800 psi)
Rigid PVC, roughened	14 N/mm² (2.000 psi)
Temperature resistance	-50 to +80°C (-58 to +176°F)

Easy-Mix Metal

Steel-filled, viscid, self-levelling, short pot life, fast curing, machinable, temperature resistant up to +145°C (+293°F)

WEICON Easy-Mix Metal can be used on numerous materials such as metal, plastic, fibre reinforced materials, ceramics, glass, stone and wood and is suited for bonds requiring larger tolerances to be bridged.



50 ml ✓
10652050

Technical Data

Basis	Epoxy resin steel-filled
Nature	viscid
Supplied in	double cartridge
Content	50 ml
Mixing ratio by volume (Resin/Hardener)	1 : 1
Pot life with 10 ml material at +20°C (+68°F)	4-5 min.
Density of the mixture	1,80 g/cm ³
Viscosity of the mixture at +20°C (+68°F)	120.000 mPa·s
Processing temperature	+10 to +30°C (+50 to +86°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour	black
Gap covering power to max.	2 mm
Handling strength (35% strength/+20°C/+68°F)	40 min.
Capable of bearing mechanical loads(50% strength/+20°C/+68°F) after	2 h
Final strength (100% strength/+20°C/+68°F)	24 h
Average strength (+25°C/+77°F) DIN 53281-83	
Pressure	10 MPa (1.500 psi)
Tensile	24 MPa (3.500 psi)
Torsion	58 MPa (8.400 psi)
Shore hardness D	70
Average tensile shear strength as per DIN 53283 on	
Steel, sand-blasted	20 N/mm ² (2.900 psi)
Aluminium, sand-blasted	19 N/mm ² (2.800 psi)
Rigid PVC, roughened	11 N/mm ² (1.600 psi)
Temperature resistance	-50 to +145°C (-58 to +293°F)

Epoxy Minute Adhesive

viscous, self-levelling, very short pot life, fast-curing, residual elasticity, shockproof, extremely high adhesive strength

WEICON Epoxy Minute Adhesive can be used on numerous materials such as metal, plastic, fibre reinforced materials, ceramics, glass, stone and wood.



24 ml ✓
10550024

Technical Data

Basis	Epoxy resin unfilled
Nature	viscid
Supplied in	double syringe
Content	24 ml
Mixing ratio by volume (Resin/Hardener)	1 : 1
Pot life with 10 ml material at +20°C (+68°F)	3-4 min.
Density of the mixture	1,14 g/cm ³
Viscosity of the mixture at +20°C (+68°F)	32.000 mPa·s
Processing temperature	+10 to +30°C (+50 to +86°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour	colourless, glass clear
Gap covering power to max.	2 mm
Handling strength (35% strength/+20°C/+68°F)	35 min.
Capable of bearing mechanical loads(50% strength/+20°C/+68°F) after	1 h
Final strength (100% strength/+20°C/+68°F)	24 h
Average strength (+25°C/+77°F) DIN 53281-83	
Pressure	9 MPa (1.300 psi)
Tensile	40 MPa (5.800 psi)
Torsion	58 MPa (8.400 psi)
Shore hardness D	65
Average tensile shear strength as per DIN 53283 on	
Steel, sand-blasted	19 N/mm ² (2.800 psi)
Aluminium, sand-blasted	18 N/mm ² (2.600 psi)
Rigid PVC, roughened	12 N/mm ² (1.700 psi)
Temperature resistance	-50 to +80°C (-58 to +176°F)

Can alternatively be processed with Static Mixer
Nozzle Quadro (Art.-Nr. 10650005).

Epoxy Resin Systems

Epoxy Adhesives

Fast-Metal Minute Adhesive

steel-filled, pasty, gap-filling residual elasticity, shock resistant, very short pot life, fast-curing, machinable, extremely high adhesive strength



24 ml ✓
10551024

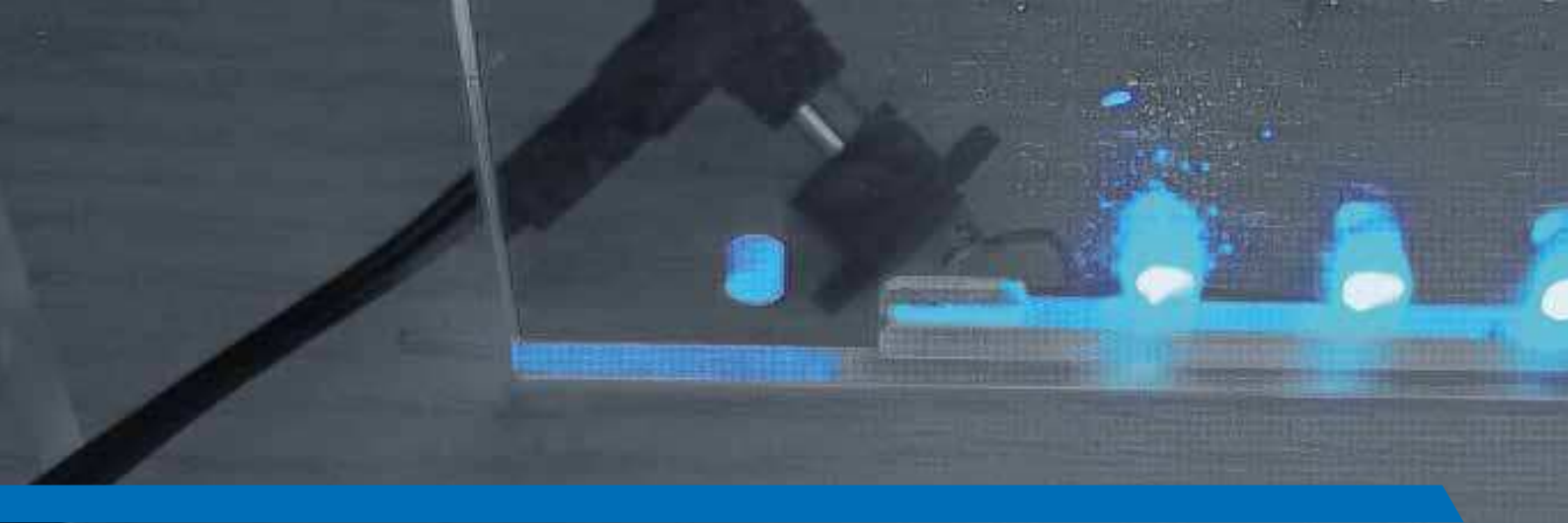
WEICON Fast-Metal Minute Adhesive is ideal for repairs and bondings with larger bonding gaps or bigger tolerances. The gap filling properties make it suitable for rough and poorly fitting surfaces but also to fill in cracks, cavities and unlevelled surfaces.

Fast-Metal Minute Adhesive can be used on numerous materials such as metal, plastic, fibre reinforced materials, ceramics, glass, stone and wood.

Technical Data

Basis	Epoxy resin steel-filled
Nature	paste consistency, crack-filler
Supplied in	double syringe
Content	24 ml
Mixing ratio by volume (Resin/Hardener)	1 : 1
Pot life with 10 ml material at +20°C (+68°F)	3-4 min.
Density of the mixture	1,80 g/cm ³
Viscosity of the mixture at +20°C (+68°F)	300.000 mPa·s
Processing temperature	+10 to +30°C (+50 to +86°F)
Curing temperature	+6 to +40°C (+43 to +104°F)
Colour	grey
Gap covering power to max.	4 mm
Handling strength (35% strength/+20°C/+68°F)	40 min.
Capable of bearing mechanical loads(50% strength/+20°C/+68°F) after	2 h
Final strength (100% strength/+20°C/+68°F)	24 h
Average strength (+25°C/+77°F) DIN 53281-83	
Pressure	10 MPa (1.500 psi)
Tensile	24 MPa (3.500 psi)
Torsion	58 MPa (8.400 psi)
Shore hardness D	70
Average tensile shear strength as per DIN 53283 on	
Steel, sand-blasted	20 N/mm ² (2.900 psi)
Aluminium, sand-blasted	19 N/mm ² (2.800 psi)
Rigid PVC, roughened	11 N/mm ² (1.600 psi)
Temperature resistance	-50 to +145°C (-58 to +293°F)





Type selection table

	Easy-Mix S 50	Easy-Mix N 50	Easy-Mix N 5000	Easy-Mix Metal	Epoxy Minute Adhesive	Fast Metal Minute Adhesive
Metals (e.g. aluminium, cast iron, brass, stainless steel)	++	+	++	++	+	++
Hard plastics* (e.g. rigid PVC)	++	++	++	+	+	+
Fibre-reinforced materials (e.g. GRP, CFRP, fi breglass)	++	+	++	++	+	+
Wood (hardwood and softwood)	+	+	++	+	+	+
Balsa wood	++	++	+	+	++	+
Timber products (e.g. plywood)	+	+	+	+	+	+
Glass ceramics	+	+	+	+	+	+
Stone (e.g. marble, granite, brick, concrete)	++	++	++	++	++	+
Rubber / elastomers	-	-	-	-	-	-

Highly suitable (++)

Suitable (+)

Not suitable (-)

*Except for plastics such as polyethylene, polypropylene, polyacetat, polytetrafluoroethylene and other fluorinated hydrocarbons with naturally adhesive-rejecting surfaces. Within the framework of the above type recommendations, bonding of dissimilar material pairs such as metals and plastics is also possible.

Chemical resistance of WEICON Epoxy Adhesives after curing *

Acetic acid dilute < 5%	+	Hydrocarbons, aliphatic (crude oil derivatives)	+
Acetone	0	Hydrocarbons, aromatic (benzene, toluene, xylene)	-
Alkalis (basic materials)	+	Hydrochloric acid < 10%	+
Amyl acetate	+	Hydrochloric acid 10 - 20%	+
Amyl alcohols	+	Hydrofluoric acid dilute	0
Anhydrous ammonia 25%	+	Hydrogen peroxide < 30% (hydrogen superoxide)	+
Barium hydroxide	+	Impregnating oils	+
Butyl acetate	+	Magnesium hydroxide	+
Butyl alcohol	+	Maleic acid (cis-butenedioic acid)	+
Calcium hydroxide (slaked lime)	+	Methanol (methyl alcohol) < 85%	0
Carbolic acid (phenol)	-	Milk of lime	+
Carbon disulphide	+	Naphthalene	-
Carbon tetrachloride (tetrachloromethane)	+	Naphthene	-
Caustic potash solution	+	Nitric acid < 5%	0
Chlorinated water	+	Oils, minerals	+
Chloroacetic acid	-	Oils, vegetable and animal	+
Chloroform (trichloromethane)	0	Oxalic acid < 25% (ethanedioic acid)	+
Chlorosulphonic acid	-	Paraffin	+
Chromic acid	+	Perchloroethylene	0
Chroming baths	+	Petrol (92 - 100 octane)	+
Creosote oil	-	Phosphoric acid < 5%	+
Cresylic acid	-	Phthalic acid, phthalic acid anhydride	+
Crude oil	+	Potassium carbonate (potash solution)	+
Crude oil and crude oil products	+	Potassium hydroxide (caustic potash) 0 - 20%	+
Diesel fuel oil	+	Soda lye	+
Ethanol < 85% (ethyl alcohol)	0	Sodium bicarbonate (sodium hydrogen carbonate)	+
Ethyl alcohol	0	Sodium carbonate (soda)	+
Ethyl benzole	-	Sodium chloride (cooking salt)	+
Ethyl ether	+	Sodium hydroxide < 20% (caustic soda)	0
Exhaust gases	+	Sulphur dioxide	+
Formic acid > 10%	-	Sulphuric acid < 5%	0
Glycerine (trihydroxypropane)	+	Tannic acid dilute < 7%	+
Glycol	0	Tetralin (tetrahydronaphthalene)	0
Grease, oils and waxes	+	Toluene	-
Heating oil, diesel	+	Trichloroethylene	0
Humic acid	+	Turpentine substitute (white spirit)	+
Hydrobromic acid < 10%	+	Xylene	-

+ = resistant 0 = resistant for a limited time - = not resistant

*Storage of all WEICON Epoxy Adhesives was at +20°C chemical temperature

Epoxy Resin Systems

Epoxy Adhesives

Technical Data

WEICON Epoxy Adhesives in liquid condition							
		Easy-Mix S 50	Easy-Mix N 50	Easy-Mix N 5000	Easy-Mix Metal	Epoxy Minute Adhesive	Fast-Metal Minute Adhesive
Basis:		Epoxy resin unfilled	Epoxy resin unfilled	Epoxy resin unfilled	Epoxy resin steel-filled	Epoxy resin unfilled	Epoxy resin steel-filled
Nature:		viscous	viscous	fluid	viscous	viscous	crack-filler
Supplied in:		double cartridge	double cartridge	double cartridge	double cartridge	double syringe	double syringe
Content:		50 ml	50 ml	50 ml	50 ml	24 ml	24 ml
Mixing proportion by volume resin / hardener (automatically):		1 : 1	1 : 1	1 : 1	1 : 1	1 : 1	1 : 1
Pot life with 10 ml material at +20°C (+68°F):		4 - 5	45	20	4 - 5	3 - 4	3 - 4
Density of the mixture (g/cm³):		1,15	1,07	1,07	1,80	1,14	1,80
Viscosity of the mixture at +20°C (+68°F):		8.500 mPa·s (cP)	7.500 mPa·s (cP)	5.000 mPa·s (cP)	120.000 mPa·s (cP)	32.000 mPa·s (cP)	300.000 mPa·s (cP)
Temperature	Processing*1:	+10°C to +30°C (+50°F to +86°F)	+10°C to +40°C (+50°F to +104°F)	+10°C to +35°C (+50°F to +95°F)	+10°C to +30°C (+50°F to +86°F)	+10°C to +30°C (+50°F to +86°F)	+10°C to +30°C (+50°F to +86°F)
	Cure:	+6°C to +40°C (+43°F to +104°F)	+10°C to +40°C (+50°F to +104°F)	+6°C to +40°C (+43°F to +104°F)	+6°C to +40°C (+43°F to +104°F)	+6°C to +40°C (+43°F to +104°F)	+6°C to +40°C (+43°F to +104°F)
Colour:		slightly yellowish, clear	slightly yellowish, clear	almost colourless, glass clear	black	almost colourless, glass clear	grey
Gap covering power to max.*2:		2 mm	2 mm	2 mm	2 mm	2 mm	4 mm
Cure time at +20°C (+68°F)	Handling strength (35%) after:	30 minutes	120 minutes	60 minutes	40 minutes	35 minutes	40 minutes
	Capable of bearing mechanical loads (50% strength) after:	1 hour	24 hours	3 hours	2 hours	1 hour	2 hours
	Final strength (100 %) after:	24 h	72 h	48 h	24 h	24 h	24 h
WEICON Epoxy Adhesives in fully-cured condition							
Average strength of the pure epoxy resin in accordance with DIN 53281-83	Pressure MPa (psi):	9 (1.300)	2 (300)	10 (1.500)	10 (1.500)	9 (1.300)	10 (1.500)
	Tensile MPa (psi):	40 (5.800)	35 (5.100)	40 (5.800)	24 (3.500)	40 (5.800)	24 (3.500)
	Torsion MPa (psi):	58 (8.400)	50 (7.300)	50 (7.300)	58 (8.400)	58 (8.400)	58 (8.400)
	Impact resistance (kJ/m²):	50	25	50	50	50	50
	E-Modul MPa (ksi):	2.000 - 2.500 (300 - 400)	2.000 - 2.500 (300 - 400)	1.700 - 2.000 (200 - 300)	4.000 - 4.500 (600 - 700)	2.000 - 2.500 (300 - 400)	4.000 - 4.500 (600 - 700)
	Shore hardness D:	65	55	65	70	65	70
Average tensile shear strength as per DIN 53283 on:	Steel, sand-blasted N/mm² (psi):	20 (2.900)	17 (2.500)	21 (3.000)	20 (2.900)	19 (2.800)	20 (2.900)
	Aluminium, sand-blasted N/mm² (psi):	19 (2.800)	16 (2.300)	19 (2.800)	19 (2.800)	18 (2.600)	19 (2.800)
	Rigid PVC, roughened N/mm² (psi):	13 (1.900)	11 (1.600)	14 (2.000)	11 (1.600)	12 (1.700)	11 (1.600)
Temperature resistance:		-50°C to +80°C (-58°F to +176°F)	-50°C to +80°C (-58°F to +176°F)	-50°C to +80°C (-58°F to +176°F)	-50°C to +145°C*3 (-58°F to +293°F)*3	-50°C to +80°C (-58°F to +176°F)	-50°C to +145°C*3 (-58°F to +293°F)*3
Linear shrinkage*4:		20 mm/m approx. 2,0 %	20 mm/m approx. 2,0 %	20 mm/m approx. 2,0 %	3 mm/m approx. 0,3 %	20 mm/m approx. 2,0 %	3 mm/m approx. 0,3 %
Thermal conductivity (ASTM D 257):		0,30 W/m·K	0,20 W/m·K	0,25 W/m·K	1,11 W/m·K	0,20 W/m·K	1,11 W/m·K
Electrical resistance (ASTM D257):		10 ¹³ Ω/cm	10 ¹³ Ω/cm	10 ¹³ Ω/cm	10 ¹¹ Ω/cm	10 ¹³ Ω/cm	10 ¹¹ Ω/cm
Dielectric strength (ASTM D 149):		1,0 kV/mm	1,0 kV/mm	1,0 kV/mm	1,2 kV/mm	1,0 kV/mm	1,2 kV/mm
Thermal expansion coefficient (ISO 11359):		50 x 10 ⁻⁶ K ⁻¹	50 x 10 ⁻⁶ K ⁻¹	50 x 10 ⁻⁶ K ⁻¹	30 x 10 ⁻⁵ K ⁻¹	50 x 10 ⁻⁶ K ⁻¹	30 x 10 ⁻⁶ K ⁻¹

*1 For easier workability when ambient temperatures are low, the double cartridges and syringes should be warmed up to room temperature (20°C/+68°F) before application.

*2 These details are dependent on the type and structure of the materials to be bonded, and are only to be taken into account for bonding work. In the case of casting, e.g. of electronic components, the thickness of a layer should not be allowed to exceed 10 mm.

*3 After 20 hours at room temperature (+20°C/+68°F), post-temper at +100°C (+212°F) for about 14 hours.

*4 Measured on a casting 900 x 75 x 10 mm after 7 days stored at +20°C (+68°F).

Technical Data:

WEICON Urethanes in non-cured condition

	Urethane 45	Urethane 60	Urethane 80
Composition:	Polyurethane		
Complete packaging sizes:	0,5 kg		
Mixing ratio (weight %): Resin/Hardener	100 : 140	100 : 100	100 : 50
Pot life at +20°C (68°F) min.:	25		
Density of the mixture g/cm³:	1,03	1,03	1,04
Viscosity at +25°C (77°F) Resin/Hardener (mPa.s):	6.700 / 430	6.700 / 260	6.700 / 45
Mixture viscosity at +25°C (77°F) (mPa.s):	1.000	1.200	1.350
Cure times at +20°C (+68°F)	Mechanical loads (50% strength) after:	12 hours	
	Final strength (100%) after:	24 hours	

WEICON Urethanes in cured condition

Tensile strength according to ISO 37 MPa (psi):	4,1 (600)	5,3 (800)	8,5 (1.200)
Elongation at break according to ISO 37 (%):	2.400	1.400	900
Resistance to further tearing (kN/m):	9,5	11	17
Shore hardness A:	45	60	80
Colour after curing:	beige	light- brown	dark- brown
Temperature resistance:	-60°C to +90°C (-76 to +194°F)		

Polyurethane Systems

Urethanes

For making:

- Vibration dampers
- Assembling jigs
- Flexible seals
- Rubber-like prototypes
- Foundry patterns and forms

For repairs on:

- Conveyor belts
- Solid rubber tyres
- Conveyor rollers

For coatings on:

- Rollers
- Centrifuges
- Polishing drums
- Tanks
- Chutes and funnels
- Pumps
- Bulk containers
- Dry and wet mixers
- Cyclones
- Housings
- Loading areas

In addition, WEICON Urethanes are excellently suitable as vibration or insulation protection of machines.

**WEICON Urethanes****Flexible Casting and Coating Resin with high impact strength and abrasion resistance**

WEICON Urethanes are 2-component polyurethanes that cure at room temperature to tough rubber-like materials, remaining flexible at temperatures down to even -60°C (-76°F).

WEICON Urethanes adhere to a variety of materials such as metals, concrete, rubber, wood, fibreglass and many others. They are also suitable as flexible coatings in connection with WEICON Plastic Metal (epoxy) systems.

Due to their low sensitivity to humidity they can also be used for coatings in thin layers and have a remarkably high tensile and tear strength.

**Urethane 45****Shore hardness A 45**

0,5 kg ✓
10514005

Urethane 60**Shore hardness A 60**

0,5 kg ✓
10516005

Urethane 80**Shore hardness A 80**

0,5 kg ✓
10518005



Chemical resistance of WEICON Urethane after curing

Acetone	-	Methyl ethyl ketone	-
Alcohol	0	Mineral and synthetic motor oil	+
Formic acid (concentrated)	-	20% Sodium hydroxide solution	-
10% Ammonia	0	5% Phosphoric acid	+
Petrol (92 to 100 octane)	-	Phosphoric acid (concentrated)	-
Diesel/heating oil	-	2-Propanol	-
Glycol ether	-	5% Nitric acid	-
> 5% Acetic acid	-	5% Hydrochloric acid	+
Ethanol	-	Salt water/seawater	+
Freon	-	5% Sulphuric acid	0
Antifreeze	+	Silicone oil (concentrated)	-
Gear oil	-	Edible oil/vegetable oil	-
Glycerine (glycol)	+	Toluene	+
Hydraulic oil	0	Naphtha	+
20% Caustic potash solution	+	Water	+
Ketones	-	Water, +90°C	0
Cooling lubricant, water-dilutable	+	W3% Hydrogen peroxide	+
Thinner	-	Paraffin oil	+
Lyes, thinned	+	Xylene	+
Methanol	-	10% Citric acid	+

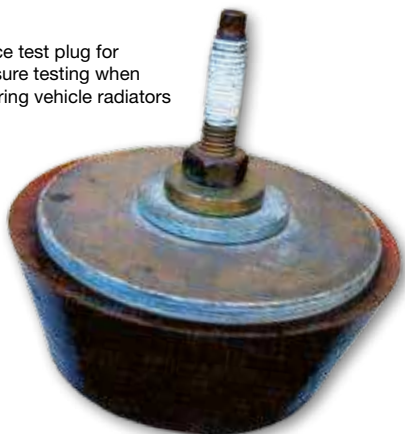


Consumption

Application thickness (mm)	0,20*	0,50	1,00	1,50	2,00	2,50	3,00	3,50	4,00
Consumption per m ² (kg)	0,21	0,53	1,05	1,60	2,10	2,65	3,20	3,70	4,20

*Min. layer thickness

Device test plug for pressure testing when repairing vehicle radiators



Repair of clamping pliers



Polyurethane Systems

Urethanes

Pretreatment of the surface

The surfaces must be clean, dry and degreased. Almost every surface soiling like oil, grease, dust and dirt can be removed with WEICON Surface Cleaner or WEICON Sealant and Adhesive Remover (old paint residues). If the surfaces are badly soiled or smooth, the adhesion can be optimized by sand-blasting with suitable grain size or by mechanical roughening.

The use of a primer can improve the adhesion on certain surfaces (for details see table).

material		recommended pretreatment
ABS		Surface Cleaner
Aluminium	blank	Surface Cleaner + roughening + Primer M 100
	chromated	Surface Cleaner
	anodized	Surface Cleaner + Primer M 100
	powder-coated	Surface Cleaner + Primer M 100
	base-coated	Surface Cleaner
	lacquered	Primer M 100
EPDM		poor adhesion, even with the use of a primer
GFK	smooth/rough side	Primer M 100
	in strips	Primer M 100
	hand laminate	Primer M 100
Glass	untreated, clear	Primer M 100**
	ceramic-coated	Primer M 100*
Wood	phenol-coated (serigraphy plate)	Surface Cleaner + roughening + Primer M 100
	untreated	cleaning with a moist cloth + Primer S 300
PA (Polyamid)		Primer M 100*
PIR Rigid foam (Polyisocyanurat)		Surface Cleaner
PMMA (Plexiglas)		Primer M 100*
Polywood		roughening + Surface Cleaner
PS	rigid foam	Surface Cleaner
	plates	not recommended for Urethane applications
PUR Rigid foam		Surface Cleaner
PUR Elastomer		Surface Cleaner + Primer M 100
PVC	plates	Surface Cleaner
	rigid foam	Plastic Cleaner
Steel	blank	Surface Cleaner + Primer M 100
	chromated	Surface Cleaner
	foil-coated	not recommended for Urethane applications
	base-coated	Surface Cleaner + Primer M 100
	lacquered	Surface Cleaner + Primer M 100
	powder-coated	Surface Cleaner + Primer M 100
	VA (stainless steel)	Surface Cleaner + roughening + Primer M 100
	galvanized	Surface Cleaner + roughening + Primer M 100

* Preliminary tests required

** protect from UV-light

Primer M 100

Solvent-containing synthetic resin, transparent, Density: 0,8 g/cm³, Consumption: approx. 20-40 ml pro m²



For non-absorbent materials like aluminium, steel, stainless steel, brass, zinc, tinplate, plastics like PA 6.6, GRP, PUR, lacquered surfaces, enamel, ceramic and coated glass.

250 ml ✓
13550125

Primer S 300

Solvent-containing polyurethane, Density: 1,03 g/cm³, Consumption: approx. 200 ml pro m²



For porous and absorbent materials like wood, concrete, stone, etc.

250 ml ✓
13550325

Woll cloth

For application of WEICON Primer

13955050

Urethane colour paste

Special colour paste on the basis of finely dispersed pigments

250 g ✓
10519250



Processing:

The conditions for proper adhesive bonding are clean and dry surfaces (e.g. after cleaning and degreasing with WEICON Surface Cleaner). Best results are achieved if the adhesive surfaces are mechanically roughened.

Some low-energy adhesives, especially PTFE and polyolefins, etc. can only be bonded after special pretreatment of the surfaces, e.g. with fluoridation, low-pressure plasma, corona, flame impingement, etc. The adhesive is applied on one side.



Gluing VA fin plates onto a wooden wall



Bonding fastening elements onto GRP walls in utility vehicles

Polyurethane Systems

PU-90

PU-240

Easy-Mix PU-90 / PU-240

Fast, strong adhesion, reliably

High-strength, fast-curing 2-component structural adhesives based on polyurethane with excellent adhesion on a broad range of materials. The high-viscosity formulation enables application even on vertical surfaces. The 2-component system also provides for fast and controlled curing. This makes the adhesive bonding process virtually independent of layer thickness, humidity and ambient temperature.

The following materials can be bonded among themselves or to each other with a high tensile, shearing and impact strength:

- Fibre composite materials (e.g. EP-GRP, UP-GRP, CFC, SMC and fibreglass)
- Plastics (e.g. PVC, ABS, PMMA, PC and phenol)
- Polyurethane, epoxies and polyester
- Steel, aluminium and stainless steel
- Wood, ceramic, etc.

WEICON Easy-Mix PU-90/PU-240 adhesives are characterised by the following properties:

- Fast initial strength
- Immediate adhesion even on vertical surfaces, no dripping, can be modelled
- High tensile, shear and impact strengths
- Permanently elastic/impact resistant, low shrinkage
- For indoor and outdoor use
- Resistant to weathering and chemicals
- Can be sanded and painted over after approx. 30 minutes
- Neutral to materials
- Temperature resistant from -55°C to +125°C (-67 to +257°F)

WEICON Easy-Mix PU-90/PU-240 adhesives are suitable both for universal use in dynamically loaded adhesive bonds and for applications where a high flexibility is required. They are used in the following industrial sectors:

- Plastics technology
- Mechanical engineering
- Model and mould construction
- Ship and boat building
- Energy systems and electrical engineering
- Metalworking
- Car body and vehicle construction
- Trade fair and exhibition construction



Easy-Mix PU-90

New

High strength, extremely fast-curing, highly viscous, very short pot life of 90 seconds

WEICON Easy-Mix PU-90 structural adhesive is high-strength, extremely fast-curing, highly viscous, and can be sanded and painted over after approx. 30 minutes. It is weather resistant, resistant to chemicals and temperature resistant from -55°C to +125°C (-67 to +257°F) and has a very short pot life of around 90 seconds.

WEICON PU-90 can be used to bind numerous materials such as composite materials, plastics, polyurethane, epoxies, polyester, metals, wood and ceramics to themselves and among each other with high tensile, shear and peel strength.

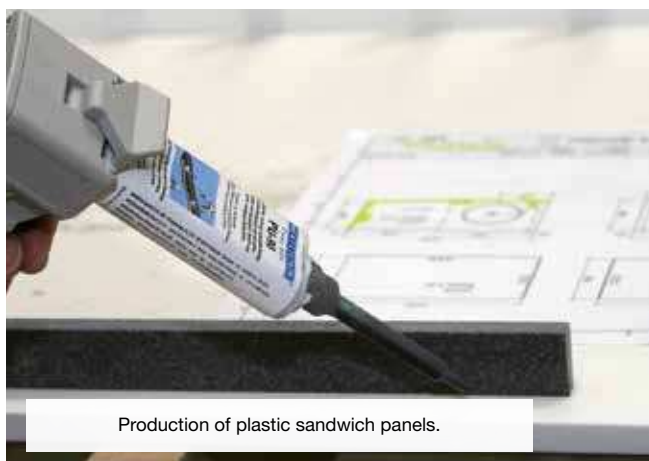
PU-90 can be used in plastic technology, machine construction, model and mould making, metal construction, ship and boat building, carriage and vehicle construction, trade show and exhibition construction and in many other applications.



50 ml
10751050

Technical Data

Basis	Polyurethane
Mixing ratio Resin / Hardener	1 : 1
Colour after curing	black
Density of the mixture	1,30 - 1,35 g/cm³
Pot life at +20°C (+68°F)	90 sec.
Handling strength (35%) after	5 min.
Mechanical loads (50% strength) after	10 min.
Final strength (100%) after	12 h
Adhesive gap bridging	0,1 - 4,0 mm
on Aluminium (0,26 mm)	13 N/mm² (1.900 psi)
on Steel bright (0,26 mm)	19 N/mm² (2.800 psi)
on Stainless steel (0,26 mm)	17 N/mm² (2.500 psi)
Average E-module +20°C (+68°F)	650 - 750 N/mm² (90 - 110 ksi)
Shore hardness D DIN EN ISO 868	66
Tensile strength ISO 527 max.	21 N/mm² (3.000 psi)
Tensile Extension ISO 527 max.	35%
Temperature resistance	-55 to +125°C (-67 to +257°F)
Thermoforming resistance	+65°C (+149°F)
TGA decomposition temperature (Onset temp.)	+330°C (+626°F)



Production of plastic sandwich panels.



Fixing plastic decorating panels on veneered wood

Polyurethane Systems

PU-90

PU-240

New

Easy-Mix PU-240

High strength, extremely fast-curing, highly viscous,
very short pot life of 240 seconds

Technical Data

Basis	Polyurethane
Mixing ratio Resin / Hardener	1 : 1
Colour after curing	black
Density of the mixture	1,30 - 1,35 g/cm ³
Pot life at +20°C (+68°F)	240 sec.
Handling strength (35%) after	10 min.
Mechanical loads (50% strength) after	30 min.
Final strength (100%) after	12 h
Adhesive gap bridging	0,1 - 4,0 mm
on Aluminium (0,26 mm)	14 N/mm ² (2.000 psi)
on Steel bright (0,26 mm)	23 N/mm ² (3.300 psi)
on Stainless steel (0,26 mm)	18 N/mm ² (2.600 psi)
Average E-module +20°C (+68°F)	450 - 550 N/mm ² (70 - 80 ksi)
Shore hardness D DIN EN ISO 868	68
Tensile strength ISO 527 max.	20 N/mm ² (2.900 psi)
Tensile Extension ISO 527 max.	31%
Temperature resistance	-55 to +125°C (-67 to +257°F)
Thermoforming resistance	+65°C (+149°F)
TGA decomposition temperature (Onset temp.)	+336°C (+637°F)



50 ml ✓
10753050

WEICON Easy-Mix PU-240 structural adhesive is high-strength, extremely fast-curing, highly viscous, and can be sanded and painted over after approx. 30 minutes. It is weather resistant, resistant to chemicals and temperature resistant from -55°C to +125°C (-67 to +257°F) and has a very short pot life of around 240 seconds.

PU-240 can be used to bond numerous materials such as composite materials, plastics, polyurethane, epoxides, polyester, metals, wood and ceramics to themselves and among each other with high tensile, shear and peel strength.

WEICON PU-240 can be used in plastic technology, machine construction, model and mould making, metal construction, ship and boat building, carriage and vehicle construction, trade show and exhibition construction and in many other applications.



Gluing fastening elements onto phenol resin panels



Gluing an aluminium pipe onto a plastic front panel



RK-1300 / RK-1500 Construction Adhesives

High strength, impact resistant

WEICON RK-1300/1500 are 2-component systems based on methacrylate, which cure fast at room temperature. Both systems are processed in the “no-mix” procedure, i.e. a mix of both components (adhesive and activator) is not necessary. Polymerization starts as soon as the adhesive- and activator-wetted components are joined together.

RK-1300/1500 allow high-strength bonding of different materials:

- Metals (also coated), such as steel, aluminium, copper, zinc, alloys, as well as ferrites (ferromagnetic material)
- Plastics*, such as ABS, polystyrene, hard PVC, polycarbonate, polyphenylene oxide, polyester moulding compounds
- Fibre composite materials (GRP, CRP, fibreglass etc.)
- Wood and cellulose materials (e.g. MDF)
- Glass, ceramics and stone

*Polyamide, Teflon® and polyolefin etc. only after special surface treatment, for example using fluoridation, low-pressure plasma, corona, flame impingement etc.

Compared to other joining/fixing procedures WEICON RK-1300/1500 have many advantages:

- Conventional fasteners are no longer necessary.
- Unlike in the case of welding and soldering, there are no changes in the material surfaces
- Tensioning of the materials caused by thermal or mechanical stress does not occur
- The specific material characteristics of different materials remain the same
- By using newly developed, thinner and lighter materials, a simpler and more cost-efficient construction can often be realized, since these materials can only be joined with adhesives
- When cured, the adhesive automatically forms a leak-proof coating, which prevents fretting corrosion
- When joining different metals no contact corrosion is formed

WEICON RK-1300/1500 feature special product-specific characteristics:

- Processing in the “no-mix” procedure
- Quick and high initial bonding strength
- Residual elasticity and impact resistance
- Applicable at a large range of temperatures
- Ageing resistant

As a result, there are numerous areas of application, in particular during assembly and in industrial processing.

Due to the “no-mix” procedure and the quick, high initial bonding strength, WEICON RK Construction Adhesives are especially suited for manufacturing processes with staggered assembly and positioning processes and high cycle times during serial production.



Illumination bonding (aluminium / glass)



Bonding of plastic plates (mould construction)

WEICON®

RK - 1500

Klebstoff
Adhesive

Enthält / Contents

Structural Acrylic Adhesives

RK-1300

RK-1500

Pre-treatment of surfaces

To ensure perfect bonding, the surfaces to be joined must be clean and dry (to clean and degrease use WEICON Surface Cleaner).

The highest strength values can be achieved through additional pre-treatment of the surfaces, such as roughening using blasting or abrasive agents. Several plastics, in particular polyamide, PTFE, polyolefins etc. are only to be bonded after special surface treatment, for example using fluoridation, low-pressure plasma, corona, flame impingement etc.

Processing of the RK Activator

The RK Activator is applied, depending on the size of the bonding gap, on either one side or both sides of the surfaces to be bonded (brush, spray, dip). In case of bond lines with a max. of 0.4 mm in width, the Activator only needs to be applied on one side, for bond lines of up to a max. of 0.8 mm in width and/or rough, porous or passive surfaces (chrome, nickel etc) the Activator must be applied on both sides.

For smooth plastic and metal surfaces, approx. 30 g/m² is necessary, for rough and porous surfaces up to 150 g/m² of Activator may be necessary. The evaporation time at room temperature (+20°C/+68°F) is at least 5 minutes.

A significant advantage to other adhesive systems is that the coated components can be stored up to 30 days at room temperature (+20°C/+68°F) without losing effectiveness.

100 ml ✓
105621001 L ✓
10562901**Processing of the RK Adhesive**

The Adhesive is applied only on one side and normally on the surface which is not coated with Activator. The width of the bond line can be up to 0.80 mm (only if the Activator is applied on both sides). Bond lines of 0.15 mm to 0.25 mm in width always have the highest tensile shear strength.

Processing temperature

The processing should take place at room temperature (approx. +20°C/+68°F). Higher temperatures, e.g. +40°C (+104°F) shorten the positioning and curing times by approx. 30%, lower temperatures of approx. +10°C (+50°F) increase the respective times by approx. 50% and up to +5°C (+41°F) almost no reaction occurs any more.

Physiological properties / health and safety at work

WEICON RK Construction Adhesives, when properly handled and completely cured, are toxicologically essentially harmless. When using these adhesives, the physical, safety technical, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.de) must be observed.

Storage

WEICON RK Construction Adhesives have a shelf life of at least 12 months if stored in a dry room at a constant temperature of approx. +20°C. At temperatures between +1°C (+34°F) and +7°C (+45°F) the shelf life can be extended up to 24 months. This applies for closed original units which have not been directly or indirectly exposed to sunrays. In case of storage temperatures exceeding +40°C (+104°F) and high humidity, the shelf-life is shortened to 6 months.





Technical Data

WEICON RK-1300/1500 in non-cured condition			
		RK-1300	RK-1500
Basis:		Methyl methacrylate	
Properties:		pasty	liquid
Viscosity at + 20°C (+68°F):	Adhesive:	21.000 mPa·s	4.500 mPa·s
	Activator:	very thin liquid	
Specific weight:	Adhesive:	1,20 g/cm³	1,00 g/cm³
	Activator:	0,87 g/cm³	
Colour:	Adhesive:	beige, opaque	yellow, transparent
	Activator:	Colourless, transparent	
Consumption depending on surface structure:	Adhesive:	180 - 300 g/m²	
	Activator:	30 - 150 g/m²	
Evaporation time of the activator at +20°C (+68°F):		5 minutes	
Effectiveness of the Activator after application at +20°C (+68°F):		max. 30 days	
Processing temperature:		+10 to +30°C (+50 to +86°F)	
Curing temperature:		+6 to +40°C (+43 to +104°F)	
Positioning time of the parts coated with Activator and Adhesive at +20°C (+68°F):		1 - 2 minutes	
Gap covering power: (Bond lines of 0.15 mm to 0.25 mm in width have the highest strength)		max. 0.40 mm (Activator application on one side*1)	
		max. 0.80 mm (Activator application on both sides*1)	
Cure time at +20°C (+68°F):*2	Handling strength (35%) after:	6 minutes	5 minutes
	Mechanical durability (50% stability) after:	9 minutes	8 minutes
	Final strength (100%) after:	24 hours	24 hours
WEICON RK RK-1300/1500 in cured condition			
Average tensile shear strength after 7 days at +20°C (+68°F) and one-sided Activator application in accordance with DIN 53281-83:	Aluminium, sand-blasted:	25 N/mm² (3.600 psi)	26 N/mm² (3.800 psi)
	Steel, sand-blasted:	21 N/mm² (3.000 psi)	25 N/mm² (3.600 psi)
	Steel, galvanized:	6 N/mm² (900 psi)	4 N/mm² (600 psi)
	Stainless steel, sand-blasted:	26 N/mm² (3.800 psi)	25 N/mm² (3.600 psi)
	Brass, sand-blasted:	25 N/mm² (3.600 psi)	26 N/mm² (3.800 psi)
	Copper, sand-blasted:	26 N/mm² (3.800 psi)	19 N/mm² (2.800 psi)
	Polycarbonate, roughened:	5 N/mm² (700 psi)	8 N/mm² (1.200 psi)
	ABS, roughened:	6 N/mm² (900 psi)	6 N/mm² (900 psi)
	Hard PVC, roughened:	7 N/mm² (1.000 psi)	11 N/mm² (1.600 psi)
	Polyamide 6.6, roughened:	2 N/mm² (300 psi)	3 N/mm² (400 psi)
	GRP (polyester), roughened:	8 N/mm² (1.200 psi)	7 N/mm² (1.000 psi)
	GRP (epoxy resin), roughened:	16 N/mm² (2.300 psi)	20 N/mm² (2.900 psi)
Temperature resistance:		-50°C to +130°C (-58 to +266°F), briefly (30 minutes) to +180°C (+356°F)	
Peel resistance on aluminium:		6 N/mm	
Linear thermal expansion coefficient:		70 x 10 ⁻⁶ K ⁻¹	80 x 10 ⁻⁶ K ⁻¹
Thermal conductivity:		0,2 W/m·K	
Electrical resistance:		10 ¹⁵ Ω/cm	
Dielectric strength:		10 kV/mm	

*1 This information is dependent on the type of materials to be bonded and their respective properties. In case of porous materials or passive surfaces, such as chrome, nickel, etc. the Activator should be applied on both sides. (Bond lines of 0.15 mm to 0.25 mm in width have the highest stability).

*2 High temperatures, e.g. +40°C (+104°F) shorten the positioning and curing times by approx. 30%. Low temperatures of approx. +10°C (+50°F) increase the respective times by approx. 50% and at approx. +5°C (+41°F) almost no reaction occurs.

Structural Acrylic Adhesives

RK-1300

RK-1500

RK-1300

Pasty, strong, fast-curing

WEICON RK-1300 Structural Adhesive has high impact, peel, and shear strength.

The system consists of adhesive and activator which can be used on many different materials in the simple No-Mix procedure. WEICON RK-1300 is particularly suited for the bonding of metals and hard plastics.

WEICON RK-1300 can be used in mechanical and apparatus engineering, vehicle construction, tool and mould making, the building and furniture industry and in many other industrial applications.



60 g*1 ✓
10560060

330 g*2 ✓
10560330

1,0 kg*1 ✓
10560800

6,0 kg*2 ✓
10561906

RK-1500

Liquid, strong, fast-curing,

WEICON RK-1500 has high impact, peel, and shear strength.

The system consists of adhesive and activator which can be used on many different materials in the simple No-Mix procedure. Due to its low viscosity, WEICON RK-1500 is particularly well suited for processing on large bonding surfaces.

WEICON RK-1500 can be used in mechanical and apparatus engineering, vehicle construction, tool and mould making, the building and furniture industry and in many other industrial applications.



60 g*1 ✓
10563860

310 g*2 ✓
10563330

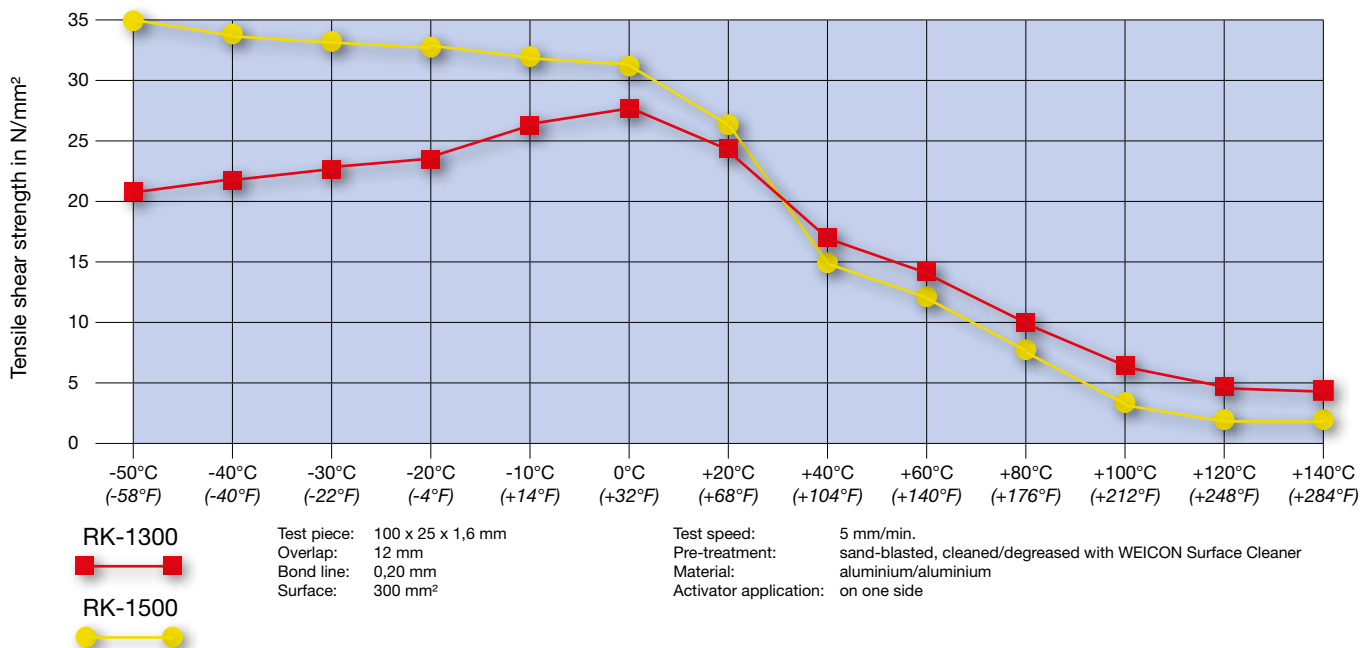
1,0 kg*1 ✓
10563800

6,0 kg*2 ✓
10563906

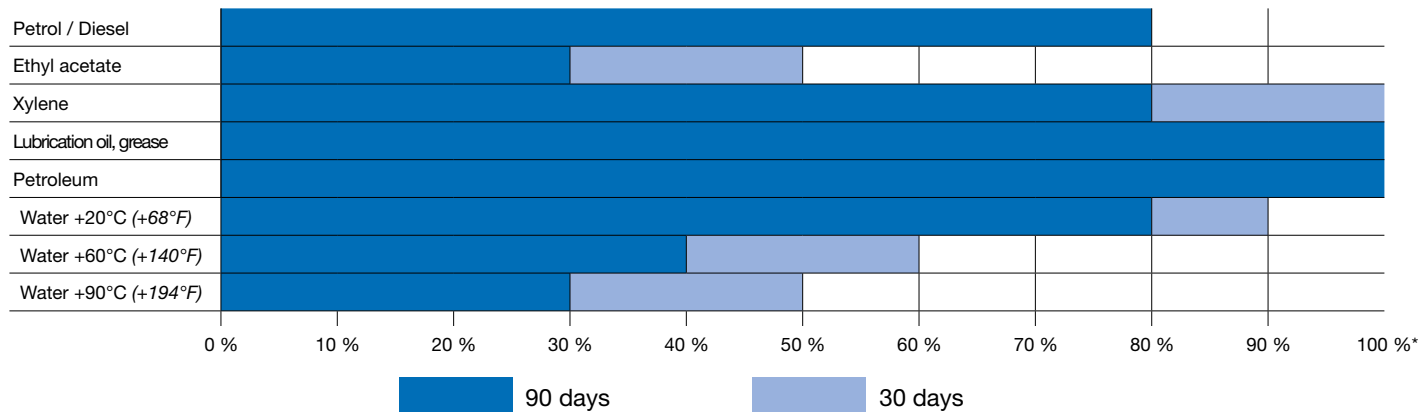
*1 Complete package consisting of adhesive and activator
*2 without activator



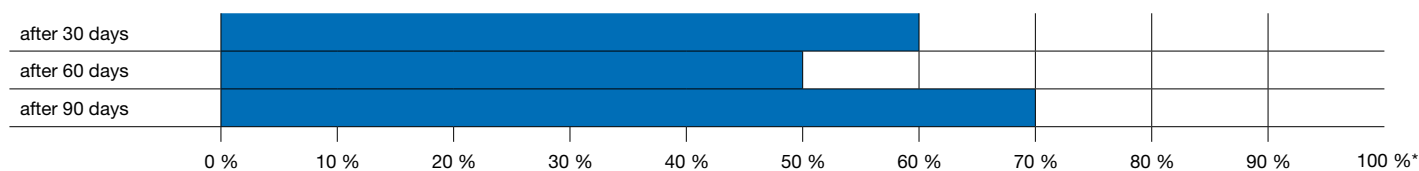
Tensile shear strength according to DIN 53283 depending on the test temperature



Tensile shear strength in % after storage in different media



Tensile shear strength in % after storage in tropical climate in accordance with DIN 50015 (+40°C/+140°F and 92% humidity)



* Average tensile strength after 7 days at +20°C (+68°F) and one-sided Activator application in accordance with the stability.

Structural Acrylic Adhesives

RK-1300

RK-1500

Chemical resistance after curing

Acetone	+	Isopropyl acetate	+
Acidic vapours	+	Isopropyl alcohol	+
Alcohol	+	Isopropyl ether	+
Aliphatic hydrocarbons, (petroleum derivative)	+	Kerosene	+
Alkaline vapours	+	Ketone	+
Ammonia, ammonium chloride	+	Lubricating oils and grease	+
Ammonium chloride	+	Mercury	+
Aromatic hydrocarbons (benzoyl, methylbenzene, xylene)	0	Methanol (methyl alcohol)	+
Benzoyl	0	Methyl benzoyl	+
Benzoyl acid	+	Methyl chloride	0
Bilge medium (bilge water)	+	Methyl ethyl ketone	+
Brake fluid	+	Methyl isobutyl ketone, isopropyl acetone	+
Bromide solution	0	Methylene dichloride	+
Butyl alcohol (Isobutanol)	+	Mineral oil	+
Calcium chloride (sea salt)	+	Mineral turpentine	+
Calcium sulphate	+	Nitric acid 5%	+
Calcium sulphite	+	Nitric acid, fuming	-
Chlorinated hydrocarbon	+	Oxygen	-
Chlorinated salt water (swimming pool concentrate)	+	Ozone	-
Chlorinated solvent (dichloromethane)	-	Paraffin oil, kerosene	+
Chlorinated water (swimming pool concentration)	+	Perchlormethylmercaptan	+
Chlorine alcohol	+	Persulfuric acid 5%	+
Chlorine bleach	-	Petrol	+
Chlorine gas, liquid and dry	-	Phenol (Carbolic acid)	+
Chlorine sulphuric acid	-	Phenol resin	+
Chlorine, liquid and dry	-	Phosphoric acid 5%	+
Chloroform	+	Phthalic acid (benzene dicarboxylic acid)	+
Chromic acid 5%	+	Polyphosphoric acid 5%	+
Cooling lubricants	+	Potassium carbonate (potash)	+
Corrosive ammonium, ammonium hydroxide	0	Propyl alcohol	+
Cylinder oil	+	Selenium chloride	+
Dichloroethylene ether	+	Silicon oils	+
Epichlorohydrin	+	Sulphur dioxide, wet and dry	+
Freon	0	Sulphur trioxide gas	-
Fuel for jet or turbine engines	+	Sulphuric acid	0
Glycol, glycine	+	Sulphuric acid, fuming	-
Heating oil, diesel	+	Tannic acid (gallotannic acid)	0
Heptane	+	Toluene (methylbenzene)	0
Hydrochloric acid (muriatic acid)	0	Toluene sulphuric acid	0
Hydrocyanic acid, prussic acid 5%	+	Trichloroethylene	+
Hydrogen bromide 5%	+	Turpentine, Turpentine oil	+
Hydrogen chloride	+	Waste water, excrements	+
Hydrogen fluoride (hydrofluoric acid)	-	Water	+
Hydrogen peroxide	0	Water, boiling	0
Hydrogen sulphide, wet and dry	+	Water, distilled	+
Isobutyl alcohol (isobutene)	+	Xylene (dimethylbenzoyl)	0

+ = resistant

0 = resistant for a limited time

- = not resistant

Storage of the test pieces was at +20°C (+68°F) chemical temperature.



Easy-Mix RK-7000 / RK-7100 / RK-7200

High strength, residual elasticity, process-safe

High-strength, fast-curing structural adhesives on the basis of MMA (methyl methacrylate) with excellent adhesion on e.g. fibre composite materials, many plastics, metals and many other materials.

Thanks to the modern Easy-Mix mixing and dosing system the adhesives can be cleanly and accurately automatically dosed, mixed and applied in only one working operation. In this way, a uniform quality and process assurance is guaranteed in a production series. Due to its high viscosity the adhesive can also be applied on vertical surfaces.

The following materials can be bonded to themselves and among each other with high tensile, shear and peel strength:

- plastics (e.g. PVC, ABS, PMMA, fibre glass, phenol)
- polyurethane, epoxies
- steel, aluminium, stainless steel
- wood, ceramics and many others

WEICON Easy-Mix Structural Adhesives feature special productspecific characteristics:

- high tensile, shear and impact strengths
- rapid strength build-up
- for indoor and outdoor use
- resistant to weather conditions and many chemicals
- grindable and overpaintable
- temperature resistant from -55°C to $+125^{\circ}\text{C}$ (-67 to $+257^{\circ}\text{F}$)

WEICON Easy-Mix Structural Adhesives can be applied universally and are equally suited for below listed areas of application:

- plastics engineering
- machine building
- model and mould construction
- metal construction
- electrical engineering
- car body and vehicle construction
- trade fair and exhibition



Processing:

The prerequisite for perfect adhesion are clean and dry surfaces (e.g. cleaning and degreasing with WEICON Surface Cleaner).

The best results are achieved when the surfaces to be bonded are mechanically roughened. Some low energy plastics, especially PTFE and polyolefines etc, can only be bonded after special surface treatment, e.g. fluorination, low-pressure plasma, corona, flame treatment or otherwise.

WEICON Easy-Mix System: Resin and hardener are cleanly and accurately automatically mixed and dosed in only one working operation. The adhesive is applied only on one side.

Double syringe 24 g (only type RK-7000): Resin and hardener are delivered automatically in the right proportions. They are afterwards applied by mixing both components.



Structural Acrylic Adhesives

RK-7000 / RK-7100

RK-7200

Easy-Mix RK-7000

Highly viscous, high strength, impact resistant, residual elasticity

RK-7000 can be used to bond numerous materials such as plastics, metals, wood and ceramics to themselves and among each other with high tensile, shear and peel strength.

WEICON RK-7000 can be used universally and, for example, in plastics technology, metal construction, car body and vehicle construction, machine construction, electrical engineering, wood processing and in trade show and exhibition construction.



24 ml ✓
10565024

50 ml ✓
10565050

Double cartridge



Technical Data

Basis	Methyl methacrylate
Mixing ratio Resin / Hardener	1 : 1
Colour after curing	cream white, milky
Density of the mixture	0,98 - 1,02 g/cm³
Pot life at +20°C (+68°F)	approx. 15 min.
Viscosity of the mixture	40.000 - 60.000 mPa·s
Handling strength (35%) after	approx. 40 min.
Mechanical loads (50% strength) after	approx. 60 min.
Final strength (100%) after	approx. 12 h
Adhesive gap bridging	0,1 - 5,0 mm
Average strength (+20°C/+68°F) acc. to DIN 53281-83	
on FVK (3 mm)	GRP 9 N/mm² (1.300 psi)
on plastics (0,76 mm)	PVC 17 N/mm² (2.500 psi)
on Aluminium (0,26 mm)	21 N/mm² (3.000 psi)
on Steel bright (0,26 mm)	19 N/mm² (2.800 psi)
on Stainless steel (0,26 mm)	17 N/mm² (2.500 psi)
on PMMA (0,76 mm)	18 N/mm² (2.600 psi)
Average E-module +20°C (+68°F)	1.400 - 1.700 N/mm² (200 - 250 ksi)
Shore hardness D DIN EN ISO 868	70
Tensile strength ISO 527 max.	20 N/mm² (2.900 psi)
Tensile Extension ISO 527 max.	35%
Temperature resistance	-55 to +125°C (-67 to +257°F)



24 ml

Easy-Mix RK-7100

Highly viscous, high strength, impact resistant, residual elasticity, pot life of around 5 minutes

WEICON Easy-Mix RK-7100 can be used to bond numerous materials such as plastics, metals, wood and ceramics to themselves and among each other with high tensile, shear and peel strength.

WEICON Easy-Mix RK-7100 can be used universally and, for example, in plastics technology, metal construction, car body and vehicle construction, machine construction, electrical engineering, model and mould making and in trade show and exhibition construction.



50 ml
10566050

Technical Data

Basis	Methyl methacrylate
Mixing ratio Resin / Hardener	1 : 1
Colour after curing	cream white, milky
Density of the mixture	0,98 - 1,02 g/cm³
Pot life at +20°C (+68°F)	approx. 5 min.
Viscosity of the mixture	40.000 - 60.000 mPa·s
Handling strength (35%) after	approx. 25 min.
Mechanical loads (50% strength) after	approx. 60 min
Final strength (100%) after	approx. 12 h
Adhesive gap bridging	0,1 - 5,0 mm
Average strength (+20°C/+68°F) acc. to DIN 53281-83	20 - 25
on FVK (3 mm)	GRP 8 N/mm² (1.200 psi)
on plastics (0,76 mm)	PVC 21 N/mm² (3.000 psi)
on Aluminium (0,26 mm)	24 N/mm² (3.500 psi)
on Steel bright (0,26 mm)	23 N/mm² (3.300 psi)
on Stainless steel (0,26 mm)	15 N/mm² (2.200 psi)
on PMMA (0,76 mm)	23 N/mm² (3.300 psi)
Average E-module +20°C (+68°F)	1.300 - 1.700 N/mm² (188 - 246 psi)
Shore hardness D DIN EN ISO 868	75
Tensile strength ISO 527 max.	22 N/mm² (3.200 psi)
Tensile Extension ISO 527 max.	30%
Temperature resistance	-55 to +125°C (-67 to +257°F)



Structural Acrylic Adhesives

RK-7000 / RK-7100

RK-7200

Easy-Mix RK-7200



Crystal clear, high strength, impact resistant, residual elasticity

Weicon Easy-Mix RK-7200 is a high strength, solvent-free and fast-curing structural adhesive. It is based on MMA (methyl methacrylate) and has an excellent adhesion on many materials.

Because of the crystal clear curing, RK-7200 is particularly suitable for transparent joints where the bonding seam should not be visible. This adhesive can also be used for structural bondings where a coloured adhesive would not fit optically to the construction parts.

Thus, transparent plastics like e. g. plexiglass (PMMA) and other materials can be bonded in a clean and appealing way.



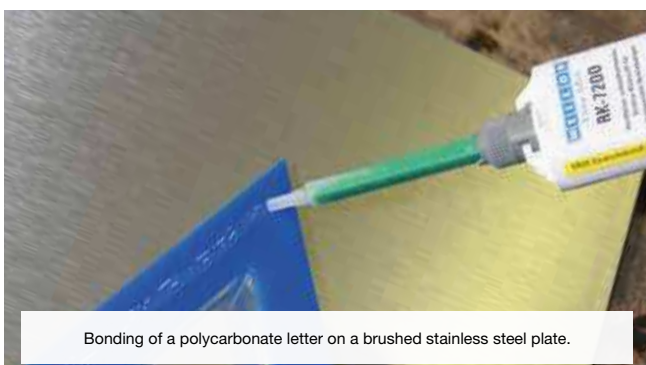
50 ml
10564050

Technical Data

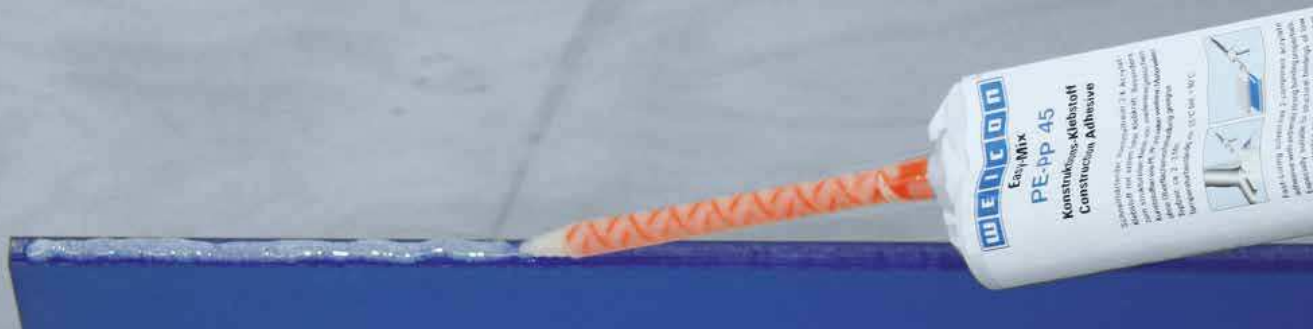
Basis	Methyl methacrylate
Mixing ratio Resin / Hardener	1 : 1
Colour after curing	crystal clear, transparent
Density of the mixture	1,1 g/cm ³
Pot life at +20°C (+68°F)	approx. 2-3 Min.
Viscosity of the mixture	5.000 - 10.000 mPa-s
Handling strength (35%) after	approx. 10 min.
Mechanical loads (50% strength) after	approx. 120 min
Final strength (100%) after	approx. 6 h
Adhesive gap bridging	0,1 - 2,0 mm
Average strength (+20°C/+68°F) acc. to DIN 53281-83	
on FVK (GFK-EP)	9 N/mm ² (1.300 psi)
on plastics (PVC)	4 N/mm ² (580 psi)
on Aluminium (0,26 mm)	18 N/mm ² (2.600 psi)
on Steel bright (0,26 mm)	23 N/mm ² (3.300 psi)
on Stainless steel (0,26 mm)	17 N/mm ² (2.500 psi)
on Acryl (PMMA)	3 N/mm ² (440 psi)
Average E-module +20°C (+68°F)	790 - 1.010 N/mm ² (115 - 146 ksi)
Shore hardness D DIN EN ISO 868	70 - 75 D
Tensile strength ISO 527 max.	18,5 N/mm ² (2.700 psi)
Tensile Extension ISO 527 max.	5,5%
Temperature resistance	-40 to +110°C (-40 to +230°F)



Bonding of a polycarbonate cube on glass.



Bonding of a polycarbonate letter on a brushed stainless steel plate.



Easy-Mix PE-PP 45

Fast, high strength, process-safe

WEICON Easy-Mix PE-PP 45 is a two-component construction adhesive on the basis of methyl acrylate. It is in particular suitable for structural, high-strength bonding of low energy plastics like PE, PP and TPE. A pre-treatment of the surfaces to be bonded is not required.

In addition, WEICON Easy-Mix PE-PP 45 can be used as „universal adhesive“ for plastics like:

- Rigid PVC (polyvinyl chloride)
- PA (polyamide)
- PC (polycarbonate)
- ABS (acrylonitrile-butadiene styrene)
- PMMA (polymethyl methacrylate)
- Fibre reinforced materials (GRP, CRP, fibre glass etc.) and many others.

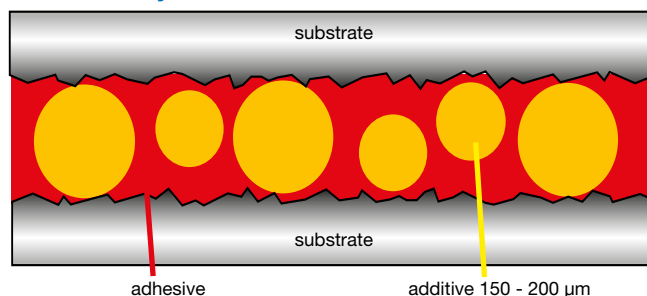


38 ml
10660038

WEICON Easy-Mix PE-PP 45 features the following characteristics:

- No pre-treatment of the parts to be bonded („integrated primer“)
- Short pot life and processing time
- Fast development of strength
- High final strength
- Curing with residual elasticity
- Aging resistant
- Chemical resistant
- Controlled bonding gap of min. 0.15-0.20 mm through special additives (glass beads)
- Pasty, stable

Graphical representation of a bonding gap with WEICON Easy-Mix PE-PP



Plastics like PE and PP are increasingly used in almost all industrial areas nowadays due to their specific properties, like plasticity, elasticity, breaking strength, and temperature, thermoforming, and chemical resistance.

For the adhesion of these plastics, the surfaces have had to be extensively pretreated until now, for example:

- Mechanically (grinding, sandblasting, etc.)
- Chemically (fluorination)
- Physically (flame treatment, corona, plasma)

With the new adhesive WEICON Easy-Mix PE-PP 45, these pretreatments are no longer required. The „primer integrated“ into the adhesive activates the surfaces and makes high-strength bonds possible.

WEICON Easy-Mix PE-PP 45 can be used for individual applications as well as for small-lot fabrication or industrial series production, e.g. bonding and repair of small appliances, signs and displays, loudspeaker parts, battery housings, plastic tanks and many other plastic parts..

Thanks to the modern mixing and dosing system WEICON Easy-Mix, the adhesive can be cleanly and accurately automatically dosed, mixed and applied in only one working step.



Switch housing made of flame-retarding ABS

Structural Acrylic Adhesives

PE-PP 45

Product advantages:

- ready for use
- dosing, mixing and application in just one working operation
- tedious mixing by hand is no longer necessary, so that no mixing and dosing mistakes are possible
- speedy in application, thus faster cycle times in series production are possible
- economical in use, due to minimal material wastage



Hand Dispenser PE-PP
10663038

Mixing Nozzles PE-PP
10660002

Special Piston
10663110

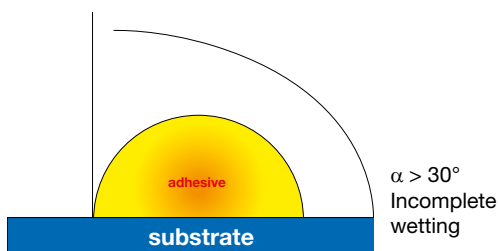
For retooling the Hand Dispenser Easy-MixD 50 to Easy-Mix PE-PP 45

Plastic adhesive bonds with WEICON Easy-Mix PE-PP 45

Difficulties in the adhesion of plastics arise from a low surface tension (low-energy) and the resulting incomplete wetting of the adhesive surface.

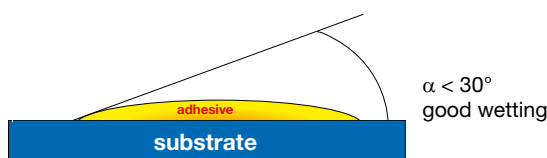
Incomplete wetting:

- Low surface tension of the material
- Low adhesive power



Good wetting:

- High surface tension of the material
- High adhesive power



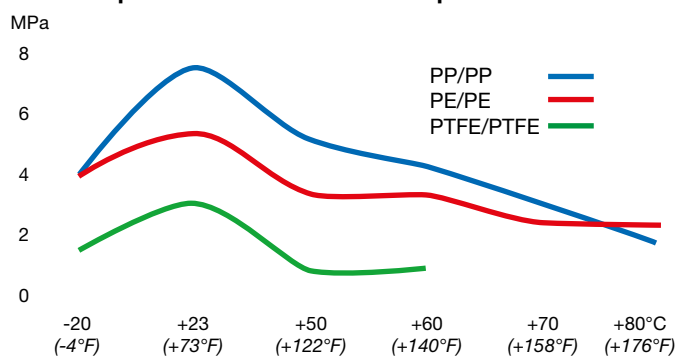
WEICON Easy-Mix PE-PP 45 increases the surface tension of low-energy plastics through a chemical interaction between the plastic and the adhesive („integrated primer“). PE and PP can thus be adhered at strengths up to material breakage.

Some materials and the values of their surface tension are listed in the following table. The lower the surface tension, the more difficult it is to adhere the materials.

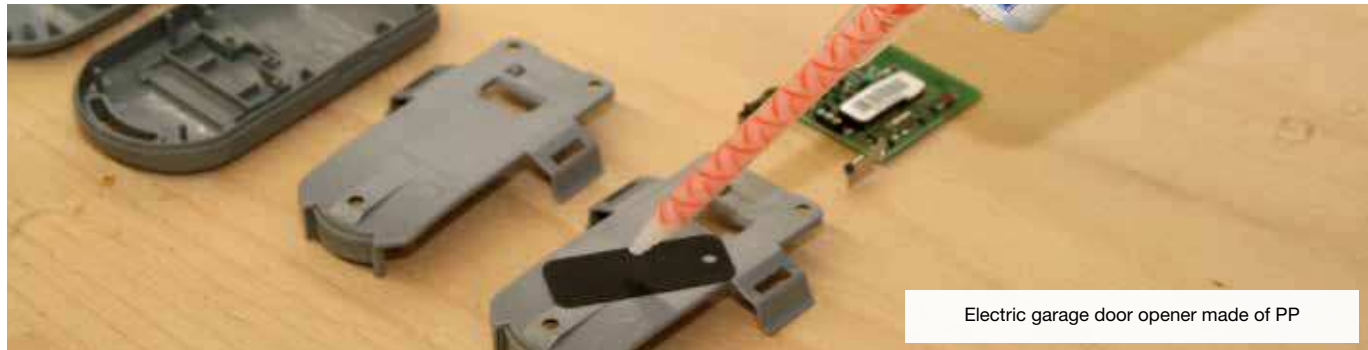
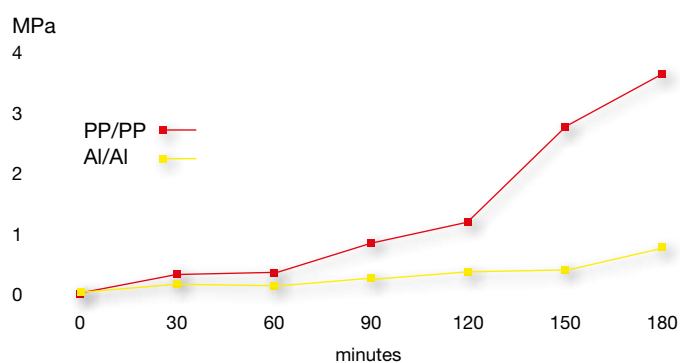
Material	Abbreviation	Surface Tension mN/m
Low surface tension (difficult to bond)		
Polypropylene	PP	29
Polyethylene	PE, HDPE	31
Polyester	PBT	32
Polyamide	PA	<36
Acrylic	PMMA	<36
Epoxy resin	EP	<36
Polycetal	POM	<36
High surface tension (easy to bond)		
Polystyrene	PS	38
Polyvinylchloride	PVC	39
Polyester	PET	41
Phenolic resin	PF	42
Polyurethane	PUR	43
Polycarbonate	PC	46
Water	H ₂ O	73
Aluminium	Al	840
Copper	Cu	1100
Iron	Fe	2550



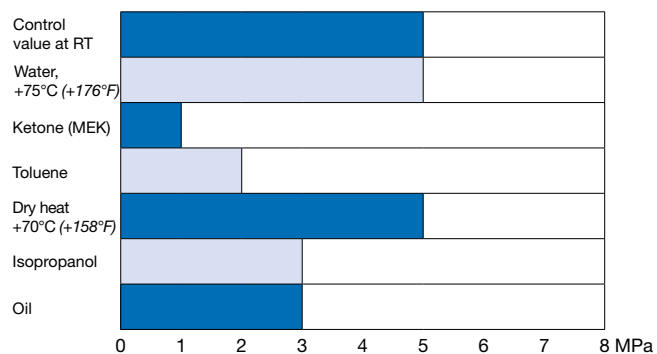
Tensile shear strength of WEICON Easy-Mix PE-PP 45 compliant with DIN 53283 in temperature curve



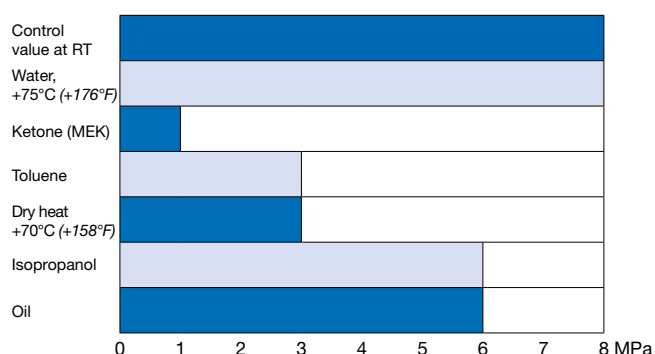
Strength development of WEICON Easy-Mix PE-PP 45 on tensile shear test samples compliant with DIN 53283



Ageing resistance of PE adhesive bonds
after storage in various media
(14 days at room temperature)



Ageing resistance of PP adhesive bonds
after storage in various media
(14 days at room temperature)



Specification of the test specimen:

Standard: DIN 53283
Adhesive surface: 12.5 mm x 25 mm
Adhesive thickness: 0.2 mm

Curing: 7 days at room temperature
Testing speed: 10 mm/min

Structural Acrylic Adhesives

PE-PP 45

Technical Data

WEICON Easy-Mix PE-PP 45 in liquid condition		
Basis:		Methyl methacrylate
Condition/Nature:		pasty
Supplied in:		double cartridge
Content:		38 ml
Mixing proportion by volume resin / hardener:		10 : 1
Pot life with 10 ml material and at +20°C (+68°F):		2 - 3 minutes
Density of the mixture:		1,07 g/cm³
Viscosity of the mixture at + 20°C (+68°F) Brookfield:		45.000 mPa·s
Temperature:	Processing, optimal:	+20°C to +25°C (+68 to +77°F)
	curing:	+15°C to +70°C (+59 to +158°F)
Colour before curing:		colourless, translucent
Bonding gap:	Processing, optimum:	0,2 - 0,3 mm
	Curing	1,0 mm
Cure time at + 20°C (+68°F)	Handling strength (35% strength) after:	2-3 hours (PP-PP) 6 hours (Alu-Alu)
	Mechanical loads (50% strength) after:	6 hours (PP-PP) 24 hours (Alu-Alu)
	Final strength (100% strength) after:	24 hours (PP-PP) 72 hours (Alu-Alu)
WEICON Easy-Mix PE-PP 45 in cured condition		
Average strength of the pure MMA adhesive in accordance with DIN 53281-83	Shore hardness D:	55
	Tensile strength:	13 MPa.S
	Max. expansion:	5,3 %
Colour after curing:		yellowish, transparent
Average tensile shear strength as per DIN 53283 on	ABS:	10,5 N/mm² (1.500 psi)
	GFK:	17,0 N/mm² (2.470 psi)
	GFK Gelcoat:	10,1 N/mm² (1.470 psi)
	PA 6.6 (30% glass fibre particles):	5,7 N/mm² (830 psi)
	PC:	5,9 N/mm² (860 psi)
	PE HD (high density):	7,4 N/mm² (1.070 psi)
	PE LD (low density):	2,8 N/mm² (410 psi)
	PE UHMW (ultrahigh molecular):	5,2 N/mm² (750 psi)
	PMMA:	6,6 N/mm² (960 psi)
	PP:	7,6 N/mm² (1.100 psi)
	PS:	5,3 N/mm² (770 psi)
	PVC:	14,1 N/mm² (2.050 psi)
	PTFE:	- N/mm²
	Aluminium:	15,7 N/mm² (2.280 psi)
	Glass:	4,5 N/mm² (650 psi)
	Copper:	15,7 N/mm² (2.280 psi)
	Bright steel:	17,2 N/mm² (2.490 psi)
	Steel, slightly oiled:	14,8 N/mm² (2.150 psi)
	VA steel:	15,9 N/mm² (2.300 psi)
Peel strength at +20°C (+68°F) (HDPE):		2,9 N/mm
Temperature resistance:		-50°C to +80°C (-58 to +176°F)
Thermoforming resistance:		+35°C (+95°F)
Coefficient of thermal expansion:	below T _g (<+35°C/+95°F):	125 x 10 ⁻⁶ /K
	above T _g (>+35°C/+95°F):	170 x 10 ⁻⁶ /K



Physiological properties / health and safety at work

WEICON Easy-Mix PE-PP 45, when properly handled and completely cured, is toxicologically essentially harmless. When using the adhesive, the physical, safety technical, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.

Storage

6 months at 0°C to +4°C (+32°F to +39°F)

3 months at +20°C to +25°C (+68°F to +77°F)

Processing:

The prerequisite for perfect adhesion are clean and dry surfaces (e.g. cleaning and degreasing with Cleaner S or Plastic Cleaner). Smooth surfaces can be roughened mechanically, for example with grinding paper grain size P 120.

WEICON Easy-Mix PE-PP 45 can only be processed with the WEICON Dispenser Pistol with special piston (10:1) and the special mixing nozzles for this system. It is absolutely essential that the mixing nozzle is put on correctly (details hereof can be found in the instructions for use attached to each packing unit).

Optimum processing is at room temperature (+20°C/+68°F to +25°C/+77°F).

WEICON Easy-Mix PE-PP 45 has a pot life and a processing time of approx. 2-3 minutes. Immediately after the application of the adhesive, the parts to be bonded should be joined, then positioned and fixed for curing.

The integrated additives (glass beads) provide a minimum thickness of the adhesive layer of 0.15 mm to 0.20 mm. This thickness is required for the chemical reaction between the adhesive and the plastic to be bonded. Best strength values are achieved with adhesive layers of 0.20 mm to 0.30 mm.



Car part made of PP

Structural Acrylic Adhesives

PE-PP 45

Chemical resistance of WEICON Easy-Mix PE-PP 45 after curing*

Acetone	+	Isopropyl acetate	+
Acidic vapours	+	Isopropyl alcohol	+
Alcohol	+	Isopropyl ether	+
Aliphatic hydrocarbons, (petroleum derivative)	+	Kerosene	+
Alkaline vapours	+	Ketone	+
Ammonia, ammonium chloride	+	Lubricating oils and grease	+
Ammonium chloride	+	Mercury	+
Aromatic hydrocarbons (benzoyl, methylbenzene, xylene)	0	Methanol (methyl alcohol)	+
Benzoyl	0	Methyl benzoyl	+
Benzoyl acid	+	Methyl chloride	0
Bilge medium (bilge water)	+	Methyl ethyl ketone	+
Brake fluid	+	Methyl isobutyl ketone, isopropyl acetone	+
Bromide solution	0	Methylene dichloride	+
Butyl alcohol (Isobutanol)	+	Mineral oil	+
Calcium chloride (sea salt)	+	Mineral turpentine	+
Calcium sulphate	+	Nitric acid 5%	+
Calcium sulphite	+	Nitric acid, fuming	-
Chlorinated hydrocarbon	+	Oxygen	-
Chlorinated salt water (swimming pool concentrate)	+	Ozone	-
Chlorinated solvent (dichloromethane)	-	Paraffin oil, kerosene	+
Chlorinated water (swimming pool concentration)	+	Perchlormethylmercaptan	+
Chlorine alcohol	+	Persulfuric acid 5%	+
Chlorine bleach	-	Petrol	+
Chlorine gas, liquid and dry	-	Phenol (Carbolic acid)	+
Chlorine sulphuric acid	-	Phenol resin	+
Chlorine, liquid and dry	-	Phosphoric acid 5%	+
Chloroform	+	Phthalic acid (benzene dicarboxylic acid)	+
Chromic acid 5%	+	Polyphosphoric acid 5%	+
Cooling lubricants	+	Potassium carbonate (potash)	+
Corrosive ammonium, ammonium hydroxide	0	Propyl alcohol	+
Cylinder oil	+	Selenium chloride	+
Dichloroethylene ether	+	Silicon oils	+
Epichlorohydrin	+	Sulphur dioxide, wet and dry	+
Freon	0	Sulphur trioxide gas	-
Fuel for jet or turbine engines	+	Sulphuric acid	0
Glycol, glycine	+	Sulphuric acid, fuming	-
Heating oil, diesel	+	Tannic acid (gallotannic acid)	0
Heptane	+	Toluene (methylbenzene)	0
Hydrochloric acid (muriatic acid)	0	Toluene sulphuric acid	0
Hydrocyanic acid, prussic acid 5%	+	Trichloroethylene	+
Hydrogen bromide 5%	+	Turpentine, Turpentine oil	+
Hydrogen chloride	+	Waste water, excrements	+
Hydrogen fluoride (hydrofluoric acid)	-	Water	+
Hydrogen peroxide	0	Water, boiling	0
Hydrogen sulphide, wet and dry	+	Water, distilled	+
Isobutyl alcohol (isobutene)	+	Xylene (dimethylbenzoyl)	0

+ = resistant

0 = resistant for a limited time

- = not resistant

*Storage of the test pieces was at +20°C (+68°F) chemical temperature.

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WEICON

2-Component Adhesives and Sealants

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DC/1060302/07/14/2