

# Silicone A

# **Technical Datasheet**

Create Date: 12.01.2016 - Page 1/1



#### 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  $+200\,^{\circ}$ C ( $+392\,^{\circ}$ F), extremely elastic (breaking elongation >500%

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

#### **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 bis +35 °C           Cure type         by humidity           Curing condition         from +5 °C to +40 °C and 30% to 95% relative humidity           Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5 °C to +25 °C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           Specific forward resistance         2,5 x 10 15 Ohm/cm           Dielectric strength         21 k	rcommour data		
Viscosity         pasty           Stability/Run-off (ASTM D 2202)         1 mm           Processing temperature         +5 bis +35 °C           Cure type         by humidity           Curing condition         from +5 °C to +40 °C and 30% to 95% relative humidity           Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5 °C to +25 °C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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)	Basis	1-	K. Polysiloxan (Acetat)
Stability/Run-off (ASTM D 2202)         1 mm           Processing temperature         +5 bis +35 ° C           Cure type         by humidity           Curing condition         from +5 ° C to +40 ° C and 30% to 95% relative humidity           Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5 ° C to +25 ° C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 ° C           Solid content         100 %           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	Density		1,03 g/cm <sup>3</sup>
Processing temperature         +5 bis +35 ° C           Cure type         by humidity           Curing condition         from +5 ° C to +40 ° C and 30% to 95% relative humidity           Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5 ° C to +25 ° C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 ° C           Solid content         100 %           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	Viscosity		pasty
Cure type         by humidity           Curing condition         from +5°C to +40°C and 30% to 95% relative humidity           Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5°C to +25°C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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	Stability/Run-off (ASTM D 2202)		1 mm
Curing condition         from +5 °C to +40 °C and 30% to 95% relative humidity           Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5 °C to +25 °C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(              0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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	Processing temperature		+5 bis +35 °C
Skin-over time         7 min.           Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5°C to +25°C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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	Cure type		by humidity
Cure speed (first 24 h)         2-3 mm           Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shorl Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 ° C           Solid content         100 %           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	Curing condition	from +5°C to +40°C and 30%	to 95% relative humidity
Volume change (DIN 52451)         -1 %           Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5°C to +25°C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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	Skin-over time		7 min.
Gap filling up to max.         5 mm           Gap width up to max.         25 mm           Shelf life (+5°C to +25°C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 1(         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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	Cure speed (first 24 h)		2-3 mm
Gap width up to max.       25 mm         Shelf life (+5°C to +25°C)       12 months         Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5       20         Elongation at break (DIN 53504 / ASTM D 412)       >500 %         Tensile strength of the pure adhesive/sealant       1,3 N/mm²         Average tensile shear strength (DIN 53283/ASTM D 10       0,8 N/mm²         Tear strength (DIN 53515 / ASTM D 624)       4,0 N/mm²         Movement capacity max.       25 %         Temperature resistance       -60 bis +200 °C         Solid content       100 %         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	Volume change (DIN 52451)		-1 %
Shelf life (+5°C to +25°C)         12 months           Shore Hardness A (DIN 53505 / ASTM D 2240) ± 5         20           Elongation at break (DIN 53504 / ASTM D 412)         >500 %           Tensile strength of the pure adhesive/sealant         1,3 N/mm²           Average tensile shear strength (DIN 53283/ASTM D 10         0,8 N/mm²           Tear strength (DIN 53515 / ASTM D 624)         4,0 N/mm²           Movement capacity max.         25 %           Temperature resistance         -60 bis +200 °C           Solid content         100 %           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	Gap filling up to max.		5 mm
$\begin{array}{c} \text{Shore Hardness A (DIN 53505 / ASTM D 2240)} \pm 5 & 20 \\ \text{Elongation at break (DIN 53504 / ASTM D 412)} & >500 \% \\ \text{Tensile strength of the pure adhesive/sealant} & 1,3  \text{N/mm}^2 \\ \text{Average tensile shear strength (DIN 53283/ASTM D 11} & 0,8  \text{N/mm}^2 \\ \text{Tear strength (DIN 53515 / ASTM D 624)} & 4,0  \text{N/mm}^2 \\ \text{Movement capacity max.} & 25 \% \\ \text{Temperature resistance} & -60  \text{bis} + 200  ^{\circ}\text{C} \\ \text{Solid content} & 100 \% \\ \text{Specific forward resistance} & 2,5 \times 10  15  \text{Ohm/cm} \\ \text{Dielectric strength} & 21  \text{kV/mm} \\ \text{Thermal conductivity} & 0,3  \text{W/m·K} \\ \text{Overpaintable (liquid paint)} & \text{No} \\ \end{array}$	Gap width up to max.		25 mm
Elongation at break (DIN 53504 / ASTM D 412) >500 % Tensile strength of the pure adhesive/sealant 1,3 N/mm² Average tensile shear strength (DIN 53283/ASTM D 11 0,8 N/mm² Tear strength (DIN 53515 / ASTM D 624) 4,0 N/mm² Movement capacity max. 25 % Temperature resistance -60 bis +200 °C Solid content 100 % 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	Shelf life (+5°C to +25°C)		12 months
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Movement capacity max.     25 %       Temperature resistance     -60 bis +200 °C       Solid content     100 %       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	Average tensile shear strength (DIN 53283/ASTM D 10		0,8 N/mm <sup>2</sup>
Temperature resistance -60 bis +200 °C Solid content 100 % 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	Tear strength (DIN 53515 / ASTM D 624)		4,0 N/mm²
Solid content         100 %           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	Movement capacity max. 25		25 %
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	Temperature resistance		-60 bis +200 °C
Dielectric strength         21 kV/mm           Thermal conductivity         0,3 W/m·K           Overpaintable (liquid paint)         No	Solid content		100 %
Thermal conductivity 0,3 W/m·K Overpaintable (liquid paint) No	Specific forward resistance		2,5 x 10 15 Ohm/cm
Overpaintable (liquid paint) No	Dielectric strength		21 kV/mm
learner ( de r learne)	Thermal conductivity		0,3 W/m·K
Building material category (DIN 4102) B 2	Overpaintable (liquid paint)		No
	Building material category (DIN 4102)		B 2

## Pretreatment of the surface

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.

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). Detailed information on this subject is contained in the Primer selection table. A mechanical surface pretreatment, e.g. sanding or

sand-blasting, can considerably improve the adhesion.

#### **Processing**

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, the cure speed is approx. 3 mm in the first 24 hrs.

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.

#### Storage

When unopened and stored in a normal climate (+23  $^{\circ}$ C and 50  $^{\circ}$  rel. humidity), WEICON elastic one-component adhesives and sealants have a shelf life of 9 - 12 months, depending on the type.

#### Note

Any product specifications and recommendations given herein must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation. We do warrant the continuously high quality of our products being free from defects in accordance with and subject to our General Sales Conditions. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

### **Health and Safety**

When using WEICON products, the physical, safety technical, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.

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