



Introduction to Aluminium Metallurgy.

This 3 x 0.5-day training course contains the following modules:

Introduction to Aluminium.

- Aluminium production and usage
- Overview of alloy systems and applications
- Common manufacturing methods

Aluminium Microstructure & Metallurgy Fundamentals.

- Aluminium crystal structure, alloy systems and phase diagrams
- Casting and solidification microstructures
- Strengthening Mechanisms
- Microstructure evolution during processing

Thermal Treatments.

- Homogenisation and preheat
- Solution heat treatment
- Artificial ageing

Deformation and Annealing Mechanisms.

- Deformation and microstructure
- Recovery and recrystallisation
- Control of grain structure

Aluminium Surface Control.

- Surface generation
- Surface problems related to metallurgy
- Surface Analysis Techniques
- Cleaning and pre-treatment

Testing & Materials Characterisation.

- Chemical composition
- Mechanical properties and formability
- Microstructure: intermetallic particles, grain structure and texture
- Fractography and failure analysis

Q&A Session.

- Interactive session with Innoval's experts
- Wrap-up

Sample agenda:

DAY 1: 0900-1230 / 1300-1630 (UK)	DAY 2: 0900-1230 / 1300-1630 (UK)	DAY 3: 0900-1215 / 1300-1615 (UK)
Welcome and brief introduction to Innoval Technology	Thermal Treatments 1 (Homogenisation)	Thermal Treatments 3 (Artificial Ageing)
Introduction to Aluminium	BREAK	BREAK
BREAK	Deformation & Annealing Mechanisms (+ workshop)	Aluminium Surface Control
Aluminium Microstructure and Metallurgy Fundamentals (1)	BREAK	BREAK
BREAK	Thermal Treatments 2 (Solution Heat Treatment)	Testing & Materials Characterisation
Aluminium Microstructure and Metallurgy Fundamentals (2)		Final Q&A and Wrap-up

For more information please contact

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