In-situ Field Metallography

Optimech

Material used in pipework and vessels operating at elevated temperature undergoes micro-structural changes and creep damage. In-situ-replication is a powerful technique for assessing material integrity. These techniques allow assessment of root cause of cracking so that correct run-repair-replace decisions can be undertaken. In-situ replication can be undertaken without the need to destructively cut samples from the equipment. In-situ replication can be used as a tool for prediction of remaining life, fitness for purpose, and damage assessment of creep or fire damaged components

Capabilities:

- Defect assessment and fitness for purpose
- Assessment of overheating
- Verify cracking mechanisms
- Graphitization
- Determine micro structural condition and alloy type
- Surface deposits removed for analysis
- Creep life prediction and replacement scheduling

Typical applications include:

- Fired heater tubes
- High temperature pipework, headers and vessels
- Reformer tubes
- FCC and HDS units
- Coker and Hydrocrackers
- Chemical reactor vessels
- Turbine rotors
- Super heater tubing
- Hydrogen storage vessels

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