NPTEL Video Course - Metallurgy and Material Science - NOC:Aluminium based Alloys and Metal Matrix Composites

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Co-ordinating Institute - IIT - Madras

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

Lecture 30 - Geometric Dynamic Recrystallization (GDRX)
Lecture 31 - Grain boundary strenthening
Lecture 32 - Grain refinement methods
Lecture 33 - Homogeneous vs Heterogeneous Nucleation
Lecture 34 - Grain refinement by Melt inoculation
Lecture 35 - Mechanisms of grain refinement by melt inoculation - 1
Lecture 36 - Mechanisms of grain refinement by melt inoculation - 2
Lecture 37 - Melt inoculation: Fading and Poisoning
Lecture 38 - Grain refinement by melt vibration
Lecture 39 - Severe Plastic Deformation (SPD)
Lecture 40 - Dynamic recrystallization in SPD
Lecture 41 - Metal Matrix Composites
Lecture 42 - Processing of Metal Matrix Composites
Lecture 43 - Two-phase process, Insitu composites
Lecture 44 - Particle wetting and Bonding
Lecture 45 - Particle Distribution in MMCs - 1
Lecture 46 - Particle Distribution in MMCs - 2
Lecture 47 - Rule of Mixture - 1
Lecture 48 - Rule of Mixture - 2
Lecture 49 - Strengthening Mechanism in MMCs - 1
Lecture 50 - Strengthening Mechanism in MMCs - 2
Lecture 51 - Fracture Behavior of Fiber Reinforced Composites
Lecture 52 - Ductile Fracture of Metals
Lecture 53 - Fracture Behavior of Discontinuously Reinforced Composites
Lecture 54 - Fatigue
Lecture 55 - Fatigue Crack propagation and Growth
Lecture 56 - Fatigue Behavior of MMCs - 1
Lecture 57 - Fatigue Behavior of MMCs - 2
Lecture 58 - Fatigue Behavior of MMCs - 3
Lecture 59 - Fatigue Behavior of MMCs - 4
Lecture 60 - Fatigue Behavior of MMCs - 5