

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Metallurgy and Material Science - NOC:Corrosion Failures and Analysis

Subject Co-ordinator - Prof. Kallol Mondal

Co-ordinating Institute - IIT - Kanpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - An introduction to corrosion failure and analysis
- Lecture 2 - Various forms of corrosion
- Lecture 3 - Discussion of various factors affecting corrosion
- Lecture 4 - Forms of corrosion: Uniform corrosion - Part 1
- Lecture 5 - Forms of corrosion: Uniform corrosion - Part 2
- Lecture 6 - Galvanic corrosion - I
- Lecture 7 - Galvanic corrosion - II
- Lecture 8 - Galvanic corrosion - III
- Lecture 9 - Galvanic corrosion - IV
- Lecture 10 - Importance of galvanic series
- Lecture 11 - Factors associated with galvanic corrosion: Case study 1
- Lecture 12 - Factors associated with galvanic corrosion: Case study 2
- Lecture 13 - Factors associated with galvanic corrosion: Case study 3
- Lecture 14 - Preventive measures and advantages of galvanic corrosion
- Lecture 15 - Dealloying/Selective leaching
- Lecture 16 - Dealloying or selective leaching: Mechanism
- Lecture 17 - Dealloying or selective leaching: Applications and protection methods
- Lecture 18 - Graphitic corrosion and protection from dezincification
- Lecture 19 - Intergranular Corrosion
- Lecture 20 - Intergranular corrosion in case of 304, 321 and 347 stainless steel
- Lecture 21 - Intergranular Corrosion: Sensitization and Weld Decay
- Lecture 22 - Intergranular Corrosion: Control of Sensitization - Weld Decay
- Lecture 23 - Intergranular Corrosion: Knife Line Attack and Prevention Methods
- Lecture 24 - Crevice Corrosion: Introduction
- Lecture 25 - Crevice Corrosion: Mechanism
- Lecture 26 - Crevice corrosion: Mechanism and Various stages
- Lecture 27 - Crevice corrosion: Case studies and Protection methods
- Lecture 28 - Pitting corrosion: Introduction and Case studies
- Lecture 29 - Various conditions favouring pitting corrosion - I

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- Lecture 30 - Various conditions favouring pitting corrosion - II
- Lecture 31 - Various conditions favouring pitting corrosion - III
- Lecture 32 - Pitting Corrosion: Mechanism and Protection
- Lecture 33 - Erosion Corrosion: Introduction
- Lecture 34 - Erosion Corrosion: Characteristics
- Lecture 35 - Erosion Corrosion: Protection methods and cavitation corrosion
- Lecture 36 - Cavitation corrosion and its case studies
- Lecture 37 - Cavitation corrosion, Fretting corrosion and their preventive measures
- Lecture 38 - Environmental cracking or stress assisted corrosion failures
- Lecture 39 - Stress corrosion cracking: Mechanism - I
- Lecture 40 - Stress corrosion cracking: Mechanism - II
- Lecture 41 - Stress corrosion cracking: Mechanism - III
- Lecture 42 - Stress corrosion cracking: Corrosion fatigue and protection methods