

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

NPTEL Video Course - Metallurgy and Material Science - NOC:Welding of Advanced High Strength Steels for Autom

Subject Co-ordinator - Prof. Murugaiyan Amirthalingam

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introduction to the course, Introduction to physical metallurgy of steels
- Lecture 2 - Martensitic transformation, Introduction to modern automotive steels
- Lecture 3 - Introduction to modern automotive steels
- Lecture 4 - Introduction to advanced high strength steels
- Lecture 5 - Introduction to Dual Phase Steel and TRIP Steel Heat Treatments
- Lecture 6 - Thermal and Mechanical Processing of TRIP and Hot Forming Steels
- Lecture 7 - Introduction to Welding Processes in Automotive Industries
- Lecture 8 - Principles of Resistance Spot Welding (RSW)
- Lecture 9 - Process Characteristics of Resistance Spot Welding - Part I
- Lecture 10 - Process Characteristics of Resistance Spot Welding - Part II
- Lecture 11 - Introduction to Laser Beam Welding - Part I
- Lecture 12 - Introduction to Laser Beam Welding - Part II
- Lecture 13 - Principles of Gas Metal Arc Welding - Part I
- Lecture 14 - Principles of Gas Metal Arc Welding - Part II
- Lecture 15 - Welding Metallurgy of Advanced High Strength Steels - Part I
- Lecture 16 - Microstructural Evolution During Welding of Advanced High Strength Steels
- Lecture 17 - Elemental Behaviour During Welding of Advanced High Strength Steels
- Lecture 18 - Quantification of Microstructural Constituents in Automotive Steel Welds - Part I
- Lecture 19 - Quantification of Microstructural Constituents in Automotive Steel Welds - Part II and Mechanical
- Lecture 20 - Methodologies to Improve the Weldability of Advanced High Strength Steels

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