

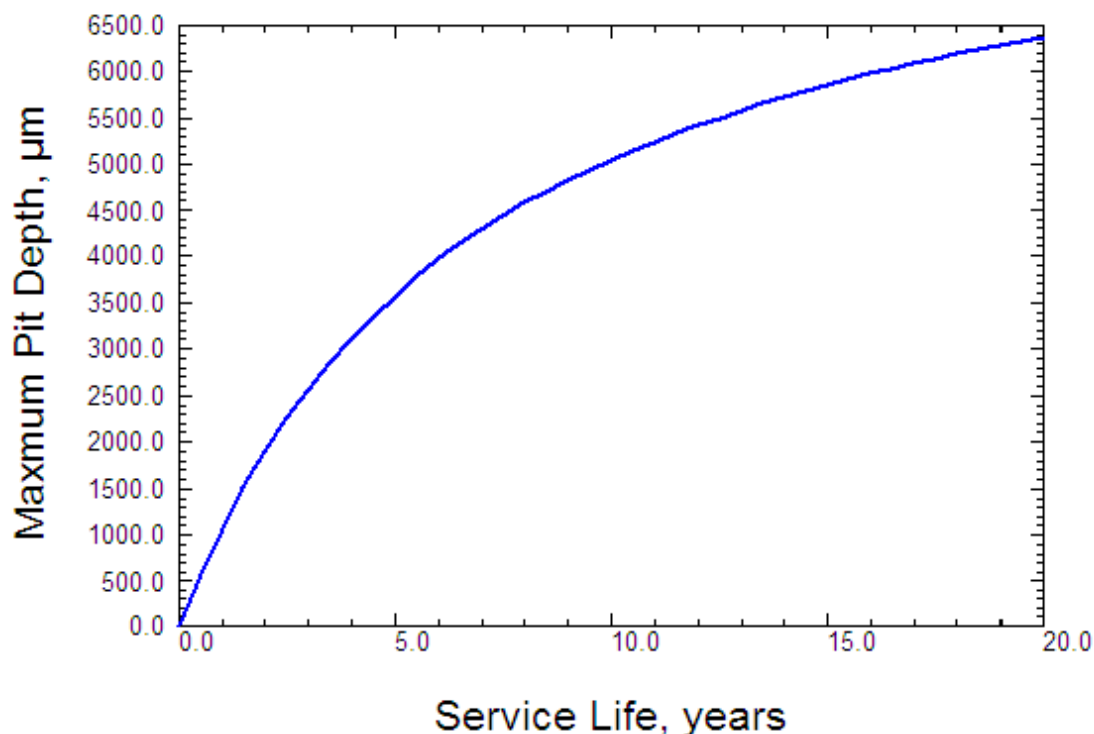


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Life Prediction & Extreme Value Statistics

WebCorr has [NACE certified corrosion specialist](#) providing corrosion advisory services, corrosion diagnosis, in-house training, online and distance learning corrosion courses, corrosion consulting, corrosion failure analysis and corrosion expert witness in litigation and arbitration cases related to corrosion, materials, metallurgy, paints & metallic coatings including thermal spray metallizing, galvanizing, anodizing, chromating, phosphating, electroplating, electroless plating, mechanical plating, and sheradizing or diffusion coating.

Extreme value statistics is a powerful tool in corrosion data analysis and especially in life prediction of corrodible structures and components. Applying extreme value statistics to corrosion data analysis, one can achieve more realistic life prediction and remaining life estimation of plant equipment and other structures such as pipelines, storage tanks and highway bridges. Specifically, one can predict the deepest pit, the time to first perforation (leak), the number of perforations (leaks), and the area of perforations.



At WebCorr, we can analyze the supplied corrosion data, or conduct on-site survey, inspection and measurement of the relevant corrosion data and provide you with a technical report that contains detailed extreme value statistical analysis of your corrosion data, and the remaining life determined from the extreme value statistics.

For example:

- " I have a 10-year old fuel pipe (API schedule 40, thickness: 8.1 mm; dia.: 200 mm) that is experiencing severe pitting corrosion recently. There have been no leaks so far but I am concerned with the probability of leaks in the near future. How can I determine the remaining life of the fuel pipe?"

Specifically for this case, we can predict *the maximum pit depth, the remaining life, the time to first perforation, the number of perforations, the area of perforations* for a given time into the future (pit depth prediction graph above).