

Heat Exchanger Cover, corroded

Application:	Repair of corroded heat exchanger cover
Place:	Framtak Workshop, Iceland
Date:	August 2012
Job and report done by:	Framtak, Iceland
Wencon products used:	Cream, Coating blue, Cleaner, Release Agent, appl. tools



Due to bi-metallic corrosion, leaking cover of the heat exchanger, is a common and well known problem. The deliverytime for a new cover, is often quite long. Using Wencon repair solutions, it can be refurbished and back in action within 2 days.

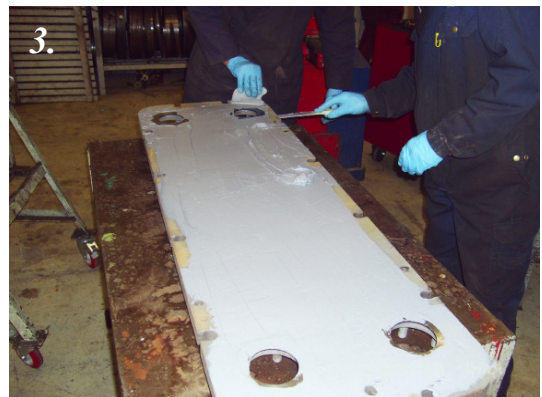
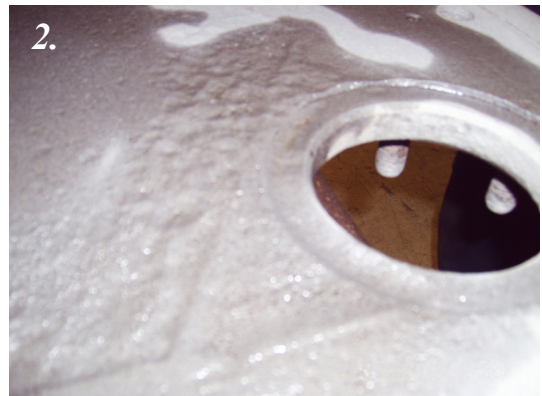
The problem with this specific end cover, was severe corrosion around the sealing points, which caused the heat exchanger to leak.

1. & 2.

Cover was severely corroded. To prepare for the Wencon material, the end cover was blasted and heated to remove moisture.

3. Wencon Rapid repair material applied to the cover.

4. To smoothen layer of Wencon Rapid, epoxy was put under pressure using a thick plastic plate. The plastic plate was chosen to minimize adhesion, but a metal plate covered in Wencon Release Agent can also be used.



5. Finally, to smoothen small pitting holes, a thin layer of Wencon Blue coating was put on the plate, and likewise put under pressure



6. & 7.

End cover was reinstalled, and the heat exchanger reassembled and back in action.



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.