

CORROSION AS MAJOR FACTOR IN SEVERAL FAILURE CASES

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Abstract: The main phenomena causing the premature failure of a product are: wear, fatigue, corrosion or combinations of these aspects.

Starting from these considerations the paper shows 3 cases of failures (gas recipient- fig. 1; connecting screw – fig. 2; syringe needle – fig. 3) for which the corrosion phenomena was the determinant factor leading to the malfunction of the product.



Fig. 1 Corrosion cavern in the welding joint of a gas recipient

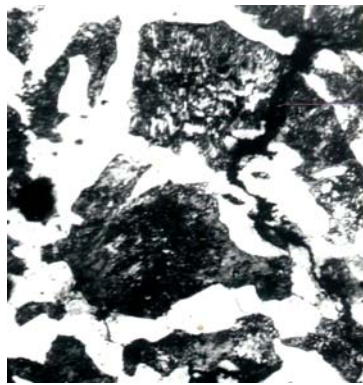


Fig. 2 Intra-crystalline crack originating from corrosion pits existing in the surface of the connecting screw

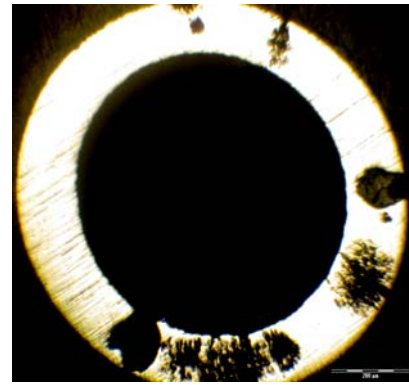


Fig. 3 Local corrosion advancing up to the penetration of the needle wall thickness

For each case, the main factors that contributed simultaneously to the failure are analyzed and the influence of corrosion as a main factor is highlighted.

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