

Investigation of Cl-SCC of a Stainless Steel Bellow in Boiler Penetration Seals

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The failure of the stainless steel bellow used in the expansion joint system was investigated using metallographic studies. The investigation at the fracture surface clearly indicated the highly branched intergranular cracks. The presence of chloride was also evidently revealed by the EDS spectra. Thus, all of evidence suggested that Cl-SCC from the combination of the presence of chloride and residual bending stress was responsible for the failed stainless bellow.