



KNOWLEDGE SERIES MODULE 8a: STEEL STRUCTURES – AN INTRODUCTION

ASI KNOWLEDGE SERIES

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Introduction to the Knowledge Series
- KNOWLEDGE SERIES MODULE 2
Steel and Steel Making
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The Metallurgy of Steel
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Structural Steel Types
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The Steel Supply Chain
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Steel Quality and Compliance
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Steel Structures – An Introduction
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Steel Structures – Beyond the Basics

COURSE OUTLINE

Lesson 1: The advantages of steel

- Value for money
- Reduced risk
- Speed of construction
- Architectural flexibility
- Sustainability
- Lightweight and complex structures
- Reduced waste
- What our stakeholders say

Lesson 2: Understanding loads & load flow

Types of loads:

- Dead loads
- Live loads
- Wind loads
- Snow loads
- Seismic loads

Load flow:

- Vertical load
- Lateral load
- Portal action
- Bracing
- Shear panels

Lesson 3: Fundamental structural systems

- Introduction
- Beams
- Columns
- Bracing systems
- Floor systems
- Composite floor systems
- Trusses
- Purlins, girts, cladding
- Steel connections
- Framing concepts

Lesson 4: Steel structure types

- Introduction
- Industrial buildings
- Portal frame structures
- Post and beam construction
- Commercial buildings
- Multi-level buildings
- Residential hi-rise buildings
- Mid-rise construction
- Educational facilities
- Architecturally exposed structural steelwork
- Sports stadia
- Bridges

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