

BOILER CLEANING BY MEANS OF MOLASSES FERMENTATION

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This method does not seem to be generally known in Natal, but has been used in Australia and Central America for some time, and latterly in many distilleries in Germany. I have used it for the past nine years.

The treacle is thoroughly mixed with water to form a wash of from 9° to 10° Be. The boiler is then filled to a point well above the water line, and is not allowed to fall below 70°F. Fermentation occurs spontaneously with free evolution of hydrogen, an indication of which is its appearance in the form of bubbles on the surface of the wash. Naked lights should not be allowed near the boiler man-hole at this stage.

After nine or ten days the plate surface should be watched to see if the scale has started to soften. In three weeks, more or less, the scale should be quite soft and of a jelly-like consistency. The wash should now be lowered in one of the boilers to a couple of inches below the water line, and if the plate, when wiped, is found to be quite clean, the boiler should be emptied.

As the boiler is now chemically clean, it should immediately be filled with water, and sufficient paraffin (dependent upon the size of the boiler) added so that when the boiler is very slowly emptied, a film of paraffin is left on the boiler plates.

A quantity of disintegrated jelly-like scale will now be present at the bottom of the boiler, which is easily washed out with a hose pipe. In the case of a B. & W. boiler, a tube brush should be put through the tubes. This method has also been successfully used in the cleaning of evaporators.

If any delay occurs in the spontaneous starting of fermentation, it can quickly be developed by the adding of a few gallons of wash taken from an evaporator which has been standing full of wash for a couple of days.

Finally, care should be taken that the boiler is emptied when the plates are clean, as there may be a possibility of pitting setting in, although this has not been my experience. It would be of interest if experiments were carried out with plates to find if pitting is possible.

An article called "Removing Scale from Boilers by Molasses Fermentation" appeared in the International Sugar Journal for February, 1937.

Many German distilleries are said to be loosening their boiler scale by means of molasses fermentation. Their practice is to add about 1 lb. of molasses per square foot of heating surface.