

CASE STUDY

PRESSURE VESSEL DATA REVIEW AND COMPARISON USING SIMS COMPARE

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INTRODUCTION

Sonomatic were asked to review and compare data captured on a pressure vessel during two different inspection campaigns: one in 2018 when the vessel was offline and at ambient temperature and another in 2020 when the vessel was online with a temperature of approximately 115°C.

PROCESS

Temperature has been shown to affect the speed at which sound travels through steel and can therefore have an impact on thickness readings. The data was loaded into SIMS-Compare where the minimum at each inspection were very similar yet there was a clear offset between the uncorroded material, as shown in Figure 1.

OUTCOME

SIMS-Compare was used to align the curves at uncorroded material, as we can be confident that this will not have seen change between the inspections. After aligning the curves, the overall minimum showed a 0.7 mm reduction between inspections with growth to the extent of corroded material between 12mm and 13 mm thickness (Figure 2).

FIGURE 1:

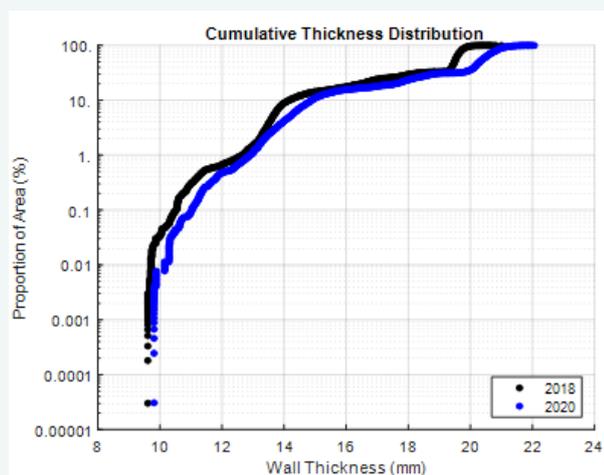


FIGURE 2:

