



# WEICONLOCK®

## Adhesives and Sealants

for corrosion-resistant screw joints  
zinc flake coated & stainless steel screws



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# WEICONLOCK®

## Adhesives and Sealants

### Why screws must be secured in the first place

Screw joints rank among the most important types of connection in machine construction, assembly and repair. That is why securing threaded joints aims at maintaining their strength even under continuous dynamic loads and high operational stresses as well as at preventing unintentional loosening.

With its extensive range of chemical threadlockers, WEICON offers the right solution for almost all requirements in order to prevent unintentional loosening of screws.

WEICONLOCK® are 1-component anaerobic reaction adhesives (adhesives and sealants), which only cure during assembly by exclusion of oxygen and metal contact. Since the adhesive entirely fills all gaps within the thread, any movement of the thread is prevented and thus crevice corrosion and seizing up are inhibited. This enables process-safe loosening, e.g. for a revision.

In addition, it provides the joint with a gas- and liquid-tight sealing, is material-neutral and has no negative impact on the corrosion protection qualities. During assembly, WEICONLOCK® has no influence on the friction coefficient, so the torque does not need to be adjusted.

The various types differ in:

- ▶ viscosity
- ▶ gap bridging
- ▶ strength
- ▶ colour
- ▶ individual temperature resistance
- ▶ cure speed

WEICONLOCK® is very versatile and secures, locks and seals all types of screw, pipe and surface connections and joints fast, reliably and efficiently.

In addition, WEICONLOCK® products are resistant to temperature fluctuations, chemicals, solvents and many other substances, and have a high shock and vibration resistance. Thanks to their high ageing resistance, prestress and clamping force are maintained throughout the entire product life.

Joints secured with WEICONLOCK® can be loosened again with common tools in a process-safe and reliable way without damaging the workpieces.

The chemical threadlocker

## WEICONLOCK®

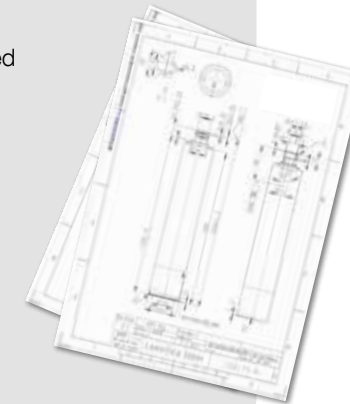
### for corrosion-resistant screw joints

### Easy and user-friendly – the Pen-System

WEICONLOCK® products are bottled in the patented Pen-System.

The system enables easy and user-friendly dosage and a clean application.

The pen has an ergonomic shape and ensures process-safe and economical usage.



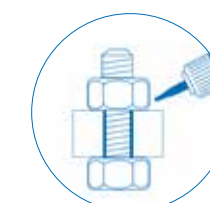
### How do chemical threadlockers work and why do **zinc flake coatings** and **stainless steel surfaces** pose a challenge?

The one-component adhesives and sealants on the basis of special methacrylate resins remain liquid as long as they are in contact with the oxygen in the air. The hardener component contained in the adhesive thus remains inactive as long as in contact with the atmospheric oxygen. Only when the adhesive in the bonding gap has metal contact and removal of oxygen is ensured, the curing begins. The material, or rather the material surface, has the greatest influence on the curing speed and the adhesive strength.

Certain so-called active materials, which include steel and brass alloys, enable fast curing and high strength. Materials with particular anti-corrosion properties, such as coatings based on zinc flakes or stainless steel, cause a slower curing speed and low strength. WEICON offers specific adhesive types, which are especially suitable for use on stainless steel and zinc flake coated screws.



## WEICONLOCK® for corrosion-resistant screw joints



▶ locking



▶ retaining



▶ sealing

### WEICONLOCK® especially for zinc flake coated screws

Zinc flake coating as safe corrosion protection for screws has become increasingly important over the last few years. Besides corrosion protection, this type of coating offers further advantages, such as constant friction coefficients, dimensional accuracy, and individual colour schemes. Zinc flake coated screws are used in various industries, like the automotive industry, the aviation industry, the production of construction and agricultural machinery, and the construction of offshore wind farms.

The protective effect and the cathodic rust protection are achieved by zinc and aluminium flakes. If the coated screws are going to be bonded with anaerobic threadlockers, however, this presents a particular challenge, as the coating has a negative impact on both the curing behaviour and the contact to the base material.

To determine which WEICONLOCK® types are suitable for zinc flake coated screws, WEICON has examined all types in extensive tests according to DIN 15865 in collaboration with the Dörken Coatings GmbH & Co. KG located in Herdecke.





# WEICONLOCK® for corrosion-resistant screw joints

## Technical Data

WEICONLOCK®						Zinc flake coated screws		Stainless steel screws				
Type no.	Application	Specific properties	Colour	For threaded joints up to:	Gap bridging max.	Breakaway torque (thread*)	Prevailing torque (thread*)	Breakaway torque (thread*)	Prevailing torque (thread*)	Handling strength at +23°C	Final strength at +23°C	Temperature resistance
AN 302-40	Threadlocking, DVGW approval <sup>2</sup>	medium strength, medium viscosity	transparent	M 20 - R 3/4"	0.15 mm	16 - 19 Nm	8 - 10 Nm	14 - 17 Nm	15 - 18 Nm	20 - 40 min.	4 - 8 h	-60°C to +150°C
AN 302-42	Threadlocking, drinking water approval	medium strength, low viscosity	blue	M 36 - R 1 1/4"	0.20 mm	12 - 16 Nm	4 - 6 Nm	11 - 14 Nm	4 - 6 Nm	20 - 40 min.	4 - 8 h	-60°C to +150°C
AN 301-43	Threadlocking, drinking water and DVGW approval <sup>2</sup>	medium strength, high viscosity	blue	M 36 - R 1 1/4"	0.25 mm	18 - 20 Nm	7 - 9 Nm	18 - 20 Nm	7 - 9 Nm	10 - 30 min.	3 - 6 h	-60°C to +150°C
AN 302-44	Threadlocking, drinking water and DVGW approval	medium strength, higher viscosity	blue	M 36 - R 1 1/4"	0.25 mm	14 - 16 Nm	6 - 8 Nm	13 - 16 Nm	6 - 8 Nm	20 - 40 min.	4 - 8 h	-60°C to +200°C
AN 302-45	Pipe and Thread Sealing DVGW approval <sup>2</sup>	medium strength, high viscosity	blue	M 80 - R3"	0.30 mm	9 - 12 Nm	8 - 12 Nm	9 - 11 Nm	15 - 18 Nm	30 - 60 min.	6 - 12 h	-60°C to +150°C
AN 302-71	Locking of Threads and Stud Bolts	high strength, medium viscosity	red	M 20 - R 3/4"	0.15 mm	25 - 28 Nm	17 - 20 Nm	23 - 26 Nm	32 - 36 Nm	20 - 40 min.	6 - 12 h	-60°C to +150°C
AN 302-50	Threadlocking	high strength, medium viscosity	transparent	M 20 - R 3/4"	0.15 mm	30 - 34 Nm	22 - 26 Nm	27 - 30 Nm	40 - 44 Nm	5 - 10 min.	4 - 8 h	-60°C to +175°C
AN 302-60	Threadlocking, drinking water approval	high strength, medium viscosity	green	M 20 - R 3/4"	0.15 mm	15 - 20 Nm	30 - 35 Nm	15 - 20 Nm	30 - 35 Nm	10 - 20 min.	8 - 14 h	-60°C to +200°C
AN 302-72	Threadlocking, drinking water and DVGW approval <sup>2</sup>	high strength, higher viscosity	red	M 56 - R2"	0.30 mm	20 - 24 Nm	12 - 15 Nm	25 - 28 Nm	30 - 34 Nm	40 - 90 min.	10 - 24 h	-60°C to +230°C
AN 305-78	Pipe and Thread Sealing	medium strength, high viscosity	yellow	M 80 - R3"	0.50 mm	16 - 19 Nm	4 - 7 Nm	11 - 16 Nm	5 - 120 Nm	8 - 12 h	4 - 8 h	-60°C to +150°C
AN 306-03	Retaining Cylindrical Assemblies	high strength, low viscosity	green	M 12 - R 1/4"	0.10 mm	18 - 22 Nm	10 - 14 Nm	33 - 36 Nm	39 - 43 Nm	20 - 40 min.	4 - 8 h	-60°C to +150°C
AN 306-00	Retaining Cylindrical Assemblies	high strength, medium viscosity	transparent	M 20 - R 3/4"	0.15 mm	32 - 35 Nm	22 - 26 Nm	28 - 32 Nm	40 - 44 Nm	5 - 10 min.	4 - 8 h	-60°C to +175°C
AN 306-48	Retaining Cylindrical Assemblies, drinking water approval BAM-tested <sup>3</sup>	high strength, medium viscosity	green	M 20 - R 3/4"	0.15 mm	20 - 24 Nm	14 - 17 Nm	28 - 31 Nm	37 - 41 Nm	5 - 10 min.	4 - 8 h	-60°C to +175°C
AN 301-48	Retaining Cylindrical Assemblies, drinking water and DVGW approval <sup>2</sup>	high strength, medium viscosity	green	M 20 - R 3/4"	0.15 mm	26 - 29 Nm	12 - 15 Nm	27 - 30 Nm	40 - 45 Nm	5 - 10 min.	4 - 8 h	-60°C to +175°C
AN 306-10	Retaining Cylindrical Assemblies, drinking water approval	high strength, medium viscosity	green	M 20 - R 3/4"	0.15 mm	15 - 20 Nm	30 - 35 Nm	15 - 20 Nm	30 - 35 Nm	10 - 20 min.	8 - 14 h	-60°C to +200°C
AN 301-38	Retaining Cylindrical Assemblies, drinking water approval	high strength, medium viscosity	green	M 36 - R 1 1/4"	0.20 mm	25 - 28 Nm	12 - 15 Nm	28 - 32 Nm	37 - 40 Nm	5 - 10 min.	4 - 8 h	-60°C to +150°C
AN 306-38	Retaining Cylindrical Assemblies, drinking water approval	high strength, medium viscosity	green	M 36 - R 1 1/4"	0.20 mm	25 - 28 Nm	15 - 18 Nm	26 - 30 Nm	40 - 45 Nm	10 - 20 min.	8 - 14 h	-60°C to +150°C
AN 306-30	Retaining Cylindrical Assemblies, drinking water approval BAM-tested <sup>3</sup>	high strength, higher viscosity	green	M 36 - R 1 1/4"	0.20 mm	15 - 20 Nm	30 - 35 Nm	26 - 29 Nm	37 - 41 Nm	10 - 20 min.	8 - 14 h	-60°C to +200°C

## WEICONLOCK® especially for stainless steel screws

Stainless steel not only has a very appealing shiny and elegant look - the material is a true all-rounder and offers many advantages. Stainless steel does not rust and is highly resistant to corrosion, aggressive substances and temperature fluctuations. It is easy to clean and meets the highest hygienic standards. In addition, stainless steel is suitable for visually appealing constructions - whether it is in architecture or in industrial production processes.

In many industries, such as food technology, the pharmaceutical industry, the chemical industry, the automotive industry, or in boat building, stainless steel is often used as material in production or as main component of machines and other equipment.

Chemical threadlockers are somewhat difficult to use on stainless steel screws. That is why WEICON has determined which WEICONLOCK® types are particularly suitable for stainless steel screws and examined all types in extensive tests according to the DIN 15865 standard.



<sup>2</sup> DVGW certification (German Association of the Gas and Water Industry)  
<sup>3</sup> BAM safety-tested - see leaflet 0341 "List of non-metallic materials for use in oxygen" (DGUV information 213075) of the BG RCI

Strength values determined for M 10 screws with zinc flake coating Dörken KL 100 + VH 301 GZ, nut height 8 mm according to DIN EN 15865

Strength values determined for M 10 stainless steel screws V4A, nut height 8 mm according to DIN EN 15865

WEICON offers many more solutions for your specific requirements. Feel free to contact us!



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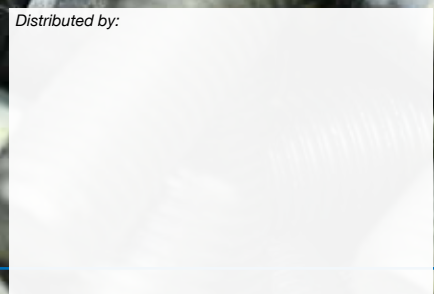
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for corrosion-resistant  
screw joints

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