

## What is Microbial Corrosion?

Microbially influenced corrosion (MIC) is known to cause significant economic damage across a broad range of industries. Pipelines, storage tanks, thickeners, offshore platforms, marine port piling and underground structures have been reported to be quite vulnerable to biological corrosion which is thought to be mediated by different groups of microorganisms.

Of the diverse corrosion processes, the microbially influenced corrosion (MIC) of metals has been estimated to account for up to **50%** of the costs of damage.

Interestingly, microbial corrosion often presents as localised pitting, which, depending on the affected asset, is usually more severe than the general corrosion processes that are evenly distributed over the metal surface and for which “corrosion allowances” are usually assumed to accommodate.

Microbial corrosion under aerobic or oxygenated conditions involves complex chemical and microbial processes due to metabolic activities of different groups of microorganisms



## What Extrin can provide...



### Site Inspections



Site inspection of MIC areas by a specialist Extrin engineer

### Microbial Testing



Identification of MIC to assets which will assist in awareness and prevention

### Deterioration Mechanism



Assessment of the mechanism for asset inefficiency or failure which will improve plant performance

### Remediation and Control



Preventative techniques such as oxidising biosides and cell poisoning via interference with the cellular metabolism



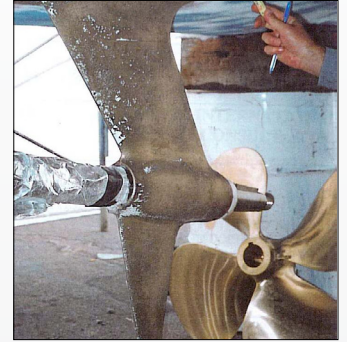


### **Asset/Infrastructure Assessment**

- Corrosion Management Audit
- Asset Condition
- Failure Investigation
- Criticality Review

### **QA/QC**

- Coating Inspections
- Project Management
- Repair Integrity Analysis
- Shutdown Planning and Maintenance Management



### **Analytical Services**

- Water Analysis
- Corrosion Product Testing
- Metallurgical Testing
- Product Trials
- Concrete Testing

### **Cathodic Protection**

- Complete System Design
- System inspections and testing
- Material Procurement
- Coordination of installation



### **Concrete Services**

- Durability Assessments
- Mix Design Review
- Protective Coatings
- Refurbishment works
- Project Management

### **Corrosion Training Services**

- Corrosion Awareness
- Corrosion Prevention
- Corrosion Detection
- Other Client-Specific Training Courses



### **Failure Analysis**

- Failure Catalyst Analysis
- Review and Recommendations
- Asset inspection and testing

### **Design and Durability**

- Durability Report
- Materials selection
- Concrete mix design
- Corrosion rate prediction
- Maintenance specifications



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