



Structural Steelwork Design and Inspection Training Course

3 – 7 January 2027
Cape town

Structural Steelwork Design and Inspection Training Course

Ref: 489_139026 **Date:** 3 – 7 January 2027 **Location:** Cape town **Fees:** 6000 Euro

Overview

Structural Steelwork Design and Inspection Training Course is a five-day course for structural engineers, steelwork designers, fabrication inspectors, welding coordinators, quality engineers, and construction supervisors who leave with a Steelwork Design and Inspection Control File. Participants connect structural steel design, load-path review, connection checks, fabrication drawings, material traceability, welding inspection, and bolting inspection. The course turns design and inspection evidence into controlled acceptance decisions. Agile Leaders Training Center presents structural steelwork inspection through design-to-turnover controls.

Who Should Attend

- Structural-engineering functions responsible for steel design bases, load paths, and member checks
- Steelwork-design functions responsible for connection details and fabrication information
- Fabrication-inspection functions responsible for materials, dimensions, welding, and records
- Quality functions responsible for inspection plans, nonconformances, and acceptance evidence
- Construction-supervision functions responsible for erection interfaces and turnover readiness

The course assumes participants can read structural drawings and inspection records, and it leaves out introductory structural analysis, welder training, and detailed erection safety.

Departments and Industries

The course supports departments and industries that design, fabricate, erect, inspect, or accept structural steelwork.

- Building and infrastructure engineering organizations
- Industrial and energy project teams
- Steel fabrication and erection contractors
- Engineering consultancies and inspection bodies
- Asset-owner quality and project-delivery departments

Learning Objectives

By the end of this course, participants will be able to:



- Analyze design bases, load paths, members, and connection requirements
- Evaluate fabrication drawings against design and project information
- Apply material traceability, welding, bolting, dimensional, and coating controls
- Diagnose nonconformances from inspection and test evidence
- Prioritize corrective actions and acceptance decisions
- Build a Steelwork Design and Inspection Control File

Course Agenda

Day 1: Design Basis and Load Paths

- Structural Steel Design-Basis Review Sheet
- Gravity and Lateral Load-Path Map
- Member Demand and Capacity Check Record
- Stability, Bracing, and Effective-Length Review
- Design Assumption and Interface Register

Day 2: Connections and Fabrication Information

- Welded and Bolted Connection Design Checklist
- Connection Force and Detailing Review Matrix
- Fabrication Drawing and Revision-Control Method
- Member Marking and Assembly Interface Map
- Design Query and Technical Clarification Log

Day 3: Materials, Welding, and Bolting

- Material Certificate and Traceability Register
- Welding Procedure and Welder Qualification Review
- AWS D1.1/D1.1M Welding Inspection Plan
- RCSC High-Strength Bolting Verification Sheet
- Weld and Bolt Inspection Evidence Pack

Day 4: Fabrication and Erection Quality

- Dimensional Tolerance and Fit-Up Inspection Record
- Surface Preparation and Coating Inspection Log
- Erection Alignment and Connection Completion Check
- Nonconformance Classification and Disposition Method
- Inspection Release and Turnover Readiness Matrix



Day 5: Steelwork Inspection Practice

- Suggested Exercise: Trace a Design Requirement to a Shop Drawing
- Suggested Exercise: Review Welding and Bolting Evidence
- Suggested Exercise: Diagnose a Dimensional Nonconformance
- Suggested Exercise: Decide Inspection Release Status
- Capstone Exercise: Steelwork Design and Inspection Control File

Practical Exercises

The course uses suggested activities to connect engineering requirements with fabrication and site evidence.

- Suggested activity: trace loads, member checks, connection forces, and drawing details through a design-review record.
- Suggested activity: assess material certificates, welding documents, bolt-installation evidence, and inspection results for completeness.
- Suggested activity: classify dimensional, coating, and connection nonconformances and select a disposition path.
- Suggested activity: assemble design, inspection, corrective-action, and release records into a control file.

FAQs

What does structural steelwork design and inspection training control?

Structural steelwork design and inspection training controls design assumptions, load paths, member and connection checks, fabrication information, material traceability, welding, bolting, dimensions, coatings, nonconformances, and acceptance records.

Who suits structural steelwork inspection training, and what does it assume?

Structural engineers, steelwork designers, fabrication inspectors, welding coordinators, quality engineers, and construction supervisors suit the training. It assumes the ability to read structural drawings and inspection records.

How does structural steelwork inspection training differ from structural analysis training?

Structural steelwork inspection training links design requirements to fabrication, erection, and acceptance evidence. Structural analysis training concentrates on modeling structural behavior, actions, and response.



How are welded and bolted steel connections inspected?

Welded and bolted connections are inspected through approved requirements, material and personnel records, preparation checks, installation observations, dimensional evidence, examination results, and documented acceptance criteria.

How are steelwork nonconformances managed?

Steelwork nonconformances are managed by recording the condition, tracing the applicable requirement, evaluating significance, assigning disposition authority, verifying corrective action, and documenting release status.

Conclusion

Participants take back a Steelwork Design and Inspection Control File linking design assumptions, connection checks, drawings, traceability, welding, bolting, dimensional control, coatings, and nonconformances. It changes separate engineering and inspection records into a traceable acceptance path. The file gives design, fabrication, quality, and site functions a shared basis for release decisions.