

Exhaust bellow, leaking

A.1010

Problem

Due to a cracked Exhaust Bellow, the exhaust gases leaks and filled up the engine room. The ship was therefore forced to operate at reduced speed.

Place & performer

Rotterdam harbour, performed by Repair Management, The Netherlands.

Application method

Repair of expansion bellow.

Application date

June 2009

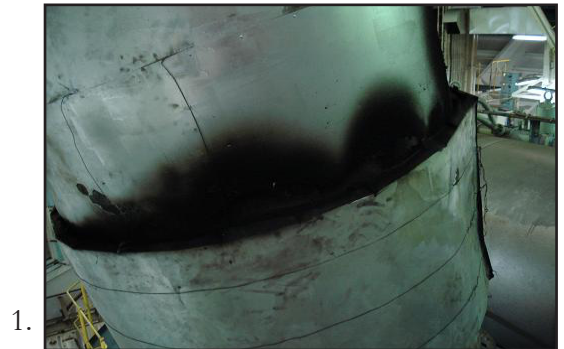
Products used

[Wencon Exhaust Repair Compound](#)

Pictures

1. The clear signs of a leak.
2. Removing the insulation.
3. Surface prepared around the crack.
4. Final result.

Remarks: This is a short term emergency repair



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.

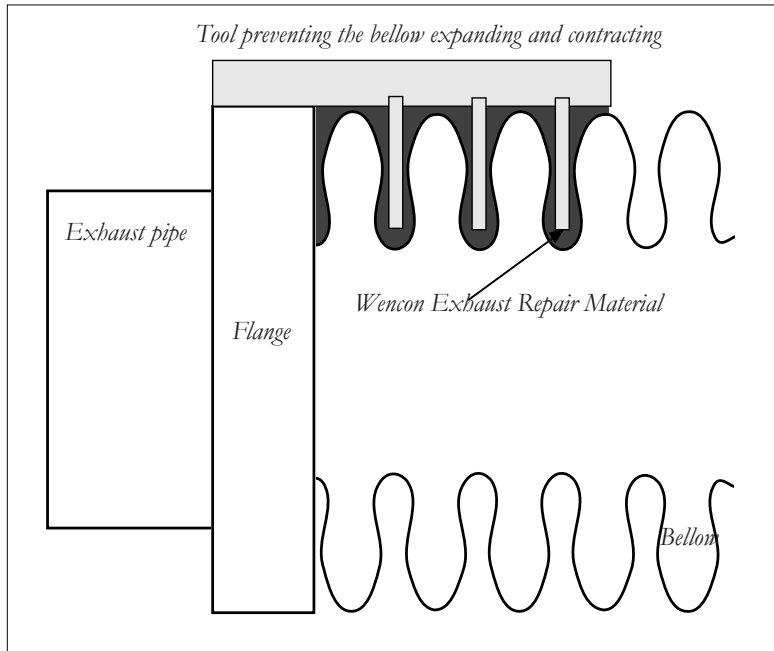
Needle Gunning

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.

Bellow repair



This is one way of trying to overcome the mentioned problem. In a situation like this, you can do nothing else but try to do your best.

1. Prepare pieces of iron that shall prevent the bellow to move in the area in which they are inserted.
2. Prepare one or more pieces of iron, onto which you weld the pieces mentioned in 1., in order to hold them in position.
3. Apply the Wencon Exhaust Repair material into the grooves of the bellow.
4. Before it cures, put your tool as mentioned above into the wet material and weld it to the flange or the like, depending on how it looks.
5. Let the Exhaust Repair material cure as long time as you can give it. If it is not allowed to cure enough, the gas will leak again.

Important:

Only meant for emergency, until a new bellow can be mounted.