



Advanced API 653 Tank Inspection and Integrity Training Course

21 – 25 March 2027
Johannesburg

Advanced API 653 Tank Inspection and Integrity Training Course

Ref: 1194_188182 **Date:** 21 – 25 March 2027 **Location:** Johannesburg **Fees:** 6000 Euro

Overview

Advanced API 653 tank inspection and integrity is a one-week course for tank inspectors, integrity engineers, maintenance engineers, reliability professionals, and asset owners, who leave with an Aboveground Storage Tank Inspection and Integrity Plan. The course connects in-service tank inspection, damage mechanism assessment, inspection planning, nondestructive examination selection, suitability-for-service decisions, repair planning, and integrity reporting. It applies API 653 requirements with supporting practices from API RP 575, API 650, and ASME Section V. Agile Leaders Training Center presents API 653 tank inspection and integrity for operational asset decisions.

Who Should Attend

- Teams responsible for planning and performing aboveground storage tank inspections
- Functions accountable for mechanical integrity, reliability, and continued-service decisions
- Maintenance teams responsible for repair scope, execution evidence, and return to service
- Asset owners who approve inspection intervals, integrity actions, and outage priorities
- Quality and nondestructive examination teams responsible for inspection evidence

The course assumes participants already work with storage tank drawings, inspection records, or maintenance decisions and leaves out introductory equipment terminology and certification exam preparation.

Departments and Industries

The course supports tank integrity work across:

- Refining and petrochemical inspection departments
- Fuel storage and terminal operations
- Power and industrial utility facilities
- Manufacturing maintenance and reliability functions
- Engineering, construction, and asset-management services

Learning Objectives

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



- Apply API 653 scope and responsibilities to inspection planning
- Analyze tank records, damage mechanisms, thickness data, and settlement evidence
- Use external, internal, and nondestructive examination methods appropriately
- Evaluate shell, bottom, roof, foundation, and appurtenance condition
- Prioritize repair, alteration, and continued-service decisions
- Build a traceable tank integrity report and action plan

Course Agenda

Day 1: API 653 Scope and Integrity Baseline

- API 653 Scope and Owner-Inspector Responsibility Map
- API 650 Construction Record Review Checklist
- Tank Component and Boundary Identification Diagram
- Design, Service, and Inspection History Baseline Template
- Integrity Data Quality and Gap Assessment Matrix

Day 2: Damage Mechanisms and Inspection Planning

- API RP 575 Damage Recognition Guide
- Corrosion Circuit and Susceptibility Mapping Method
- External Inspection Route and Evidence Checklist
- Internal Inspection Scope Selection Worksheet
- Inspection Interval and Priority Decision Matrix

Day 3: Condition Assessment and Examination Evidence

- Shell Thickness Measurement and Evaluation Grid
- Bottom Plate Corrosion and Leak-Risk Assessment Map
- Roof, Nozzle, Appurtenance, and Foundation Condition Checklist
- Tank Settlement Measurement and Evaluation Plot
- ASME Section V Examination Method Selection Matrix

Day 4: Repair Decisions and Integrity Governance

- Continued-Service Decision and Escalation Framework
- Repair, Alteration, and Reconstruction Scope Comparator
- Welding and Examination Evidence Review Checklist
- Hydrostatic Test Decision Record
- Tank Integrity Finding, Action, and Closure Register



Day 5: Applied Tank Inspection Practice

- Exercise: Build an Inspection History Baseline
- Exercise: Map Tank Damage Mechanisms
- Exercise: Evaluate Thickness and Settlement Evidence
- Exercise: Select Repair and Examination Actions
- Capstone Exercise: Aboveground Storage Tank Inspection and Integrity Plan

Practical Exercises

The course uses suggested activities to connect inspection evidence with integrity decisions:

- Suggested activity: review refinery tank records and identify missing baseline evidence
- Suggested activity: map terminal-tank corrosion threats to inspection locations and methods
- Suggested activity: evaluate industrial tank thickness and settlement findings for escalation
- Suggested activity: prepare a repair decision record and closure register from a case file

FAQs

Who does advanced API 653 tank inspection and integrity suit, and what does it assume?

It suits professionals responsible for in-service tank inspection, maintenance, reliability, or asset decisions and assumes experience with technical records, drawings, inspection data, or repair work.

How does API 653 tank inspection and integrity differ from API 653 exam preparation?

API 653 tank inspection and integrity focuses on applying inspection evidence to asset decisions, while exam preparation focuses on testing knowledge and examination technique.

What evidence supports an API 653 tank integrity decision?

The decision uses construction and service records, external and internal inspection findings, thickness measurements, settlement evidence, examination results, repair history, and documented engineering evaluation.

How does API 653 tank inspection address repair planning?

Repair planning connects the recorded condition, applicable requirements, repair scope, welding and examination evidence, testing decisions, responsibilities, and closure criteria.



Conclusion

Participants take back an Aboveground Storage Tank Inspection and Integrity Plan containing the baseline, damage map, inspection scope, assessment records, repair decisions, and closure register. The plan changes isolated findings into traceable integrity actions and accountabilities. It also provides a repeatable basis for inspection reviews, outage planning, repair governance, and continued-service decisions.