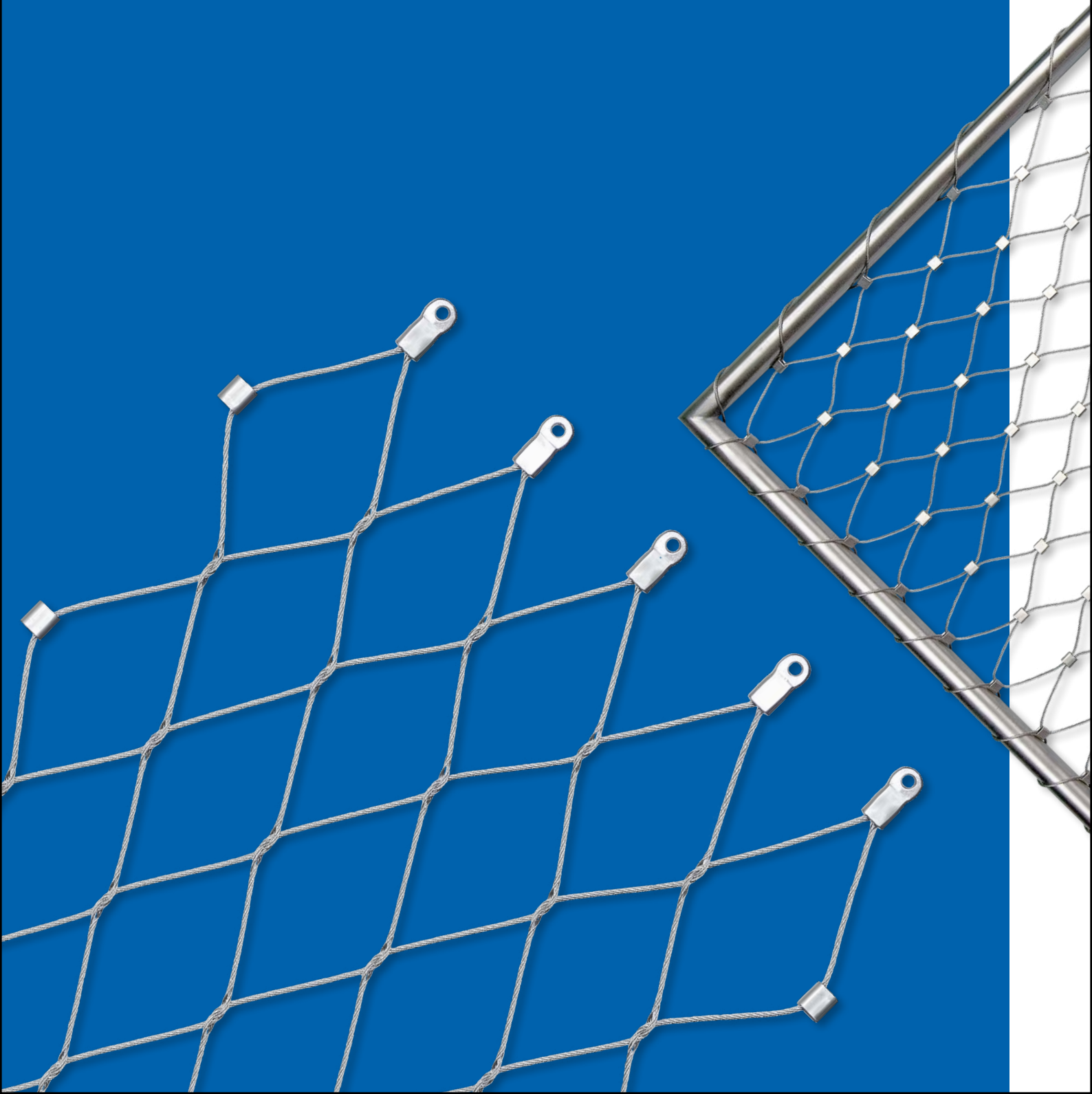


Technical information sheet

Use of Webnet products in coastal or maritime environments



Use of Webnet products in coastal or maritime environments

Initial situation

Jakob Rope Systems is a manufacturer of stainless-steel rope nets called “Webnet” and accessories made from the material groups AISI 316 and AISI 316L or 1.4401 and 1.4404. These Webnet products can also be pre-installed in frames. For the use of Webnet in a maritime environment, we provide the following instructions and recommendations for cleaning.

Experiments and experience with salty environment

In 2020, Jakob Rope Systems carried out salt spray tests over 720 hours in accordance with DIN EN ISO 9227 to verify the corrosion resistance of Webnet mesh samples and individual components. These tests were generally positive. However, surface corrosion with reddish-brown discoloration was observed in isolated cases at the lower net edges, where water accumulated after each wetting cycle.

The intensity of the discoloration varied depending on the individual surface condition of the sleeves deformed by pressing. See figure 1 from report no. K14078 of the K-Laboratory in Bretten (DE) dated 17.07.2020.

In addition, dust deposits can build up on the nets when installed outdoors. Depending on the location and weathering, the dust can



Figure 1: Example image of surface corrosion at the lower edge of the mesh in laboratory tests [Source: K-Labor]

bind moisture on the nets for longer or cause corrosion effects due to their chemical composition.

In a maritime environment, rust-red discoloration and white salt crusts on the surfaces, primarily on the lower net edges, are therefore to be expected to a certain extent. This purely superficial corrosion can mainly be removed by cleaning (see section “Cleaning recommendations”).

For the maritime use of Webnet, we advise against additional coating of the nets with conventional paints as corrosion protection or “Coastal Finish”. Many coating products which are intended to work against corrosion cannot permanently withstand the dynamic loads exerted after installation, by users, environment and so on. Our experience in using Webnet shows that in the majority of cases there is no technical need for this (see section “Evaluation of stability”).

Some customers have successfully used a zinc flake coating as additional protection in particularly aggressive environments. If you are interested, we will advise you on the general conditions of this technology.

Cleaning recommendations

In accordance with our Technical Information Sheet “Wire rope and tensile structures: Maintenance and upkeep”¹, we recommend that the nets be visually inspected regularly for discoloration and cleaned regularly as required. For cleaning, use water at moderate pressure, if available, together with a synthetic fibre brush or synthetic fibre brush nozzle. The system should be set in such a way that the net-forming ropes are not excessively deflected by the water jet or kinked over the edges of the sleeves and rope guiding elements.

Evaluation of stability

Since the discolorations that occur in a saline environment are surface corrosion without significant material degradation, we do not consider the stability of the mesh structures to be significantly impaired by this effect. Both in real applications and in the salt spray test, no visible impairments of the load-bearing cross-sections, such as pitting or blistering, could be detected apart from discoloration. We have positive experience after several years of using our nets, e.g. on coastal paths and cruise ships.

¹ https://www.jakob.com/files/6_downloads/technical-information-sheets/EN/jakob-rope-systems-maintenance-and-upkeep-e.pdf