

Mick Moor~ Agricultural & Industrial Installations
Sycamore Cottage, Puddle Hill, Bonsall, Matlock, Derbyshire DE4 2BA
Telephone 01629 824376, Mobile 07974720991
Website: www.mickmoor.co.uk Email mick@mickmoor.co.uk

October 2016

Dear W,

Tank Inspection Report – xxxxxxxxxxxx

The slurry tank at the above premises was inspected on 25th October 2016. The tank is labelled as being sold by Alfa Laval, but was in fact manufactured by Boythorpe, who are no longer in business. Probably supplied and erected in the mid 1980's, the design life of this type of tank is twenty years. It is four rings (4.8m) high, 32 sheets round, 80'0"(24.38 m) diameter, gross capacity 2,235m³.

The exterior of the tank is in good order, with a few minor areas of damaged enamel. There is some scrub close to the tank, and I suggest clearing the exterior concrete fillet and making sure any water coming out of the higher ground on the South elevation is not trapped. A drain in this position would contravene EA regulations, and must not be installed. The wind stiffeners are in position and in good order. The top stiffening angle is constructed from single galvanised 60 x 60 angles, with joiners, and is in good condition. The ladder work and platform is agricultural standard and serviceable. A jetter is fitted which could be used for filling, connecting to the existing 5" hose by Bauer type coupling.



The inside of the tank is in exceptional condition. If carried out, the work described below should give a useful life of five years. Beyond this stage a further inspection will be required, resulting in further recommendations including replacing many more bolts.

When built, this tank was sealed with Evode SPK1 mastic, now superseded by Sikaflex TS+, which is far superior. However, the two mastics are incompatible, so any repair must include removing the old mastic first. For identification purposes, the sheets are numbered in a clockwise

We supply: Ameram Aeromixers & Biocrust; Astwell augers; Bentall Rowlands storage systems; Collinson feed hoppers and equipment; Expanda flat-pack portable buildings; Landia pumps and mixers; SteFos covers; Storth slurry stores, pumps, separators, and equipment.
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direction, starting above the outlet sluice; with ring one being the bottom. The sluice is to a design which is no longer permitted, and has now been stopped off. The bolts used to hold this tank are ½" BSW thread, which is no longer available. Currently all silo bolts use ½" UNC thread. Care should be exercised when using other metals, including stainless, since electrolytic corrosion can be initiated. Sikaflex mastic will help to isolate the two metals.

All sheet edges inside the tank should be cleaned up and a fresh mastic fillet applied to cover this area completely, paying attention to the identification notches close to the top of the vertical seam on the bottom two rings. The sectional diagram below shows how mastic should cover the sheet edges as well as cushioning the bolt head against the glass surface.



The picture below shows damage in the bottom ring, between sheets 1 & 2, due to external impact. Cleaning and an application of Sikaflex will stop further deterioration.



Below is a bolt with the plastic coating damaged. Such bolts must be replaced with new.

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The next picture shows some deep corrosion on the inside surface. This should be treated by cleaning and applying mastic, additionally covering with stainless steel plate, 1.0mm minimum thickness, held in place with stainless self drilling screws.



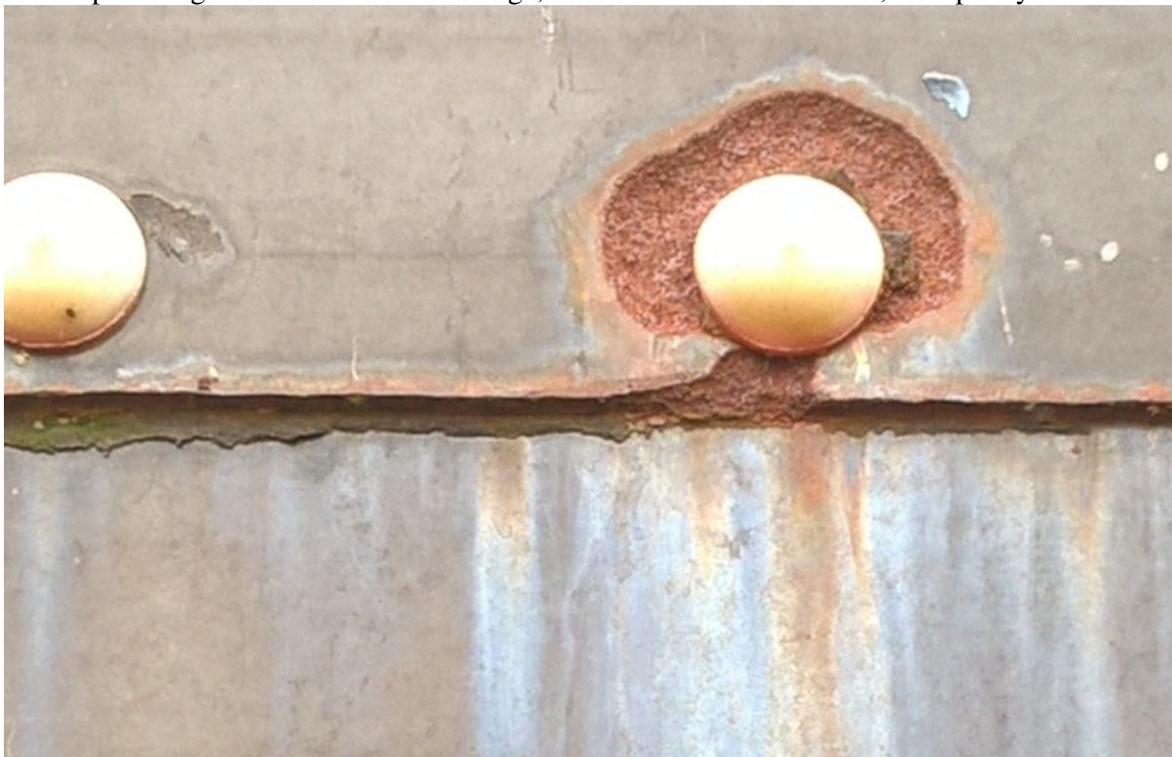
As mentioned above, the bottom two rows of sheets have indents near the top of the vertical seams. These can lead to corrosion travelling from the sheet edge to the bolt holes, with disastrous consequences. Particular attention should be given to these points.

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In a few places on the horizontal seam, the bolt head has damaged the enamel, allowing deep corrosion. The bolt should be replaced and the area treated and covered with a stainless steel washer plate of greater area than the damage, and minimum 2.5mm thick, with plenty of mastic.



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The area shown below should be cleaned and covered completely with mastic, replacing the bolts with new.



It appears that slurry has seeped behind the fillet and is escaping at this point. There is no evidence of leakage to the outside, so no treatment is required at this stage. We will advise if longer than five years' use is expected.



Please see the accompanying survey sheet.

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A new inlet has been added, which could also be used as an outlet. As there is no bund, the EA will require two lockable valves on the outlet, a metre apart, one of which must be quick acting.

Recommendations

The repairs listed above would extend the life by a further five years at least.

I hope this report is useful to you. If you have any questions I can be contacted at any reasonable time.

Yours sincerely,

Mick Moor.

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