

CORROSION MINIMIZATION DURING TRANSPORT AND STORAGE OF GALVANIZED AND UNGALVANIZED COMPONENTS

- » voestalpine KREMS specializes not only in outstanding and top-quality cold-rolled steel pipes and profiles but also in first-class service. This represents a lasting advantage for you as we move forward together.
- » As your expert partner, it is also important to us to advise you on the correct choice of materials and how best to use them. In this information sheet, we have summarized our recommendations for working with galvanized and ungalvanized products so you too can profit from these advantages in the long term.

The information described here provides tips on preventing corrosion damage to strip-galvanized (Z) and corren-der-coated strip-galvanized (ZM) parts during storage and transport. The tips also apply to other strip-galvani-zed alloy coatings, hot-dip galvanized materials, weather-resistant structural steel, and to pickled and unpickled materials.

The choice of temporary corrosion protection, the type of bundling and the packaging are always based on a variety of criteria and must satisfy, for example, work and transport safety requirements, the demands of hand-ling at construction sites or in workshops and the requirements of logistics and efficiency when sent by rail or road as well as during storage. Depending on the size and shape of the parts, there is not always a solution that offers optimal protection from corrosion while also meeting these different requirements, so compromises often have to be found. The strict application of the FIFO principle can, for example, generally result in workable procedures.

In order to avoid corrosion damage, the procedures cited in the standards, technical regulations and trade litera-ture should therefore be followed, especially when galvanized and ungalvanized parts are stored outside, under lean-to roofs or in unheated sheds as well as during long-term storage and (further) transport.

Delivery condition

The delivery condition is specified by the customer when the order is placed. Bundles of parts are usually supplied secured by a steel band and otherwise unpackaged. Special packaging is available upon request.

The delivery condition may be **“unoiled, with traces of oil from the manufacturing process”** or **“oiled”**. Packaging variations involving anti-corrosion film, crates or transport containers, etc. are also possible. Please contact us if these or other variations seem applicable to your product.

Unoiled, with traces of oil from the manufacturing process

This condition can be chosen, for example, if no slippery surfaces are permitted due to work safety concerns during assembly.

Products supplied unoiled and with traces of oil from the manufacturing process do not have any temporary corrosion protection so there is an increased risk of rust or white rust. Krems GmbH therefore disclaims all liability for corrosion damage caused by transport and storage.

This delivery condition is unsuitable for long transport journeys or storage durations. The bundle of parts must be shipped or collected immediately after manufacture. At the destination, the pipes and/or profiles should either be installed immediately or the bundles opened and the pipes and/or profiles separated and stored in a well-ventilated area.

Oiled

If the customer so desires and approves, galvanized and ungalvanized products can be delivered oiled. Coating with anti-corrosion oil provides temporary, limited protection from corrosion during transport and/or short storage periods. The table below lists typical, maximum storage periods:

Galvanized		Lean-to roof	1-2 weeks
		Indoor storage	4-8 weeks ¹⁾
Ungalvanized	pickled & unpickled	Storage outside ²⁾ or under lean-to roof (13.5 m or higher)	Corrosion to be expected
	pickled	Indoor storage	2-4 weeks ¹⁾
	unpickled	Indoor storage	2-8 weeks ¹⁾

¹⁾ These figures can be much lower due to condensation, depending on the environmental conditions and the time of year.

²⁾ Under some conditions, anti-corrosion oil can be washed off by rain, for example. Suitable steps should be taken to ensure there is no soil or water penetration.

The oil alone does not provide sufficient protection against corrosion during longer storage periods or under permanently unfavorable storage conditions. Visual impairments such as grayness, blotches, etc. cannot be excluded, despite oiling.

Packaging in anti-corrosion film

voestalpine Krems GmbH uses only top-quality corrosion-protection film which can also include volatile corrosion inhibitors (VCIs) if desired. However the films are not watertight or UV-resistant and are therefore not suitable for outdoor storage. They must also be protected from physical damage. Wooden crates or platforms, pallets, transport containers and the like may be suitable in this case if storage longer than 12 months or marine transport are required.