WEICON®

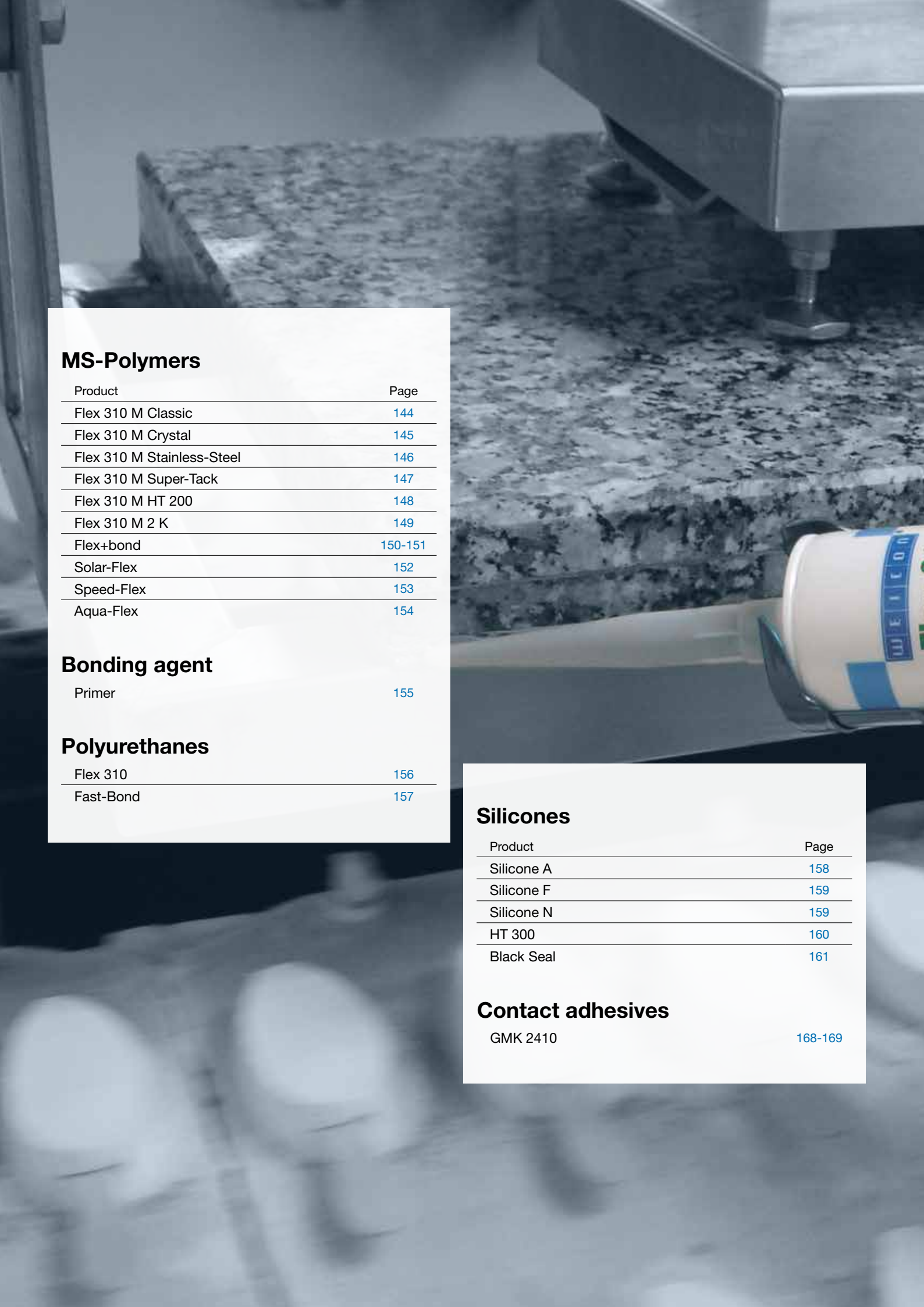
DANLUBE A/S

"Så ved du det holder"

GB

Elastic Adhesives and Sealants

www.weicon.com



MS-Polymers

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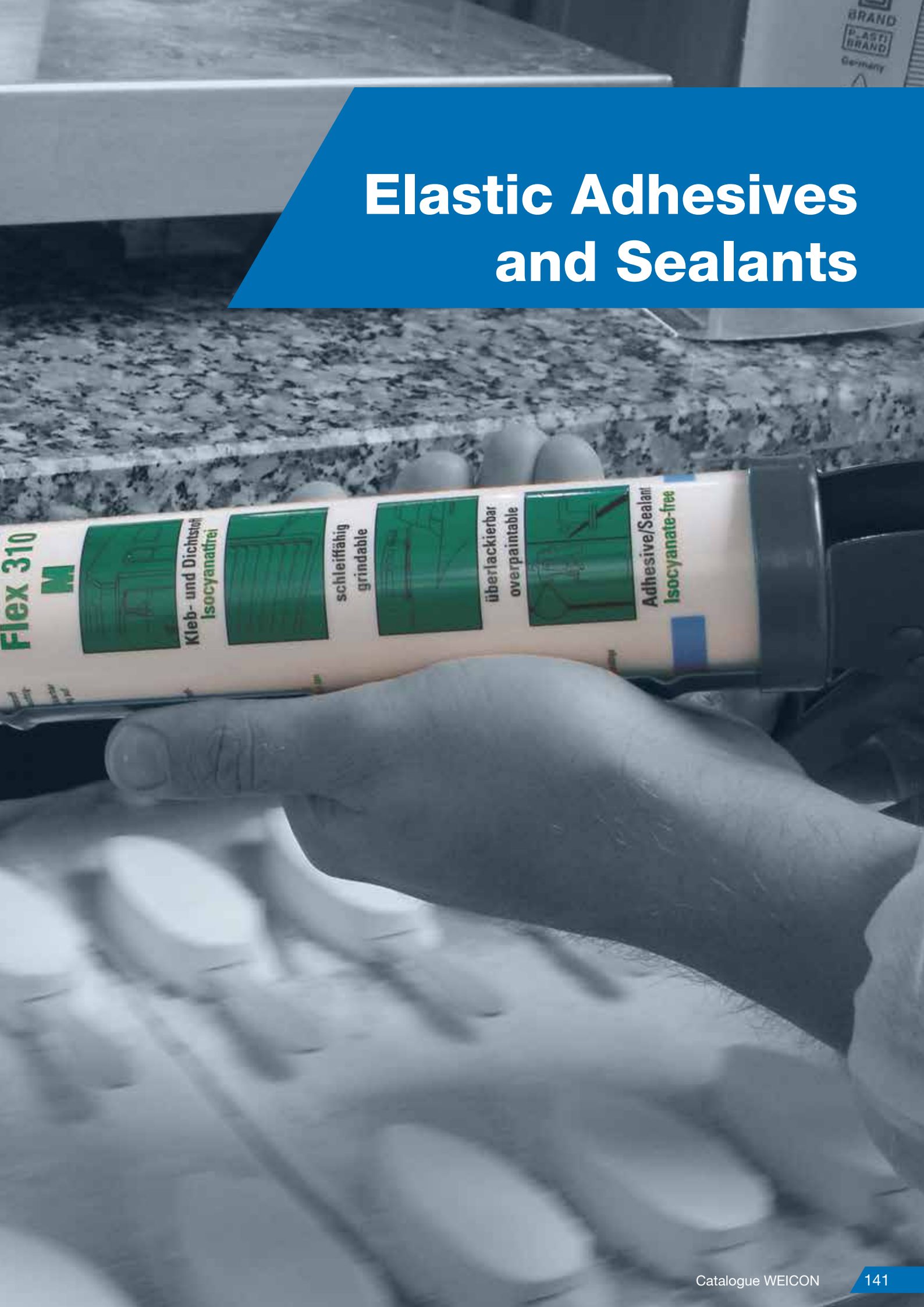

Elastic Adhesives and Sealants

Elastic Adhesives and Sealants

Elastic adhesives and sealants are used today in many areas of industrial production and assembly. They combine the advantages of adhesive bonding and sealing technology and are used wherever the elasticity and the sealing of a joint are the most important requirements.

The focus of such applications is generally not an extremely high load transmission. Rather, dynamic loads like vibrations and expansion of the joined parts are to be absorbed and compensated. The use of elastic adhesives and sealants offers the following advantages for the user:

- Reduction and compensation of tensions, which result due to different thermal expansion of differing materials (metal/plastic, metal/wood, metal/glass, etc.)
- Compensation of joint part tolerances
- Avoidance of material fatigue and breaks due to an even distribution of tension
- No thermal or mechanical impairment, and therefore no weakening of the jointed parts
- Prevents the unwanted penetration or escaping of materials, even with larger joints or adhesive gaps
- Material-integrated joints between the parts

WEICON adhesive and sealants are classified in three product groups with a differing chemical basis.

MS polymers:
- Strong adhesives and sealants for material-integrated joints of metals, plastics and many other substances
- High adhesive power, even without the use of adhesive primers
- Can be painted over (“wet in wet”)
- Free of silicone and isocyanate

Polyurethanes:
- Adhesives and sealants for a broad range of applications in the fields of metals and plastics processing
- Can be painted over (after curing)
- Sandable
- Silicone-free
- Odourless curing

Silicones:
- High-quality sealants for industrial applications
- Excellent UV, weathering and media resistance
- Resistant to aging
- Can be used in the temperature range up to + 300°C *(+572°F)*

Elastic Adhesives and Sealants

Optimum bonding results with elastic one-component adhesives and sealants from WEICON are dependent on the careful preparation of the surfaces. Dust, dirt, rust, oil and lubricants and other impurities (e.g. release agent) have a negative effect on adhesion.

Therefore, the following points must always be observed prior to use:

Surface preparation

The surfaces must be clean and grease-free. Many surface contaminants, e.g. oil, dust and dirt, can be removed with WEICON Surface Cleaner.

For heavily soiled metal surfaces, we recommend WEICON Cleaner Spray S; WEICON Sealant and Adhesive Remover is suitable for removing old paint or adhesive residues.

Surface pretreatment

Most materials can be bonded well to themselves and among each other. For certain materials or extreme requirements, we recommend the use of an adhesion agent (primer).

A mechanical surface pretreatment, e.g. sanding or sand-blasting, can considerably improve the adhesion.

Application

WEICON elastic one-component adhesives and sealants are supplied either in tubes or in Euro cartridges (Black- Seal also in 200 ml press pack). Euro cartridges are processed with a cartridge gun or with automatic dosing systems.

WEICON Speed-Flex should be applied only with professional-quality cartridge guns (WEICON Cartridge Gun „Special“).

Joining the parts to be bonded

To ensure optimum wetting, the parts must be joined before the first skin has been formed on the adhesive (skin-over time).

Curing

All elastic one-component adhesives and sealants from WEICON cure under the influence of humidity. The curing process starts at the surface and proceeds toward the inside. At 50 % relative humidity and +23°C *(+73°F)*, the cure speed is approx. 3 mm in the first 24 hrs.

The 2-K system cures through the chemical reaction (polimerisation) of the two components. Adhesive bonds of big surfaces and high layer thicknesses cure more slowly since the humidity can not penetrate so fast to the inside if the outer layers have already cured.

Higher temperatures or higher humidity accelerate the curing, while lower temperatures or low humidity slow it down.

Resistance

WEICON elastic one-component adhesives and sealants are resistant to a large number of media when applied properly and after complete curing.

Storage

When unopened and stored in a normal climate (+23°C/+*73°F* and 50 % rel. humidity), WEICON elastic one-component adhesives and sealants have a shelf life of 9 - 12 months, depending on the type.

Flex 310 M® Classic

Suitable for universal use

WEICON Flex 310 M Classic adhesive and sealant is strong, overpaintable (wet in wet), sandable, has outstanding aging stability and good resistance to UV rays. It is resistant to freshwater and salt water and is free of silicone, isocyanate, halogens or solvents.

The product has an ISEGA certificate and can be used as an adhesive in food technology.

Flex 310 M Classic is an elastic adhesive on an MS polymer basis and is suitable for the bonding of metals, many plastics, ceramic, wood, glass and stone.

WEICON Flex 310 M Classic can be used in metal construction, tank and apparatus engineering, carriage, vehicle and container construction, ventilation and air conditioning systems, in the electrical industry, yacht and boat construction and in all applications where silicones or products containing silicones are not suitable.

310 ml ✓ 13303310

310 ml ✓ 13305310

310 ml ✓ 13304310

*corresponds approximately to the specified RAL colours

ISEGA
Certificate of Conformity as an adhesive in food technology.

Technical Data

Basis	1 K-Polyoxypropylene
Density	1,44 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	1 mm
Processing temperature	+5 to +40°C *(+41 to +104°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	25 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-1%
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore Hardness A (DIN 53505/ASTM D 2240) ±5	42
Elongation at break (DIN 53504/ASTM D412)	650 %
Tensile strength of the pure adhesive/sealant	3,3 N/mm² *(479 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	2,1 N/mm² *(305 psi)*
Tear strength (DIN 53515/ASTM D 624)	20 N/mm² *(2.900 psi)*
Movement capacity max.	15 %
Temperature resistance	-40 to +90°C *(-40 to +194°F)* briefly to +130°C *(+266°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest after material app
Building material category (DIN 4102)	B 2

MS-Polymers

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Certificate of Conformity as an adhesive in food technology.

Flex 310 M® Crystal

Crystal-clear curing

310 ml
13308310
transparent

WEICON Flex 310 M Crystal adhesive and sealant is transparent, strong, overpaintable (wet in wet), sandable, has outstanding aging stability and good resistance to UV rays. It is resistant to freshwater and salt water and contains no silicone, isocyanate, halogens or solvents.

WEICON Flex 310 M Crystal has an ISEGA certificate and can be used as an adhesive in food technology.

WEICON Flex 310 M Crystal is an elastic adhesive on an MS polymer basis and is suitable for the bonding of glass, PC**, PMMA** and acrylic glass** (** = tension-free bonding only), metals, many plastics, ceramics, wood and stone. The product is crystal clear after curing and is particularly suited for elastic joints where the adhesive should or must not be visible.

Flex 310 M Crystal can be used in plastic processing, metal construction, tank and apparatus engineering, in ventilation and air conditioning systems, the electrical and lighting industry, in exhibition stand construction and shopfitting and in all applications where silicones or products containing silicones are not suitable.

** = Only tension-free bonding

Technical Data

Basis	1 K-Polyoxypropylene
Density	1,06 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	<1 mm
Processing temperature	+5 to +40°C *(+41 to +104°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	10 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-1%
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	40
Elongation at break (DIN 53504/ASTM D412)	300 %
Tensile strength of the pure adhesive/sealant	3,0 N/mm² *(435 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	2,0 N/mm² *(290 psi)*
Tear strength (DIN 53515/ASTM D 624)	19 N/mm² *(2.755 psi)*
Movement capacity max.	20%
Temperature resistance	-40 to +90°C *(-40 to +194°F)* briefly (approx. 2 hours) to +120°C *(+248°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest after material app
Building material category (DIN 4102)	B 2

Bonding of wall elements in the interior construction of an exhibition hall

Flex 310 M® Stainless-Steel

Suitable for universal use

WEICON Flex 310 M Stainless-Steel adhesive and sealant is non-corrosive, strong, overpaintable (wet in wet), sandable, resistant to ageing and UV rays and is free of silicone, isocyanate, halogens or solvents.

WEICON Flex 310 M Stainless-Steel has an ISEGA certificate and can be used as an adhesive in food technology.

WEICON Flex 310 M Stainless-Steel is an elastic adhesive on MS polymer basis and is suitable for bonding and sealing of seams and joints on metals such as stainless steel, aluminium and non-ferrous metals.

Flex 310 M Stainless-Steel can also be used in all application fields where the colour of the adhesive and sealant must match the surface material (e. g. stainless steel, aluminium, etc.).

290 ml
13656290
stainless steel:
RAL 9023*

*corresponds approximately to the specified RAL colours

ISEGA
Certificate of Conformity as an adhesive in food technology.

WEICON Flex 310 M Stainless-Steel can be used in metal construction, tank and apparatus engineering, food industry, in kitchen and sanitary installations, ventilation and air conditioning systems, and in all applications where silicones or products containing silicones are not suitable.

Technical Data

Basis	1 K.-MS Polymer
Density	1,06 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	<1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	10 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-3%
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	45
Elongation at break (DIN 53504/ASTM D412)	250%
Tensile strength of the pure adhesive/sealant	2,4 N/mm² *(348 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,8 N/mm² *(261 psi)*
Tear strength (DIN 53515/ASTM D 624)	10 N/mm² *(1.450 psi)*
Movement capacity max.	20%
Temperature resistance	-40 to +90°C *(-40 to +194°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest after material app
Building material category (DIN 4102)	B 2

Bonding of stainless steel elements in elevators

MS-Polymers

Flex 310 M® Super-Tack

High initial strength

WEICON Flex 310 M Super-Tack adhesive and sealant is very strong, non-corrosive, overpaintable (wet in wet), sandable, weather-resistant, resistant to UV rays and is free of silicone, isocyanate, halogens or solvents. Flex 310 M Super-Tack is a strong, elastic adhesive on an MS polymer basis. Both the very high initial bonding power and the fast development of adhesive strength enable bonds to be achieved even on vertical surfaces.

WEICON Flex 310 M Super-Tack is suitable for the bonding of metals, many plastics, ceramics, wood, glass and stone. It replaces screws, pegs, rivets and other traditional fixings.

Flex 310 M Super-Tack can be used for drywall and interior work, in metal construction, tank and apparatus engineering, ventilation and air conditioning systems, in yacht and boat constructions, exhibition stand construction and shopfitting and in all applications where silicones or products containing silicones are not suitable.

Technical Data

Basis	1 K.-MS Polymer
Density	1,62 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	<1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	10 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-2%
Gap filling up to max.	10 mm
Gap width up to max.	30 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	50
Elongation at break (DIN 53504/ASTM D412)	600%
Tensile strength of the pure adhesive/sealant	1,9 N/mm² *(276 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,5 N/mm² *(218 psi)*
Tear strength (DIN 53515/ASTM D 624)	13 N/mm² *(1.885 psi)*
Movement capacity max.	20%
Temperature resistance	-40 to +90°C *(-40 to +194°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest after material app
Building material category (DIN 4102)	B 2

290 ml
13650290

white: RAL 9003*

290 ml
13652290

grey: RAL 7000*

*corresponds approximately to the specified RAL colours

Flex 310 M® HT 200

High temperature resistant

WEICON Flex 310 M HT 200 adhesive and sealant is highly temperature resistant, overpaintable (wet in wet), sandable, has outstanding ageing resistance, and is free of silicone, isocyanate, halogens or solvents.

Flex 310 M HT 200 is an elastic adhesive on an MS polymer basis which can be used for structural bonding in industrial applications. The high temperature resistance also makes it possible to bond and seal components needing to be subsequently thermal-coated.

WEICON Flex 310 M HT 200 can be used in metal construction, in ventilation and air conditioning systems, carriage, container, wagon and vehicle construction and in all applications where silicones or products containing silicones are not suitable.

310 ml
13655310
grey: RAL 7000*

*corresponds approximately to the specified RAL colours

Technical Data

Basis	1 K.-MS Polymer
Density	1,41 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	<1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	10 min.
Cure speed (first 24h)	3-4 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	55
Elongation at break (DIN 53504/ASTM D412)	400%
Tensile strength of the pure adhesive/sealant	3,2 N/mm² *(464 psi)*
Tear strength (DIN 53515/ASTM D 624)	21 N/mm² *(3.045 psi)*
Temperature resistance	-40 to +90°C *(-40 to +194°F)*, 45 min. +180°C *(+356°F)*, 30 min. +200°C *(+392°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest after material app
Thermal coating / powder coating	only after total cure
Building material category (DIN 4102)	B 2

Sealing of a joint gap with subsequent powder coating

Sealing of a welding seam on a powder-coated rolling gate

MS-Polymers

Flex 310 M® 2 K

Fast-curing

The WEICON Flex 310 M 2 K adhesive and sealant is very strong, non-corrosive, overpaintable (wet in wet), sandable, weather-resistant, resistant to UV rays and is free of silicone, isocyanate, or solvents.

Flex 310 M 2 K is a strong 2-component system on a hybrid polymer basis which enables full-surface bonding of larger parts and which can be used to fill gaps of up to ten millimetres. It is suitable for the bonding of almost all materials such as metal and many plastics.

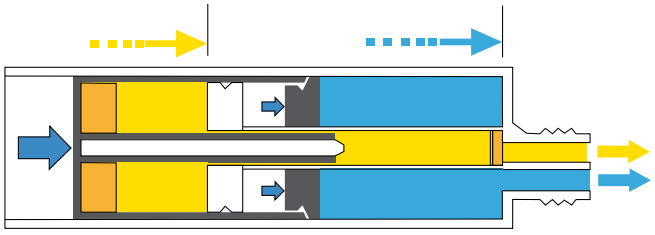
WEICON Flex 310 M 2 K can be used in metal construction, tank and apparatus engineering, machine and system construction, in the furniture industry, in ventilation and air conditioning systems, in the electrical industry, yacht and boat construction and in all applications where silicones or products containing silicones are not suitable.

250 ml
13305250
grey

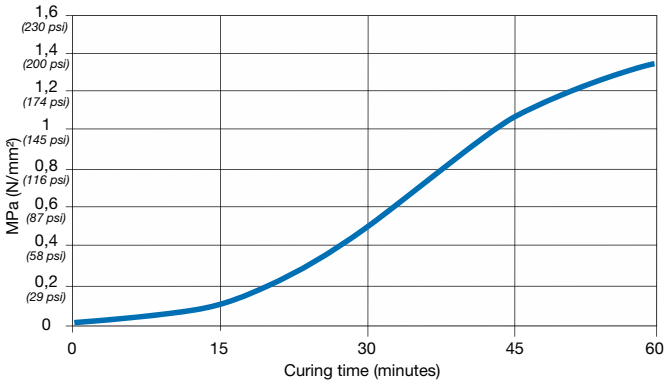
Special Mixing Nozzle
13309997

Technical Data

Basis	2-K-hybrid-Polymer
Density	1,40 g/cm³
Viscosity	solid paste
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Pot life (at +23°C/+73°F and 50% rel. air humidity)*	approx. 5 min.
Working time*	approx. 10 min.
Set to load bearing*	approx. 60 min.
Cure type	chemical polymerisation
Volume change (DIN 52451)	approx. -1%
Gap filling up to max.	10 mm
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	40
Elongation at break (DIN 53504/ASTM D412)	350%
Tensile strength of the pure adhesive/sealant	2,2 N/mm² *(319 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,3 N/mm² *(189 psi)*
Temperature resistance	-40 to +90°C *(-40 to +194°F)*
Building material category (DIN 4102)	B 2 (normally inflammable)



Strength development Flex 310 M 2 K



WEICON Flex 310 M® 2 K fast-curing in non-cured condition		
Chemical basis		2-K-hybrid-Polymer
Density g/cm³ (DIN 53504)		1,40
Viscosity		solid paste
Mixing ratio (volume)		1 : 1
Processing temperature		+5°C to +35°C *(+41 to +95°F)*
Cure type		chemical polymerisation
Pot life*¹		approx. 5 minutes
Final hardness*¹		approx. 60 minutes
Volume change (DIN 52451)*¹		approx. -1 %
Gap filling		1,0 mm to max 10,0 mm
WEICON Flex 310 M® 2 K fast-curing in cured condition		
Shore-A-Hardness (DIN 53505 / ASTM D 2240) +/- 5)		40
Elongation at break % (DIN 53504 / ASTM D 412)		350
Tensile strength of the pure adhesive/sealant (DIN 53504 / ASTM D 412)		2,2 N/mm² *(320 psi)*
Average tensile shear strength*² (DIN 51504)		1,3 N/mm² *(190 psi)*
Fungicide		No
Temperature resistance		-40°C to +90°C *(-40 to +194°F)*
36 months outdoor exposure test	UV resistance	good
	Discolouring	slight
	Crack formation	none
	Dust absorption	slight
Building material category		B 2 (normally inflammable)

85 ml
13350085
white: RAL 9003*

85 ml
13352085
black: RAL 9004*

85 ml
13351085
grey: RAL 7000*

85 ml
13353085
transparent

*corresponds approximately to the specified RAL colours

13359185

Sales display

with each 5 x 85 ml in the colours:

white,
black,
grey and
transparent

Elastic Adhesives and Sealants

MS-Polymers

Flex+bond®

Highly elastic and strong

WEICON Flex+bond is strong, permanently elastic, temperature resistant from -40°C to +90°C (up to +130°C for short periods), weather resistant, resistant to UV rays, over-paintable (wet in wet), sandable, and resistant to ageing and salt water. It is free of silicone, isocyanate, halogens and solvents.

WEICON Flex+bond has an ISEGA certificate and can be used as an adhesive in foodstuff technology.

WEICON Flex+bond can be used to bond nearly all materials to themselves and among each other such as metal, wood, plastic, glass, and ceramics.

Technical Data

	white, black, grey	transparent
Basis	1 C.-Polyoxypropylene	
Density	1,44 g/cm³	1,06 g/cm³
Viscosity	pasty	
Stability/Run-off (ASTM D 2202)	1 mm	<1 mm
Processing temperature	+5 to +40°C *(+41 to +104°F)*	
Cure type	by humidity	
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30 % to 95 % rel. humidity	
Skin-overtime	25 min.	10 min.
Cure speed (first 24h)	2-3 mm	
Volume change (DIN 52451)	-1 %	
Gap filling up to max.	5 mm	
Gap width up to max.	25 mm	
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months	
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	42	40
Elongation at break (DIN 53504/ASTM D412)	650%	300%
Tensile strength of the pure adhesive/sealant	3,3 N/mm² *(479 psi)*	3,0 N/mm² *(435 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	2,1 N/mm² *(305 psi)*	2,0 N/mm² *(290 psi)*
Tear strength (DIN 53515/ASTM D 624)	20 N/mm² *(2.900 psi)*	19 N/mm² *(2.755 psi)*
Movement capacity max.	15 %	20 %
Temperature resistance	-40 to +90°C *(-40 to +194°F)*	
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest material app	
Building material category (DIN 4102)	B 2	

ISEGA

Certificate of Conformity as an adhesive in food technology.

Solar-Flex®

Developed for solar industry

WEICON Solar-Flex® is strong, non-corrosive, overpaintable (wet in wet), weather-resistant and resistant to UV rays. It is free of silicone, isocyanate, halogens and solvents.

WEICON Solar-Flex® is an elastic adhesive on a MS polymer basis specially developed for the solar industry.

Both the very high initial bonding power and the fast development of adhesive strength enable bonds to be achieved even on vertical surfaces. Replaces traditional fixings in the assembly of solar and photovoltaic power systems.

290 ml
13750290
white: RAL 9003*

290 ml
13752290
grey: RAL 7000*

*corresponds approximately to the specified RAL colours

Technical Data

Basis	1 K.-MS Polymer
Density	1,62 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	<1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95 % rel. humidity
Skin-overtime	10 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-2 %
Gap filling up to max.	10 mm
Gap width up to max.	30 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	50
Elongation at break (DIN 53504/ASTM D412)	600%
Tensile strength of the pure adhesive/sealant	1,9 N/mm² *(276 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,5 N/mm² *(218 psi)*
Tear strength (DIN 53515/ASTM D 624)	13 N/mm² *(1.885 psi)*
Movement capacity max.	20%
Temperature resistance	-40 to +90°C *(-40 to +194°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest
Building material category (DIN 4102)	B 2

KUNSTSTOFF INSTITUT LÜDENSCHEID

TÜVRheinland®
Genau. Richtig.

MS-Polymers

ISEGA
Certificate of Conformity as an adhesive in food technology.

Technical Data

Basis	1 K.- MS Polymer
Density	1,60 g/cm³
Viscosity	extremely pasty
Stability/Run-off (ASTM D 2202)	<1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	10 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-1 %
Gap filling up to max.	5 mm
Gap width up to max.	5 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	58
Elongation at break (DIN 53504/ASTM D412)	230%
Tensile strength of the pure adhesive/sealant	2,2 N/mm² *(319 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,3 N/mm² *(189 psi)*
Tear strength (DIN 53515/ASTM D 624)	10 N/mm² *(1.450 psi)*
Movement capacity max.	15%
Temperature resistance	-40 to +80°C *(-40 to +176°F)*, briefly (approx. 2 hours) to +120°C *(+248°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest
Building material category (DIN 4102)	B 2

310 ml
13600310
white: RAL 9003*

310 ml
13602310
grey: RAL 7000*

*corresponds approximately to the specified RAL colours

Speed-Flex®

Replaces traditional fixings

WEICON Speed-Flex is very strong, pasty, stable, overpaintable (wet in wet), resistant to ageing, weathering, and UV rays and is free of silicone, isocyanate and halogen.

WEICON Speed-Flex has an ISEGA certificate and can be used as an adhesive in foodstuff technology.

WEICON Speed-Flex is an adhesive on an MS polymer basis with extremely strong initial strength and is suitable for the bonding of metals, many plastics, ceramics, wood, glass and stone.

Speed-Flex replaces traditional fixings such as screws, pegs, rivets, etc.
The very high initial strength makes bonding possible even on vertical surfaces in indoor and outdoor areas.

WEICON Speed-Flex can be used for drywall and interior work, metal construction, tank and apparatus engineering, in ventilation and air conditioning systems, in exhibition stand construction and shopfitting and in all applications where silicones or products containing silicones are not suitable.

Cartride gun
WEICON „Special“

Aqua-Flex

Ideal for wet and moist surfaces

WEICON Aqua-Flex adhesive and sealant is strong, overpaintable (wet in wet), has outstanding ageing stability, and is resistant to weathering, UV rays, freshwater and salt water. It is free of silicone, isocyanate, halogens or solvents.

Aqua-Flex has an ISEGA certificate and can be used as an adhesive in foodstuff technology.

WEICON Aqua-Flex is an elastic adhesive and sealant on MS polymer basis for wet and damp substrates. It is suitable for the bonding of numerous materials such as metal, plastic, ceramics, wood, glass and stone.

Aqua-Flex can be used for pipeline and cable work, tank and apparatus engineering, in ventilation and air conditioning systems, gardening and landscaping, in sanitary installations and in all applications where silicones or products containing silicones are not suitable.

310 ml
13700310
white: RAL 9003*

310 ml
13701310
black: RAL 9004*

310 ml
13702310
grey: RAL 7000*

*corresponds approximately to the specified RAL colours

ISEGA
Certificate of Conformity as an adhesive in food technology.

Technical Data

Basis	1 K.-MS Polymer
Density	1,44 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	1 mm
Processing temperature	+5 to +40°C *(+41 to +104°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	25 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-1%
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	42
Elongation at break (DIN 53504/ASTM D412)	650%
Tensile strength of the pure adhesive/sealant	3,3 N/mm² *(479 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	2,1 N/mm² *(305 psi)*
Tear strength (DIN 53515/ASTM D 624)	20 N/mm² *(2.900 psi)*
Movement capacity max.	15 %
Temperature resistance	-40 to +90°C *(-40 to +194°F)*, briefly (approx. 2 hours) +130°C *(+266°F)*
Overpaintable (liquid paint)	Only „wet in wet“, within 3 hrs. at the latest
Building material category (DIN 4102)	B 2

Elastic Adhesives and Sealants

MS-Polymers

Primer

Bonding agent

Even without the use of a primer, WEICON Elastic Adhesives and Sealants (on the basis of MS and hybrid polymers) achieve good bonding results on most material surfaces.

In order to obtain an even higher bonding strength, special primers for different materials are available (see table). In applications with low-energy plastics like PE, PP, TPE, etc., satisfying bonding results are only possible if a primer is used.

The primers available from WEICON are adjusted to a variety of materials and their different surface structure.

WEICON Primer M 100 250 ml
13550125

For pre-treating non-absorbent metal surfaces (aluminium, steel, stainless steel, brass, copper, zinc, tinplate), plastics (ABS, rigid PVC, PA 6.6, FRP, SMC, PUR), lacquered surfaces, enamel, ceramic, and glass

WEICON Primer K 200 250 ml
13550225

For pre-treating non-absorbent and lacquered surfaces, plastic materials (ABS, rigid PVC, PA 6.6, FRP, SMC, PUR), metals (aluminium, steel, stainless steel, brass, zinc, tinplate) and elastomers (EPDM).

WEICON Primer S 300 250 ml
13550325

For pre-treating non-absorbent and lacquered surfaces, plastic materials (ABS, rigid PVC, PA 6.6, FRP, SMC, PUR), metals (aluminium, steel, stainless steel, brass, zinc, tinplate) and elastomers (EPDM).

WEICON Primer P 400 250 ml
13550425

For pre-treating non-absorbent low-energy surfaces, like e. g. plastics (PE, PP, TPE) and elastomers (EPDM).

Woll cloth 13955050

For application of WEICON Primer.

Technical Data	M 100	K 200	S 300	P 400
Basis:	Synthetic resin, with solvents	Synthetic resin, with solvents	Polyurethane, with solvents	rubber, with solvents and chloric
Colour:	colourless, transparent	colourless, transparent	yellowish, transparent	amber, transparent
Content:	250 ml			
Density (g/cm³):	0,79	0,77	1,03	0,80
Consumption (g/m²):	20 - 40	20 - 40	80 - 200	20 - 60
Processing temperature:	+10°C to +25°C *(+50°F to +77°F)*	+10°C to +35°C *(+50°F to +95°F)*	+5°C to +25°C *(+41°F to +77°F)*	-15°C to +35°C *(+5°F to +95°F)*
Evaporation time (min):	approx. 10	approx. 10	approx. 60	approx. 10 - 60
Period of use (hrs.):	24	24	4	1
Suited for:	WEICON Adhesives and Sealants (except Silicones) WEICON Urethane			

Flex 310 PU

Polyurethane

WEICON Flex 310 PU adhesive and sealant is permanently elastic, strong, overpaintable, and resistant to weather, UV rays, freshwater and salt water. It is free of silicone.

Flex 310 PU is an elastic adhesive and sealant on Polyurethane basis (PUR) for the bonding and sealing of numerous materials such as metals, plastics, ceramics, wood, glass and stone.

Flex 310 PU can be used in tank and apparatus engineering, carriage, container and vehicle construction, in ventilation and air conditioning systems, the energy and electrical industry and in all applications where silicones or products containing silicones are not suitable.

300 ml	300 ml	300 ml
13300310	13301310	13302310
white: RAL 9003*	**black: RAL 9004***	grey: RAL 7000*

*corresponds approximately to the specified RAL colours

ISEGA
Certificate of Conformity as an adhesive in food technology.

Technical Data

Basis	1 K.-Polyurethane
Density	1,17 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	1 mm
Processing temperature	+5 to +40°C *(+41 to +104°F)*
Cure type	by humidity
Curing condition	+5 to +35°C *(+41 to +95°F)* and 40% to 70 % rel. humidity
Skin-overtime	45 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-6%
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	9 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	45
Elongation at break (DIN 53504/ASTM D412)	450%
Tensile strength of the pure adhesive/sealant	2,0 N/mm² *(290 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,6 N/mm² *(232 psi)*
Tear strength (DIN 53515/ASTM D 624)	9 N/mm² *(1.305 psi)*
Movement capacity max.	10%
Temperature resistance	-40 to +90°C *(-40 to +194°F)*, briefly (approx. 2 hours) +120°C *(+248°F)*
Overpaintable (liquid paint)	„wet in wet“ or after complete curing
Building material category (DIN 4102)	B 2

Joint sealing at transition between MDF panel and zinc plate

Polyurethanes

Fast-Bond

Fast-curing, one-component structural and assembly adhesive for universal use on polyurethane basis (PUR)

Fast-Bond structural and assembly adhesive is strong, overpaintable, sandable, and resistant to weathering, UV rays, freshwater and salt water. It is free of silicone or solvents.

WEICON Fast-Bond is suitable for the bonding of MDF panels, wood panels, chipboards, fibre and plaster boards, concrete, marble, natural and artificial stone, ceramics, gypsum, metals and rigid foams.

310 ml

13309310

beige: RAL 9010*

*corresponds approximately to the specified RAL colours

Technical Data

Basis	1 K.-Polyurethane
Density	1,50 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	>1 mm
Processing temperature	+5 to +40°C *(+41 to +104°F)*
Cure type	by humidity
Curing condition	+5 to +35°C *(+41 to +95°F)* and 40% to 70% rel. humidity
Skin-overtime	3 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	Increase %
Gap filling up to max.	10 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Tensile strength of the pure adhesive/sealant	10 N/mm² *(1.450 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	11 N/mm² *(1.595 psi)*
Temperature resistance	-30 to +100°C *(-22 to +212°F)* WATT 91°C *(+196°F)*
Overpaintable (liquid paint)	„wet in wet“ or after complete curing
Building material category (DIN 4102)	B 2

Bonding of hard foam panels on aerated concrete

Silicone A

Acetate cross-linking

WEICON Silicone A adhesive and sealant contains no solvents, has acetate-cross-linking properties, is strong, permanently elastic, resistant to ageing and chemicals, temperature resistant up to +200°C *(+392°F)*, extremely elastic (breaking elongation >500%) and can be used universally.

Silicone A adheres very well to steel, aluminium, glass, ceramics, and many additional materials.

WEICON Silicone A can be used in machine and system construction, ventilation and air conditioning systems, in the energy and electrical industry, in exhibition construction and shopfitting and in many additional industrial applications.

310 ml
13001310
white: RAL 9003*

310 ml
13003310
black: RAL 9017*

310 ml
13002310
grey: RAL 7004*

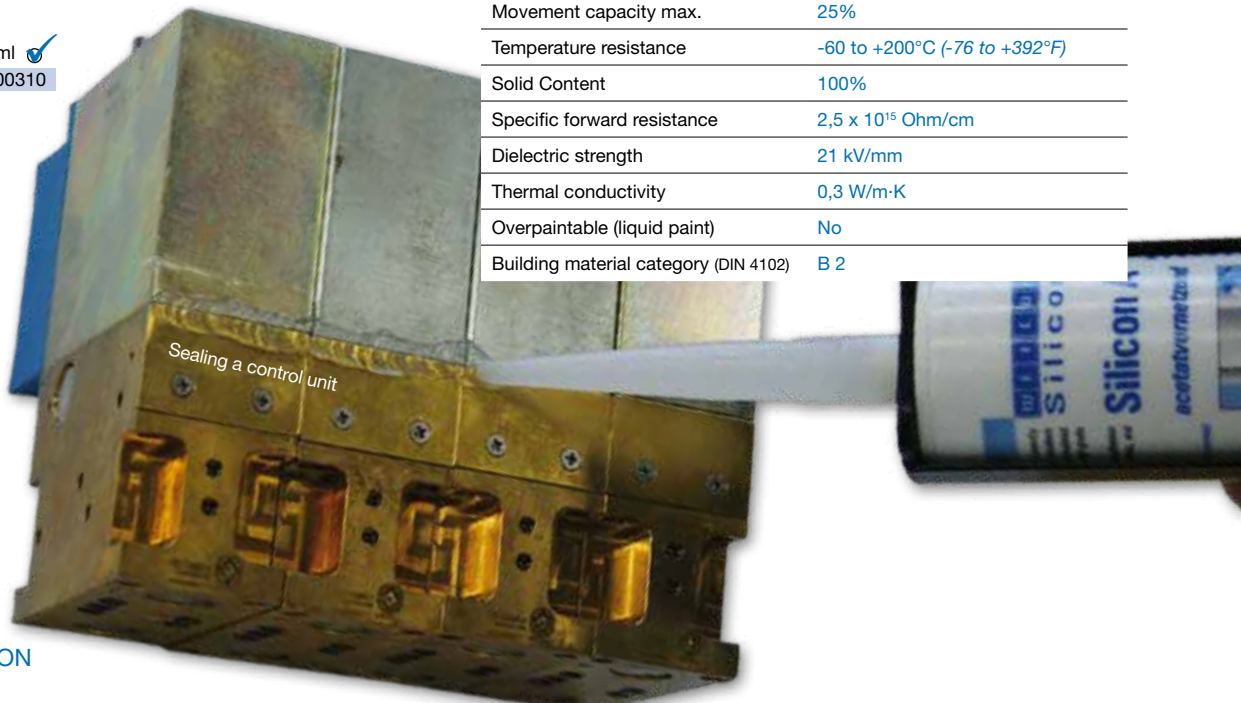
85 ml
13000085
transparent

310 ml
13000310

*corresponds approximately to the specified RAL colours

Technical Data

Basis	1 K.-Polysiloxan (Acetat)
Density	1,03 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95 % rel. humidity
Skin-overtime	7 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-1 %
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	20
Elongation at break (DIN 53504/ASTM D412)	>500%
Tensile strength of the pure adhesive/sealant	1,3 N/mm² *(189 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	0,8 N/mm² *(116 psi)*
Tear strength (DIN 53515/ASTM D 624)	4,0 N/mm² *(580 psi)*
Movement capacity max.	25%
Temperature resistance	-60 to +200°C *(-76 to +392°F)*
Solid Content	100%
Specific forward resistance	2,5 x 10¹⁵ Ohm/cm
Dielectric strength	21 kV/mm
Thermal conductivity	0,3 W/m·K
Overpaintable (liquid paint)	No
Building material category (DIN 4102)	B 2



Silicones

Technical Data

	Silicone F	Silicone N
Basis	1 K.-Polysiloxane (Acetate)	1 K.-Polysiloxan (Oxime)
Density	1,03 g/cm³	
Viscosity	11.000 mPa·s	pasty
Stability/Run-off (ASTM D 2202)	liquid	1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*	
Cure type	by humidity	
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity	
Skin-overtime	15 min.	7 min.
Cure speed (first 24h)	2-3 mm	
Volume change (DIN 52451)	-9%	-2%
Gap filling up to max.	2 mm	5 mm
Gap width up to max.	---	25 mm
Shelflife (+5 up to +25°C/ *+41 up to +77°F*)	9 months	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	23	25
Elongation at break (DIN 53504/ASTM D412)	370%	800%
Tensile strength of the pure adhesive/sealant	1,8 N/mm² *(261 psi)*	1,3 N/mm² *(189 psi)*
Average tensile shear strength (DIN 53283/ ASTM D 1002)	0,8 N/mm² *(116 psi)*	
Tear strength (DIN 53515/ASTM D 624)	3,6 N/mm² *(261 psi)*	6,0 N/mm² *(870 psi)*
Movement capacity max.	---	25%
Temperature resistance	-50 bis +180°C *(-58 bis +356°F)*	
Solid percentage	90%	100%
Specific forward resistance	7 x 10¹⁴ Ohm/cm	7 x 10¹⁶ Ohm/cm
Dielectric strength	16 kV/mm	15 kV/mm
Thermal conductivity	0,3 W/m·K	
Overpaintable (liquid paint)	No	
Building material category (DIN 4102)	B 2	

Silicone F

Liquid, self-levelling

310 ml
13200310
transparent

WEICON Silicone F casting and sealing compound is liquid, self-levelling, spreadable, free of solvents and has acetate-cross-linking properties. It is resistant to weathering and ageing, temperature resistant up to +180°C *(+356°F)*, extremely elastic (breaking elongation of approx. 370%) and can be used universally.

Silicone F can be specially used for elastic bonds, insulation and impregnation and even for the sealing and casting (max. 10 mm) of technical components. It adheres well to steel, aluminium, glass, ceramics, and many additional materials.

Silicone F can be used in machine and system construction, in plastic processing, the energy and electrical industry, in exhibition construction and shopfitting and in many additional industrial areas.

Silicone N

Neutral-curing

310 ml
13400310
transparent

WEICON Silicone N adhesive and sealant is free of solvents, is neutrally vulcanizing, strong, permanently elastic, resistant to weathering, ageing and chemicals, temperature resistant up to +180°C *(+356°F)*, extremely elastic (breaking elongation of approx. 800%) and can be used universally.

Silicone N adheres very well to all metals, glass, ceramics, and many additional materials.

WEICON Silicone N can be used in plastic processing, the electrical industry, energy technology, the lighting industry, exhibition construction and shopfitting and in many additional industrial areas.

HT 300

High temperature resistant

WEICON HT 300 adhesive and sealant is red, high-temperature resistant (+300°C/*+572°F*), free of solvents, strong, and has acetate-cross-linking properties. It is resistant to weathering, ageing and chemicals and is extremely elastic (breaking elongation of approx. 500%).

HT 300 is particularly suitable for heat-exposed bonds and seals and adheres very well to steel, aluminium, glass, ceramics and many additional materials.

HT 300 can be used in industrial furnaces, flue gas systems, heating installations, exhaust gas routing, heating cabinets and in many additional areas.

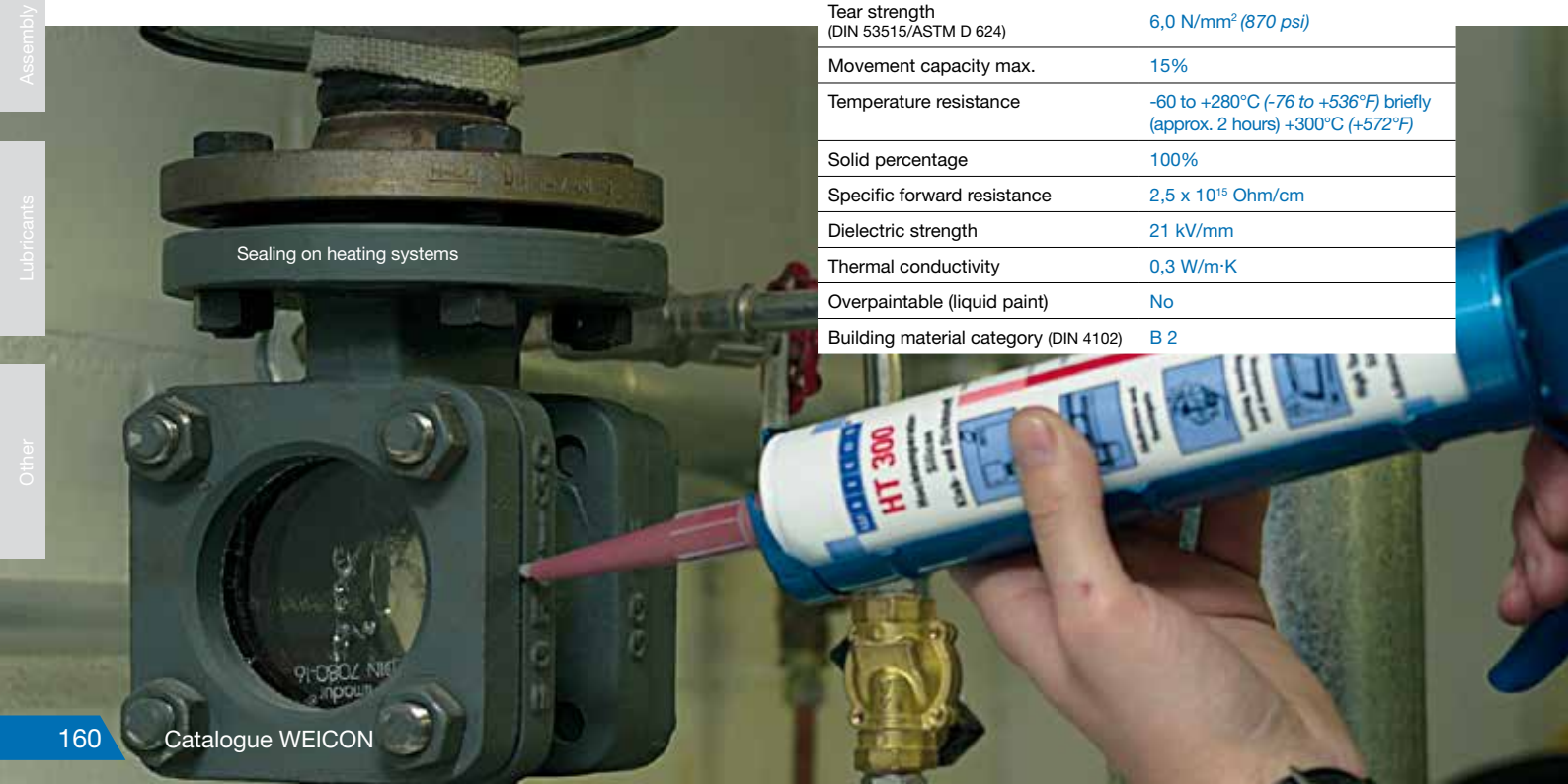
85 ml	310 ml
13050085	13050310

red: RAL 3016*

*corresponds approximately to the specified RAL colours

Technical Data

Basis	1 K.-Polysiloxane (Acetate)
Density	1,28 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	12 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-1%
Gap filling up to max.	5 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	35
Elongation at break (DIN 53504/ASTM D412)	500%
Tensile strength of the pure adhesive/sealant	2,0 N/mm² *(290 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	1,3 N/mm² *(189 psi)*
Tear strength (DIN 53515/ASTM D 624)	6,0 N/mm² *(870 psi)*
Movement capacity max.	15%
Temperature resistance	-60 to +280°C *(-76 to +536°F)* briefly (approx. 2 hours) +300°C *(+572°F)*
Solid percentage	100%
Specific forward resistance	2,5 x 10¹⁵ Ohm/cm
Dielectric strength	21 kV/mm
Thermal conductivity	0,3 W/m·K
Overpaintable (liquid paint)	No
Building material category (DIN 4102)	B 2



Sealing on heating systems

Silicones

Black-Seal

Extremely resistant against oil and grease

WEICON Black-Seal adhesive and sealant is black, high-temperature resistant (+280°C/*+536°F*), free of solvents, strong, oil-resistant, grease-resistant, pressure-resistant, resistant to ageing and extremely elastic (breaking elongation of approx. 500%).

Black-Seal is suitable for bonding and sealing in applications where particularly high oil and grease resistance is required.

WEICON Black-Seal can be used on gearbox, valve and casing covers, oil sumps, water pumps, gears and axles, flanges, tanks and containers, and in many other areas.

black: RAL 9005*

*corresponds approximately to the specified RAL colours

85 ml	200 ml	310 ml
13051085	13051200	13051310
tube	press pack	cartridge

Technical Data

Basis	1 K.-Polysiloxane (Acetate)
Density	1,06 g/cm³
Viscosity	pasty
Stability/Run-off (ASTM D 2202)	>1 mm
Processing temperature	+5 to +35°C *(+41 to +95°F)*
Cure type	by humidity
Curing condition	+5 to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity
Skin-overtime	7 min.
Cure speed (first 24h)	2-3 mm
Volume change (DIN 52451)	-3%
Gap filling up to max.	5 mm
Gap width up to max.	25 mm
Shelflife (+5 up to +25°C/*+41 up to +77°F*)	12 months
Shore-A-Hardness (DIN 53505/ASTM D 2240) ±5	30
Elongation at break (DIN 53504/ASTM D412)	500%
Tensile strength of the pure adhesive/sealant	2,0 N/mm² *(290 psi)*
Average tensile shear strength (DIN 53283/ASTM D 1002)	0,7 N/mm² *(102 psi)*
Tear strength (DIN 53515/ASTM D 624)	4,0 N/mm² *(580 psi)*
Movement capacity max.	15%
Temperature resistance	-50 to +280°C *(-58 to +536°F)* briefly (approx. 2 hours) +300°C *(+572°F)*
Solid percentage	96%
Specific forward resistance	2,5 x 10^{15} Ohm/cm
Dielectric strength	21 kV/mm
Thermal conductivity	0,3 W/m·K
Overpaintable (liquid paint)	No
Building material category (DIN 4102)	B 2

Sealing an engine cover

Technical Data

	WEICON Adhesives and Sealants in non-cured condition						
	Flex 310 M® Classic	**Flex 310 M® Crystal**	**Flex 310 M® HT 200**	**Flex 310 M® Super-Tack**	**Flex 310 M® Stainless-steel**	**Flex+bond®**	
Basis:	One component MS polymer						
RAL colour*1:	white 9003 grey 7000 black 9004	transparent/ crystal-clear	grey 7000	white 9003 grey 7000	stainless-steel 9023	white 9003 grey 7000 black 9004	transparent/ crystal-clear
Content/Container:	310 ml cartridge	290 ml cartridge				85 ml tube	
Density g/cm³:	1,44	1,06	1,41	1,62	1,06	1,44	1,06
Viscosity:	pasty						
Stability/Run-off (ASTM D 2202) mm:	1	<1	<1	<1	<1	1	<1
Processing temperature:	+5°C to +40°C*2 *(+41 to +104°F)*						
Cure type:	by humidity						
Curing condition:	+5°C to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity						
Skin-over time (minutes):*3	25	10	10	10	10	25	10
Cure speed:*3	2-3 mm in the first 24 hours						
Volume change (DIN 52451) %:*3	-1	-3	---	-2	-3	-1	-3
Gap filling up to max. mm:	5	5	---	10	5	5	5
Gap width up to max. mm:	25	25	---	30	25	25	25
Shelf life in months: +5°C to +25°C *(+41 to +77°F)*	12						
	WEICON Adhesives and Sealants in cured condition						
Shore-A-Hardness (DIN 53505 / ASTM D 2240):	42	40	55	50	45	42	40
Elongation at break (DIN 53504 / ASTM D 412) %:	650	300	400	600	250	650	300
Tensile strength of the pure adhesive/ sealant (DIN 53504/ASTM D 412):	3,3 N/mm² *(480 psi)*	3,0 N/mm² *(440 psi)*	3,2 N/mm² *(460 psi)*	1,9 N/mm² *(280 psi)*	2,4 N/mm² *(350 psi)*	3,3 N/mm² *(480 psi)*	3,0 N/mm² *(440 psi)*
Average tensile shear strength (DIN 53283 / ASTM D 1002):*4	2,1 N/mm² *(300 psi)*	2,0 N/mm² *(290 psi)*	1,8 N/mm² *(260 psi)*	1,5 N/mm² *(250 psi)*	1,8 N/mm² *(260 psi)*	2,1 N/mm² *(300 psi)*	2,0 N/mm² *(290 psi)*
Tear strength (DIN 53515 / ASTM D 624):	20 N/mm² *(2.900 psi)*	19 N/mm² *(2.760 psi)*	21 N/mm² *(3.050 psi)*	13 N/mm² *(1.890 psi)*	10 N/mm² *(1.450 psi)*	20 N/mm² *(2.900 psi)*	19 N/mm² *(2.760 psi)*
Movement capacity max. %:	15	20	---	20	20	15	20
Fungicide:	no						
Temperature resistance:	-40°C to +90°C *(-40 to +194°F)* briefly (approx. 2 hours) to +130°C *(+266°F)*	-40°C to +90°C *(-40 to +194°F)* briefly (approx. 2 hours) to +120°C *(+248°F)*	-40°C to +90°C *(-40 to +194°F)* briefly (approx. 30 Min.) to +200°C *(+392°F)*	-40°C to +90°C *(-40 to +194°F)*	-40°C to +90°C *(-40 to +194°F)*	-40°C to +90°C *(-40 to +194°F)*	-40°C to +90°C *(-40 to +194°F)*
Overpaintable:*5	Only „wet in wet," within 3 hrs. at the latest after material application with suitable paint coating systems (except alkyd resin paints)						
Building material category (DIN 4102):	B 2						
Possible primers:	see Primer selection table on Page 165						

*1 Corresponds approximately to the specified RAL colours.
*2 For easier processing, the cartridges, tubes, etc. should be heated to room temperature (+20°/+68°F) before use at low temperatures.
*3 Normal climate +23°C *(+73°F)* and 50% relative humidity in accordance with DIN 50014.
*4 Material combination aluminium/aluminium, cleaned and degreased with Cleaner S, 1 mm layer thickness, 10 mm per minute tearing speed, fast-bond beech/beech, without pretreatment, 1 mm layer thickness, 5 mm per minute tearing speed.
*5 The WEICON one-component adhesives and sealants listed above are free of substances that hinder the coating of lacquer, e.g. silicone. Thanks to the special composition, these can be painted over with suitable paint coating systems (no alkyd resin paints). However, to check the compatibility, suitability must always be determined individually in preliminary tests under the respective real-life conditions. This is essential due to the different compositions and the diversity of the substrates. The curing of the adhesives and sealants is only slightly delayed by a coating of paint.

Elastic Adhesives and Sealants

Technical Data

	WEICON Adhesives and Sealants in non-cured condition				
	Aqua-Flex	**Solar-Flex®**	**Speed-Flex®**	**Flex 310**	**Fast-Bond**
Basis:	One-component MS polymer			One-component polyurethane	
RAL-Colour*1:	white 9003 grey 7000 black 9004	white 9003 grey 7000	white 9003 grey 7000	white 9003 grey 7001 black 9005	beige 9010
Content/Container:	310 ml cartridge	290 ml cartridge	310 ml cartridge	300 ml cartridge	310 ml cartridge
Density g/cm³:	1,44	1,62	1,60	1,17	1,50
Viscosity:	pasty		extremely pasty	pasty	
Stability/Run-off (ASTM D 2202) mm:	1	<1	<1	1	>1
Processing temperature:	+5°C to +40°C*2 *(+41 to +104°F)*				
Cure type:	by humidity				
Curing condition:	+5°C to +40°C *(+41 to +104°F)* and 30% to 95% rel. humidity, Aqua-Flex also hardens under water			+5°C to +35°C *(+41 to +95°F)* and 40% to 70% rel. humidity	see Aqua-, Solar and Speed-Flex
Skin formation (minutes):*3	25	10	10	45	3
Cure speed:*3	2-3 mm in the first 24 hours				
Volume change (DIN 52451) %:*3	-1	-2	-1	-6	Increase
Gap filling up to max. mm:	5	10	5	5	10
Gap width up to max. mm:	25	30	5	25	---
Shelf life in months: +5°C to +25°C *(+41 to +77°F)*	12			9	12
	WEICON Adhesives and Sealants in cured condition				
Shore-A-Hardness (DIN 53505 / ASTM D 2240):	42	50	58	45	---
Elongation at break (DIN 53504 / ASTM D 412) %:	650	600	230	450	---
Tensile strength of the pure adhesive/sealant (DIN 53504 / ASTM D 412):	3,3 N/mm² *(480 psi)*	1,9 N/mm² *(280 psi)*	2,2 N/mm² *(320 psi)*	2,0 N/mm² *(290 psi)*	10 N/mm² *(1.450 psi)*
Average tensile shear strength (DIN 53283 / ASTM D 1002):*4	2,1 N/mm² *(300 psi)*	1,5 N/mm² *(250 psi)*	1,3 N/mm² *(190 psi)*	1,6 N/mm² *(230 psi)*	11 N/mm² *(1.600 psi)*
Tear strength (DIN 53515 / ASTM D 624):	20 N/mm² *(2.900 psi)*	13 N/mm² *(1.890 psi)*	10 N/mm² *(1.450 psi)*	9 N/mm² *(1.310 psi)*	---
Movement capacity max. %:	15	20	15	10	---
Fungicide:	no				
Temperature resistance:	-40°C to +90°C *(-40 to +194°F)* briefly (approx. 2 hours) to +130°C *(+266°F)*	-40°C to +90°C *(-40 to +194°F)*	-40°C to +80°C *(-40 to +176°F)* briefly (approx. 2 hours) to +120°C *(+248°F)*	-40°C to +90°C *(-40 to +194°F)* briefly (approx. 2 hours) to +120°C *(+248°F)*	-30°C to +100°C *(-22 to +212°F)* WATT 91
Overpaintable:*5	Only „wet in wet," within 3 hours at the latest after material application with suitable paint coating systems (except alkyd resin paints)			Wet in wet or after complete curing	
Building material category (DIN 4102):	B 2				
Possible primers:	see Primer selection table on Page 165				---

Technical Data

	WEICON Adhesives and Sealants in non-cured condition					
	Silicone A		Silicone N	Silicone F	HT 300	Black-Seal
Basis:	One-component acetate		One-comp. oxime	One-component acetate		
RAL-Colour*1	transparent	white 9003 dusty grey 7037 black 9017	transparent opaque		red 3016	black 9005
Content/Container:	310 ml cartridge					
	/					200 ml press pack can
	85 ml tube	/			85 ml tube	
Density (g/cm³):	1,03	1,25	1,03	1,03	1,28	1,06
Viscosity:	pasty		pasty	11.000 mPa·s	pasty	pasty
Stability/Run-off (ASTM D 2202) mm:	1		1	liquid	1	>1
Processing temperature:	+5°C to +35°C*2 *(+41 to +95°F)*					
Cure type:	by humidity					
Curing condition:	+5°C to +40°C *(+41 to +104°F)* and 30% to 95% re. humidity					
Skin-over time (minutes):*3	7		7	15	12	7
Cure speed:*3	2-3 mm in the first 24 hours					
Volume change (DIN 52451) %:*3	-1		-2	-9	-1	-3
Gap filling up to max. mm:	5		5	2	5	5
Gap width up to max. mm:	25					
Shelf life in months: +5°C to +25°C *(+41 to +77°F)*	12					
	WEICON Adhesives and Sealants in cured condition					
Shore-A-Hardness (DIN 53505 / ASTM D 2240):	20		25	23	35	30
Elongation at break (DIN 53504 / ASTM D 412) %:	>500		800	370	500	500
Tensile strength of the pure adhesive/sealant (DIN 53504 / ASTM D 412) N/mm²:	1,3 N/mm² *(190 psi)*		1,3 N/mm² *(190 psi)*	1,8 N/mm² *(260 psi)*	2,0 N/mm² *(290 psi)*	2,0 N/mm² *(290 psi)*
Average tensile shear strength (DIN 53283 / ASTM D 1002) :*4	0,8 N/mm² *(120 psi)*		0,8 N/mm² *(120 psi)*	0,8 N/mm² *(120 psi)*	1,3 N/mm² *(190 psi)*	0,7 N/mm² *(100 psi)*
Tear strength (DIN 53515 / ASTM D 624):	4,0 N/mm² *(520 psi)*		6,0 N/mm² *(870 psi)*	3,6 N/mm² *(510 psi)*	6,0 N/mm² *(870 psi)*	4,0 N/mm² *(520 psi)*
Movement capacity max. %:	25		25	/	15	15
Temperature resistance:	-60°C to +200°C *(-76 to +392°F)*		-40°C to +180°C *(-40 to +356°F)*	-50°C to +180°C *(-58 to +392°F)*	-60°C to +280°C *(-76 to +536°F)* briefly (approx. 2 hours) +300°C *(+572°F)*	-50°C to +280°C *(-58 to +536°F)* briefly (approx. 2 hours) +300°C *(+572°F)*
Solids content in %:	100		100	90	100	96
Specific forward resistance:	2,5 x 10^{15} Ω/cm		7 x 10^{16} Ω/cm	7 x 10^{14} Ω/cm	2,5 x 10^{15} Ω/cm	2,5 x 10^{15} Ω/cm
Dielectric strength:	21 kV/mm		15 kV/mm	16 kV/mm	21 kV/mm	21 kV/mm
Thermal conductivity:	0,3 W/m·K		0,3 W/m·K	0,3 W/m·K	0,3 W/m·K	0,3 W/m·K
Overpaintable:	cannot be painted over					
Building material category (DIN 4102):	B 2					

*1 Corresponds approximately to the specified RAL colours. *2 For easier processing, the cartridges should be heated to room temperature (+20°/+68°F) before use at low temperatures.
*3 Normal climate +23°C *(+73°F)* and 50% relative humidity in accordance with DIN 50014. *4 material combination aluminium/aluminium, cleaned and degreased with Cleaner S, 1 mm layer thickness, 10 mm per minute tearing speed.

Elastic Adhesives and Sealants

Information on surface preparation/pretreatment

Material		Basis MS polymers (POP)	Basis polyurethane (PUR)
ABS		Surface Cleaner + Primer K 200	Surface Cleaner + Primer K 200
Aluminium	bare	Surface Cleaner + Primer M 100	Surface Cleaner + roughening up + Primer M 100
	chromated	Surface Cleaner	Surface Cleaner
	anodised	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
	powder-coated	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
	primed	Surface Cleaner	Surface Cleaner
	painted	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
EPDM		Surface Cleaner + Primer K 200	No adhesion
GFRP (polyester, epoxy)	smooth/rough side	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
	web goods	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
	hand laminate	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
Glass	untreated, clear	Surface Cleaner + Primer M 100**	Surface Cleaner + Primer M 100**
	ceramic-coated	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
Wood	phenol-coated	No adhesion	Surface Cleaner + roughening up + Primer M 100
	untreated	Clean with humid cloth + Primer S 300	Clean with humid cloth + Primer S 300
PA (polyamide)		Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
PIR hard foam (polyisocyanurate)		Surface Cleaner	Surface Cleaner
PMMA (Plexiglas)		Surface Cleaner + Primer M 100*	Surface Cleaner + Primer M 100*
Polywood		Roughen up finely + Surface Cleaner	Roughen up finely + Surface Cleaner
PP/PE		Surface Cleaner + Primer P 400*	Surface Cleaner + Primer P 400*
PS	hard foam	Surface Cleaner	Surface Cleaner
	panels, impact-resistant	Surface Cleaner + Primer M 100*	No adhesion
PUR hard foam (polyurethane)		Surface Cleaner	Surface Cleaner
PVC	panels	Surface Cleaner + Primer K 200	Surface Cleaner + Primer K 200
	hard foam	Surface Cleaner	Surface Cleaner
Steel	bare	Surface Cleaner + Primer K 200	Surface Cleaner + Primer K 200
	chromated	Surface Cleaner	Surface Cleaner
	film-coated	Surface Cleaner + Primer M 100	none Adhäsion
	primed	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
	painted	Surface Cleaner + Primer M 100	Surface Cleaner + Primer M 100
	powder-coated	Surface Cleaner + Primer K 200	Surface Cleaner + Primer M 100
	VA (stainless steel)	Surface Cleaner + roughening up + Primer M 100	Surface Cleaner + roughening up + Primer M 100
	galvanised	Surface Cleaner + roughening up + Primer M 100	Surface Cleaner + roughening up + Primer M 100

* Preliminary tests are required ** Protect against UV back radiation

Primer M 100: For pretreating non-absorbent surfaces, e.g. metals, plastics, painted surfaces, enamels, ceramic and coated glass.
Primer K 200: For pretreating non-absorbent and painted plastic surfaces and elastomers, e.g. EPDM.
Primer S 300: For pretreating porous and absorbent surfaces.
Primer P 400: For pretreating polyolefins, e.g. TPE, PE, PP and difficult-to-bond elastomers.

Chemical resistance of WEICON Adhesives and Sealants after curing

	Flex 310 M® Classic	Flex 310 M® Crystal	Flex 310 M® HT 200	Flex 310 M® Super-Tack	Flex 310 M® Stainless-steel	Flex 310 M® 2 K	Flex+bond®	Speed-Flex®	Aqua-Flex	Solar-Flex®	Flex 310	Fast-Bond	Silicone A	Silicone N	Silicone F	HT 300	Black-Seal
2-propanol	-	-	-	-	-	-	-	-	-	-	o	o	+	o	o	+	+
Acetic acid >5%	+	-	+	+	-	+	+	+	+	+	-	-	+	o	+	+	+
Acetone	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Alcohol	o	o	o	o	o	o	o	o	o	o	o	o	+	+	+	+	+
Ammonia 10 %	+	o	+	+	o	+	+	+	+	+	o	o	+	+	+	+	+
Antifreeze	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Caustic potash solution 20%	o	o	o	o	o	o	o	o	o	o	+	+	-	-	-	-	-
Citric acid 10%	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
Concentrated formic acid	-	-	-	-	-	-	-	-	-	-	-	-	+	-	o	+	+
Concentrated phosphoric acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Concentrated silicon oil	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cooling lubricant, water-dilutable	+	o	+	+	o	+	+	+	+	+	+	+	+	+	+	+	+
Diesel/heating oil	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	o	+
Edible oil/vegetable oil	o	o	o	o	o	o	o	o	o	o	o	o	+	+	+	+	+
Ethanol	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
Freon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	o
Gear oil	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	o	+
Glycerine (glycol)	+	o	+	+	o	+	+	+	+	+	+	+	+	+	+	+	+
Glycol ether	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
Hydraulic oil	o	-	o	o	-	-	o	o	o	o	o	o	+	-	o	+	+
Hydrochloric acid 5%	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Hydrogen peroxide 3%	+	-	+	+	-	-	+	+	+	+	-	-	+	+	+	+	+
Ketones	-	-	-	-	-	-	-	-	-	-	-	-	o	o	o	o	o
Lyes, diluted	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Methanol	-	-	-	-	-	-	-	-	-	-	-	-	+	-	o	+	+
Methyl ethyl ketone	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Motor oil, mineral and synthetic, +140°C *(+284°F)*	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	o	+
Motor oil, mineral and synthetic	-	-	-	-	-	-	-	-	-	-	-	-	+	-	o	+	+
Naphtha	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Nitric acid 5%	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Paint thinner	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	+	+
Paraffin oil	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
Petrol (92 to 100 octane)	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Phosphoric acid 5%	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Salt water/seawater	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium hydroxide solution 20%	-	-	-	-	-	-	-	-	-	-	o	o	+	o	o	+	+
Sulphuric acid 5%	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+
Toluene	-	-	-	-	-	-	-	-	-	-	-	-	+	o	+	+	+
Water	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Water, +90°C *(+194°F)*	+	-	+	+	-	+	+	+	+	+	-	-	+	+	+	+	+
Xyleme	-	-	-	-	-	-	-	-	-	-	-	-	+	o	o	+	+

+ = resistant 0 = limited resistance - = not resistant

Elastic Adhesives and Sealants

Formula for calculating the consumption quantity

Conversions

(°C x 1.8) +32 = °F	MPa x 145 = psi
kV/mm x 25.4 = V/mil	MPa x 0.145 = KSI
mm / 25.4 = inches	mPa·s = cP
µm / 25.4 = mil	N·m x 8.851 = lb·in
N x 0.225 = lb	N·m x 0.738 = lb·ft
N/mm x 5.71 = lb/in	N·mm x 0.142 = oz·in
N/mm x 5.71 = pli	kg x 2.2046 = lb
N/mm² x 145 = psi	

Joint depth / Joint width	5 mm		6 mm		8 mm		10 mm		12 mm	
	ml/m	m/Kart.	ml/m	m/Kart.	ml/m	m/Kart.	ml/m	m/Kart.	ml/m	m/Kart.
5 mm	25	12,4	30	10,3						
6 mm	30	10,3	36	8,6						
8 mm	40	7,75	48	6,5	64	4,8				
10 mm	50	6,2	60	5,2	80	3,9	100	3,1		
12 mm	60	5,2	72	4,3	96	3,2	119	2,6		
15 mm	75	4,1	90	3,4	120	2,6	148	2,1	182	1,7
18 mm			108	2,9	144	2,2	182	1,7	221	1,4
20 mm					160	1,9	194	1,6	240	1,3
25 mm							258	1,2	300	1,0

Speed-Flex - Signs on a filling plant for gas

Speed-Flex - Automated application during the production of doors for refrigerators

Flex 310 M Classic - Bonding/sealing in the model construction sector

Fast-Bond - Bonding a pipe clamp anchor into aerated concrete

Preparation and processing

The parts to be bonded must be clean and dry and free of dust or grease (WEICON Surface Cleaner). Roughening the surfaces increases the bonding power efficiently.

Stir WEICON GMK 2410 carefully prior to use. Then apply the adhesive evenly and in a thin layer onto both surfaces using a brush or spatula (smooth or finely notched). Let it dry for 5 – 10 minutes depending on layer thickness, ambient temperature and air humidity. On absorbing surfaces (e. g. felt), a second adhesive layer should be applied when the first layer has dried.

As soon as the surfaces are dry but still a little bit tacky (finger test), the parts must be joined with a short but strong pressure. Once the evaporation time has passed, the adhesive must be applied again. Non-cured exceeding adhesive can be removed with WEICON Surface Cleaner.

Technical Data

Basis:	Polychloroprene (CR)
Density:	0,93 g/cm³
Viscosity:	approx. 2.400 mPa·s
Colour:	yellowish-brown
Consumption:	250 – 350 g/m²
Evaporation time:	5 – 10 minutes
Contact adhesion time:	10 minutes
Final strength:	approx. 24 hours
Temperature range:	from -40°C to +80°C *(-40 to 176°F)*, briefly to +100°C *(+212°F)*
Processing temperature:	+15°C to +35 °C *(+59 to 95°F)*
Storage stability:	12 months in unopened container
Storage:	at room temperature (+15°C to +25°C/*+59 to 77°F*) dry, in densely closed packaging

Medium tensile shear strength

Galvanised steel / EPDM:	0,16 N/mm² (16,0 N/cm² *) *23 psi*
Galvanised steel / galvanised steel:	1,60 N/mm² (160,0 N/cm² *) *232 psi*
Galvanised steel / SBR:	0,54 N/mm² (54,0 N/cm² *) *78 psi*
Galvanised steel / NBR:	0,57 N/mm² (57,0 N/cm² *) *83 psi*

* Tensile shear test in accordance with DIN 53281-83

Contact Adhesives

185 g	300 g	350 g	700 g	5 kg	25 kg
16100185	16100300	16100350	16100700	16100905	16100925
tube	can	brush top can	can	bucket	bucket

GMK 2410

Rubber Metal Adhesive

WEICON GMK 2410 contact adhesive is high-strength, fast-curing, strong, permanently elastic and resistant to humidity.

GMK 2410 is an adhesive based on poly-chloroprene (CR) for the high-strength, full-surface and flexible bonding of

rubber to rubber
and
rubber to metal.

WEICON GMK 2410 also bonds cellular rubber (e. g. neoprene), leather, felt, insulating material, textiles, wood, and many plastics.

GMK 2410 is not suitable for materials such as expanded polystyrene, polyethylene, polypropylene, flexible PVC foam, and artificial PVC leather. The product can be used in many industrial applications.

Point of Sale

Equipment proposal. Supply of the displays is without products.

Product Presentation

Point of Sale

Equipment proposal. Supply of the displays is without products.

Repair Sticks 115 g
(12 pc.)

Cable Stripper S 4-28 Multi
(12 pc.)

Cable Stripper S 4-28
(12 pc.)

Wire Stripper No.5
(12 pc.)

Cartriges 290-310 ml
(12 pc.)

Flex + Bond
(20 pc.)

SDTS 250 ml
(9 pc.)

Cyanoacrylate Adhesive 30 g
(20 pc.)

Cyanoacrylate Adhesive 12 g
(25 pc.)

WEICONLOCK® 50 ml
(24 pc.)

WEICONLOCK® 20 ml
(24 pc.)

Trade fairs

The international focus of our company is shown by the large number of exhibitions we participate in. Please visit us at one of the trade fairs. Each year, WEICON is present at more than 50 events at home and abroad. For more information regarding our current exhibitions, please visit www.weicon.com.

ONS, Stavanger Norway

Siel Expo, Tunesia

T.I.T., Romania

OSEA, Singapore

Russian Industry, Russia

Automechanica, Dubai

Eisenwarenmesse, Cologne

WIN, Istanbul, Turkey

Manofactoring, Indonesia

A) General terms and conditions

§ 1 General

1. Our terms and conditions of sale („Terms and Conditions“) only shall apply. Terms and conditions of the customer that conflict with or deviate from our Terms and Conditions will not be recognised by us unless we have expressly agreed to them in writing. Our Terms and Conditions shall apply even if we should effect delivery without reservation to the customer despite our having knowledge of customer's terms and conditions which conflict with or deviate from our own Terms and Conditions.
2. All agreements made between ourselves and the customer relating to the execution of an order must be made in writing.
3. Where the customer is a business entity within the meaning of § 24 AGBG (German Act Governing General Terms and Conditions of Business), our Terms and Conditions shall also apply in all future business with the customer.

§ 2 Offers and conclusion of contracts

1. Our offers are without obligation on us unless indicated otherwise in the order confirmation. We agree to be bound by specially prepared offers for a period of thirty calendar days from the date of the offer.
2. Where an order is to be seen as an offer within the meaning of § 145 BGB (German Civil Code), we may accept it within 14 calendar days by issuing our order confirmation or by delivering the ordered goods. After expiry of the said period, the offer shall be deemed to have been refused. If we do not issue an order confirmation, our invoice shall be valid as order confirmation.
3. We reserve title and copyright to all illustrations, drawings, calculations and other documents. This also applies to such written documents as are indicated as „confidential“. Documents and such like may be passed on to third parties only with our prior express written consent. If so requested by us, documents must be returned to us, whereby no copies thereof may be retained by the customer.

§ 3 Prices

1. Unless indicated otherwise in the order confirmation, our prices are quoted „ex works“, exclusive of packing; packing and transport will be charged for additionally.
2. Our prices are quoted exclusive of VAT; VAT will be charged at the statutory rate in force on the day of billing and shown in the invoice as a separate item.
3. If the agreed delivery date is more than six months after the date of conclusion of contract or if delivery can only be effected after expiry of such period for reasons for which the customer is responsible, our prices which are valid on the day of delivery or on the day on which the goods are made available shall apply. Should a price increase exceed the rise in the cost of living index, the customer shall have the right to repudiate the contract.

§ 4 Delivery times

1. A delivery time quoted by us shall not start until all technical questions have been clarified.
2. Delivery times or dates shall only be binding on us if agreed in writing.
3. Should the customer fall into delay with acceptance of delivery or fail to fulfil any of his other duties to assist, we shall have the right to claim compensation for any loss as well as any additional expenses incurred by us. In this case, also the risk of accidental loss or accidental deterioration of the goods shall pass to the customer at the time at which he falls into delay with acceptance.

§ 5 Shipment and passing of risk

1. The risk shall pass to the customer on hand-over of the goods or at the time when the customer falls into delay with acceptance.
2. Packing will be as customary in the trade. It will be charged for separately at cost and is non-returnable. The customer shall have a duty to take care of disposal of packing at his own expense.

§ 6 Liability

1. All liability on our part for breach of duties arising from minor negligence shall be barred except where material contractual duties, damage or injury to life, limb or health, guarantees or claims under the Product Liability Act are concerned. The same shall also apply to breaches of duty committed on the part of our legal representatives and vicarious agents.
2. Should operating or maintenance instructions and mixing recommendations not be complied with, changes made to the products, parts be replaced or consumption materials used, all warranty on our part shall lapse unless the customer is able to refute a duly substantiated assertion that a defect would not have arisen but for any of the reasons of the aforesaid kind.
3. Liability for normal wear and tear is barred.

§ 7 Limitation periods

1. Claims on account of a defect in a used item shall lapse one year from delivery of the item.
2. Claims based on any other grounds than a defect in the item itself shall lapse after one year.
3. In deviation from Fig. 1 and Fig.. 2, the statutory periods shall apply if liability is claimed on grounds of wilful intent or a given guarantee.

§ 8 Reservation of title

1. We reserve title to the item of sale until receipt of all payments arising from the delivery contract. In the event of any breach of contract by the customer, in particular any delay in payment, we shall have the right to take back the item of sale. Taking-back or garnishment by us of an item of sale which was supplied by us subject to our reservation of title shall always constitute repudiation of the contract. After taking back an item of sale, we shall have the right to dispose of it otherwise, whereby the sale proceeds will - after the deduction of reasonable realisation costs - be credited towards the customer's liabilities.
2. The customer shall have a duty to notify us without delay in writing of any garnishment of items to which we reserve title as well as of any other intervention by third parties and to inform the garnisher of our reservation of title. Should the third party be unable to reimburse us for the court and out-of-court costs of legal action pursuant to § 771 ZPO (Code of Civil Procedure), the customer shall be liable for the loss incurred by us.

§ 9 Payment

1. Except as may be agreed otherwise, our invoices are due and payable with 2 % cash discount within 8 days from date of invoice or without any discount within 30 days from date of invoice.
2. We expressly reserve the right to refuse cheques and bills of exchange. Cheques and bills of exchange will only be accepted on account of payment. All discount or bill expenses shall be borne by the customer and be due and payable immediately.
3. In the event of justified doubts concerning the creditworthiness of the customer, in particular if the customer should fail to honour a cheque or if he should cease payments, we shall have the right to make all outstanding amounts due for payment immediately even if we have accepted cheques. We shall also have the right to demand payment in advance or the provision of security.
4. If the customer should finally and absolutely cease payments and/or if proceedings in bankruptcy or court-supervised or out-of-court composition proceedings are applied for against him, we shall also have the right to repudiate the contract in respect of that part which has not yet been fulfilled.
5. Should the customer default on payment, we shall have the right to claim interest on arrears in accordance with the statutory provisions. If we are able to show having incurred higher loss through default, we shall have the right to claim therefor.
6. The customer shall only have the right of offset if his own counterclaims have been finally and absolutely established at law, are undisputed or have been recognised by us. The customer shall also only have a right to withhold payment insofar as his counterclaim derives from one and the same contractual relationship.

§ 10 Data processing

We shall have the right to store and/or process in accordance with data protection law all data received relating to the customer.

§ 11 Salvation clause

Should any of the provisions of these Terms and Conditions be or become invalid, this shall have no effect on the validity of any other provision or on the validity of the agreement between the customer and ourselves.

B) Special provisions relating to business entities

In relations with business entities, the following provisions shall additionally apply:

§ 1 Warranty

1.Defects in items of delivery including the handbooks and other documents will, in response to corresponding notification by the user, be remedied by the supplier within the statutory period of two years from delivery. Remedy will be done at buyer's option by either cost-free repair or replacement. In the case of replacement, the buyer shall have a duty to return the defective item.
2. If the defect cannot be remedied within a reasonable period of time or if replacement must be deemed for other reasons to have failed, the buyer may, at his option, claim a reduction in price or repudiate the contract. Remedy may only be deemed to have failed if the supplier has been granted sufficient opportunity to effect repair or replacement without the desired effect having been achieved, if repair or replacement is impossible, if repair or replacement is refused or unreasonably delayed by the supplier, if justified doubts regarding the likelihood of success exist or if unreasonableness must be assumed on other grounds.

§ 2 Duty to examine and give notice of defects

In the case of bilateral mercantile transactions, the warranty rights of the customer shall be dependent upon his having duly fulfilled his duties to examine and give notice of defects pursuant to §§ 377, 378 HGB (German Commercial Code). Notice of defects must be made in writing.

§ 3 Liability

Liability on our part for unforeseeable loss or damage shall be barred except on grounds of wilful breach of duties, damage or injury to life, limb or health, guarantees or claims under the Product Liability Act.

§ 4 Reservation of title

In addition to the provisions of A) § 8, the following shall also apply:
a) We reserve title to items supplied by us until such time as all of our claims against the customer arising on any legal grounds whatsoever have been fulfilled.
b) In deviation from A) § 8, the taking-back of items of purchase from registered traders shall not constitute repudiation of the contract unless expressly stated by us in writing as doing so. We shall have the right, irrespective of the claim to performance due to us on expiry of a period of time allowed to the customer for the performance of an obligation, to demand surrender of the item of delivery if the customer fails to fulfil his obligation towards us or to do so punctually and/or if the customer acts in an inadmissible manner on items delivered to him subject to reservation of title. If the customer has fulfilled the contract, we shall have a duty to release the items to him.
c) If items have been delivered for a commercial pursuit carried on by the customer, the items may be resold in the normal course of business. In this case, however, the customer already hereby assigns to us, in the amount of the total invoice value (including VAT) of our claim, all claims accruing to him against his customers or third parties from resale of the items of purchase, regardless of whether they have been resold with or without any prior further processing. Where the items are resold on credit, the customer shall reserve title to the items towards his customer. Our customer hereby assigns to us his rights and claims accruing against his customer from such reservation of title.
d) Any processing of items which are subject to our reservation of title („reserved goods“) by the customer shall be deemed done on our behalf but without giving rise to any costs for us. Where reserved goods are processed, combined or mixed with other goods not belonging to us, we shall have co-title to the new item so created in the same proportion as that between the value of our item of delivery (total invoice amount, including VAT) and the value of the other goods at the time of processing, combination or mixing. Where the customer acquires sole ownership to a new item, it is agreed that the customer shall grant us co-title thereto in the same proportion as aforesaid and shall keep the item on our behalf without this giving rise to any costs for us. Where reserved goods are resold together with other goods, whether with or without any prior processing, combination or mixing, the anticipatory assignment agreed in Fig. 3 Letter c shall only apply up to the invoice value of the reserved goods resold together with the other goods.
e) Where reserved goods are incorporated as an integral part into the real property of the customer, the customer hereby already assigns to us the claims arising from sale of the real property or the rights thereto, together with all ancillary rights.
f) We undertake, on the request of the customer, to release any securities to which we are entitled insofar as the realisable value of such securities exceeds the value of our claims by more than 10 %, whereby the choice of securities to be released shall lie with us.

§ 5 Passing of risk

1. Unless indicated otherwise in the order confirmation, it is agreed that delivery will be effected „ex works“.
2. The risk shall pass to the customer as soon as the consignment has been delivered into the custody of the person effecting transport or has left our works for the purpose of shipment. If, on the request of the customer, shipment is delayed or is not effected, the risk shall pass to the customer on our notification of readiness for shipment.
3. Deliveries will, on the request of the customer, be insured in his name and for his account.

§ 6 Applicable law, legal venue, place of performance

1. These Terms and Conditions and the entire business relationship between the customer and ourselves shall be governed by the law of the Federal Republic of Germany.
2. The legal venue shall be the courts having jurisdiction for our place of business in Münster. We shall, however, also have the right to bring legal action against the customer at the courts having jurisdiction for his place of domicile.
3. Unless indicated otherwise in the order confirmation, our place of business in Münster shall also be the place of performance

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