

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

NPTEL Video Course - Mechanical Engineering - Welding Engineering

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Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Welding Engineering
Lecture 2 - Classification of Welding Processes - I
Lecture 3 - Classification of Welding Processes - II
Lecture 4 - Sources of Heat and Protection of Weld pool
Lecture 5 - Protection of Weld Pool
Lecture 6 - Introduction
Lecture 7 - Fundamentals of Arc Initiation
Lecture 8 - Arc Maintenance & Arc Characteristics
Lecture 9 - Arc Forces
Lecture 10 - Arc Efficiency
Lecture 11 - Melting Rate in Different Welding Processes
Lecture 12 - Types of power sources and their characteristics - I
Lecture 13 - Types of power sources and their characteristics - II
Lecture 14 - SMAW - I
Lecture 15 - SMAW - II
Lecture 16 - GTAW - I
Lecture 17 - GTAW - II
Lecture 18 - PAW & SAW
Lecture 19 - SAW
Lecture 20 - GMAW
Lecture 21 - Brazing, Soldering & Braze Welding
Lecture 22 - Braze welding and Electroslag welding
Lecture 23 - Weld Thermal Cycle
Lecture 24 - Effect of WTC and Cooling rate in welding
Lecture 25 - Cooling rate
Lecture 26 - Peak temperature & Solidification rate
Lecture 27 - Residual stress - I
Lecture 28 - Residual stress - II
Lecture 29 - Introduction

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- Lecture 30 - Type of joints and welds
- Lecture 31 - Edge preparation
- Lecture 32 - Design for static and fatigue loading
- Lecture 33 - Fatigue fracture of weld joints - I
- Lecture 34 - Fatigue fracture of weld joints - II
- Lecture 35 - Introduction-
- Lecture 36 - DT & NDT
- Lecture 37 - Understanding Weldability
- Lecture 38 - Reactions in weldment
- Lecture 39 - Weldability of Al alloys
- Lecture 40 - Failure analysis and prevention