



ABOUT DFM

DFM is the Danish National Metrology Institute. DFM develops and maintains selected national standards. DFM provides metrology services and technology primarily to high-tech companies within the pharmaceutical, photonics and advanced manufacturing industries.

CONTRACT RESEARCH

DFM offers metrology related contract research such as development of new measurement technology, assistance in obtaining accreditation and other areas where specialized metrology competences are required

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Corrosion detection

Quantification of corrosion on offshore metal surfaces



Left: Sample under investigation, Right: Sensor Output. Corroded areas are colored.

Type of Measurements

DFM offers surface characterization of offshore metal surfaces in our laboratory. Outdoor measurements on the customer site can be performed after closer assessment of the on site conditions. Corroded areas of the sample are marked on an image and delivered in a comprehensive measurements report. In addition we will provide an accurate and precise determination of the ratio of corroded to unaffected surface. The precise ratio allows direct transformation of the surface condition to standard ratings of quantitative standards for surface conditions like ASTM 610 D.

Method

DFM can accept samples up to a mass of 20 kg and up to a measurement surface area of approximately 50 cm x 50 cm. If the surface area is larger than this, multiple measurements of different areas can be performed. Larger samples can be accepted after prior agreement.

The method used is a proprietary spectroscopic method developed by DFM as a response to the increasing need of precise maintenance data and surface condition ratings of offshore assets. The method has shown to correctly assign more than 97% of the surface under test

Uses

DFMs method delivers quantitative reproducible results independent of the day to day performance of an inspector. It can thus be used for performance evaluation of coatings, training of new inspectors or for advanced prediction modelling of the corrosive state of offshore structures. In case of multiple measurement campaigns on the same sample a development trend over time to be used in predictive modeling can be prepared. In future DFM plans to offer this service from unmanned aerial platforms to offer assessment of hard to access areas like bridges or offshore installations.