

Seawater Filter

A.1018

Problem

Seawater Filter attacked by bi-metallic corrosion.

Place & performer

St. John's NL, Canada. Performed by DF Barnes, St. John's & Wencon.

Application method

Surfaces rebuild and two layer corrosion protection.

Application date & performer

September 2009

Products used

Wencon Rapid / Cream

Wencon Coating, white and blue

Wencon Cleaner

Wencon Application Tools

Pictures

1. Strainer after dismounting, ready for surface preparation.
2. Surfaces rebuild to original shape using Wencon Cream / Rapid.
3. Corrosion protection using Wencon coating, white and blue.
4. Final result. Seawater is now separated from the metal, and ready for many years of service.



Choose the relevant surface preparation, according to the nature of the job. Seek advice from a Wencon Technician if needed.

Specification for surface preparation for Dry Applications

Defined as applications, where the Wencon product will be applied to a surface at a temperature minimum 3 degrees above dew point. Use the Wencon Products: Wencon Cream, Wencon Rapid, Wencon Coating, Wencon Ceramic Cream, Wencon Ceramic Coating, Wencon Hi-Temp, all requiring a dry surface.

1. Blast the machine part to SA 2 ½ using sharp-edged blasting media, to a roughness of min. 75 microns.
2. Leave the part for sweating out salts in a warm place for at least 12 hours or heat it up to 30 - 40 °C (86-104 °F) using gas torches.
3. Blast again to SA 2 ½ immediately prior to the application.
4. For parts containing lots of water and salt, it may be necessary to repeat 2. and 3. until the surface remains light grey for at least 2 hours after blasting.
5. Always use Wencon Cleaner prior to application.

Specification for surface preparation for Wet/Damp Applications

Defined as applications, where the Wencon product will be applied to a surface at a temperature less than 3 degrees above dew point. Use the products Wencon UW Putty, Wencon UW Cream and Wencon UW Coating for applications on wet or damp surfaces.

1. Water jet the entire surface with water and sand to a standard equal to SA 2½, as described above.

Specification for surface preparation for Emergency/Temporary Applications

Perago Treatment

Perago is a rubber disk with hard steel spikes mounted on the periphery. Perago can be mounted in a normal drilling machine, and gives a surface close to a blasted surface - clean and rough with sharp edges. Perago dishes can be ordered at Wencon and at all Wencon Distributors.

Grinding

Wheel grinding is often an acceptable surface preparation for emergency applications, where shot blasting is not possible. When grinding use a coarse stone or flap. Use the Wencon Cleaner before and after grinding. Grinding with sandpaper or emery cloth is only advisable when, for example, carrying out shaft-repair on a lathe. Often the grinding will not hit the dents.

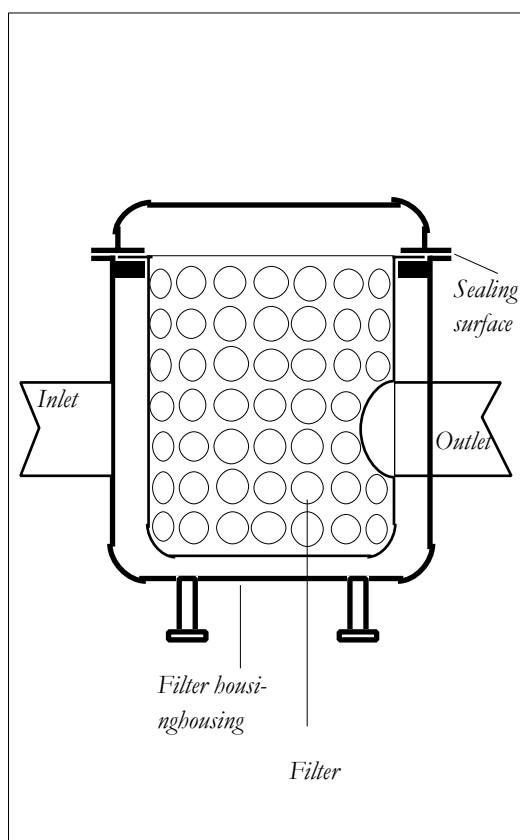
Needle Gunning

Needle gunning is a method that has almost been forgotten in recent years. Or should we say is mostly used for very rough cleaning or removal of rust. It is possible to do a very nice job using a needle gun, but it takes time and should be closely supervised. It is essential that the marks from the sharp needles cover the whole surface so that none of the original surface remains. It is recommendable to steam clean the surface before needle gunning.

Wire Brushing

Wire brushing can be a good way of removing scales, rust and old paint. However, you will need to grind the surfaces after the wirebrushing to make the surface as rough as possible.

Repair and coating of sea water filters



Sea water filters are very varied in appearance, but despite this they contain the same components internally, viz. a filter housing, a filter, an inlet, an outlet, and last but not least, a sealing surface between filter and housing.

Sea water filters are naturally exposed to erosion / corrosion and bimetallic corrosion.

Before starting the repair it must be decided whether it is to be an emergency repair which can be done on the spot, or a long-lasting renovation which necessitates the filter being taken ashore for shot-blasting. The long-lasting renovation is described below.

1. Disassemble the filter and shot blast the internal surface of the housing to SA 2,5.
2. Heat up the filter housing to approx. 30-40°C (102-136°F) to sweat out the salt. Dry the filter housing for approx. 6 hours by means of a dehumidifier. Then shot blast again to SA 2,5.
3. Fill corroded spots with Wencon Cream or Rapid. If the sealing surface of the filter is corroded, make first an application of a thin layer of Wencon.
4. After the first layer has semi-hardened mix and apply Wencon Coating, white. Apply with a radiator brush from which a half of the bristles have been cut away. When the coat has cured to a sticky consistency, apply a final coat of Wencon Coating, blue.
5. Now clean carefully the sealing surface of the filter and give it a layer of Wencon Release Agent. Then apply a suitable layer of Wencon Cream or Rapid on the sealing surface of the filter housing and fit the filter into place. A new sealing surface is thus established. After curing, the filter can be lifted out again and a gasket can be fitted. In a number of cases the gasket will not be necessary.