# Tensions Tests

## Yield strength as a function of corrosion

## Effect of corrosion in uniform elongation

# Buckled Bar Tension (BBT) Tests

## Summary of test procedure

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| 1. Test setup | 1. Bar loaded in UTM |
|  |  |
| 1. Buckled bar in compression loading | 1. Fractured bar |

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|  |  |
| 1. Curvature of rebar at maximum bending strain | 1. Stress vs axial lungitudinal strain |

## Effect of corrosion in Critical Bending Strain

## Effect of corrosion at the micro-structural level

**Fractography**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Observation Location** | **Brittle failure** | **Ductile** |
| **Fracture Initiation** |  |  |  |
| **Center** |  |  |  |
| **Oposite extreme** |  |  |  |

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**River like fracture surfaces**

**Spectrum analysis**

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| **Brittle** | **Ductile** |
|  |  |
| 1. BSE image of fracture surface britle sample | 1. BSE image of fracture surface ductile sample |
|  |  |
| 1. Spectrum analysis in brittle sample | 1. Spectrum analysis in ductile sample |

## Effect of geometry imperfections