

CASE STUDY: SCRUBBER DEMONSTRATION

ABOUT THE CUSTOMER

The Customer is a multinational chemical corporation. The company is a world leader in titanium technologies, fluoroproducts and chemical solutions

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UTComp[®] data was collected from sections of a retired FRP Scrubber that had been used to clean vented vapours. The scrubber used caustic liquor to remove chlorides. This is the 1st time that UTComp[®] Evaluation has been completed for this equipment. The vessel was insulated and insulation was removed from the areas to be inspected.

The plan for the demonstration was as follows:

1. Customer removed the equipment from service. The scrubber was disassembled, placed on the ground and the end covered to ensure that UTComp was “blind” to any internal visual clues
2. Insulation was removed so that UTComp data could be collected directly on the surface of the scrubber
3. UTComp data was collected on 5 sections and 3 reinforcements and analysis was completed.
4. UTComp returned to the site to witness the cutting of the scrubber sections where the UTComp data was collected.
5. Comparisons were made.



Photo 1: 1 of 4 Scrubber Sections

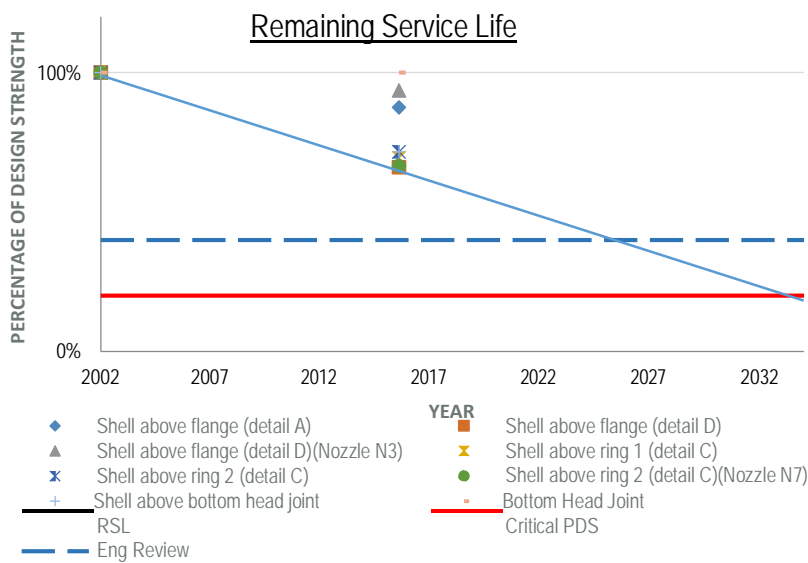


Photo 2: Cut Section with Corrosion Barrier Damage

The photo to the left shows the cut out section of concern by the customer. As can be seen, the interior of the scrubber shows significant visual corrosion barrier damage. However, this is a surface concern only and the shell shows good condition and remaining strength. This was validated by the UTComp System, which did not require confined space entry or destructive testing or holes to be cut in the equipment.

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To the right is a close up of the corrosion barrier damage and the shell. It can be seen that the damage to the scrubber is limited to the surface of the interior. Using the UTComp Analysis a 1.25mm corrosion barrier damage was detected and confirmed using measurements.



CONCLUSION

UTComp completed the analysis of the files collected and the results are in the graph (right).

UTComp recommended that the next inspection be completed in 2018, and estimated the year this equipment will reach its critical Percentage of Design Strength (20%) will be 2034, 19 years from the date of the inspection.

Therefore, had this customer used the UTComp System to predict Remaining Service Life and as a guide for repair and replacement there would have

been considerable cost savings and replacement would not have been necessary for at least another 19 years, if not more.