



Advanced Casing Design

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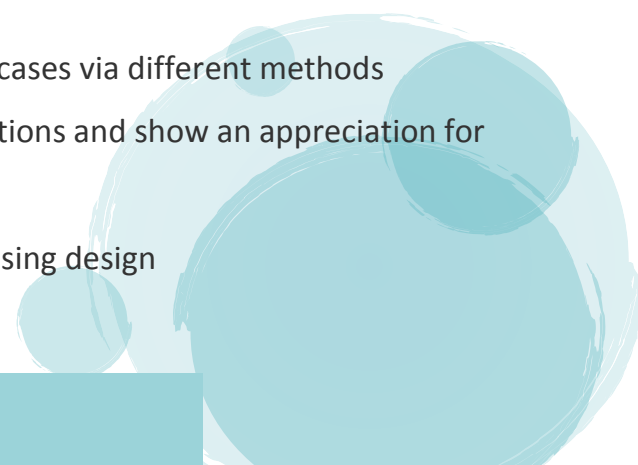
Introduction:

The course will cover relevant subjects required to understand the structural mechanics of downhole tubular. Material aspects, connection selection, performance properties, load cases, design factors and buckling are just a few of the many topics covered.

The training is designed to take delegates through the key drivers behind casing design for exploration, appraisal and well developments and their associated risks, challenges and solutions. The candidates will be able to design casing for any well: onshore, offshore, high pressure and high temperature wells, horizontal and multilateral wells

Objectives:

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


- Understand the main functions, characteristics and different types of casing
 - Recognize the geometric characteristics and properties of casing, and how these can affect performance.
 - Appreciate the requirements for casing seat selection with regards to subsurface information
 - Conduct casing design calculations for different load cases via different methods
 - Understand how buckling affects casing design limitations and show an appreciation for mitigating its effects
 - Recognize the effects of temperature and wear on casing design
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- Know how corrosion can reduce casing life / performance and recognize signs of corrosion
- Understand the most important aspects of and key drivers behind both standard and advanced casing design.

Who should attend?

Drilling Engineers, Senior Drilling Engineers, Drilling Supervisors, Work over Engineers, Petroleum Engineers, Completion Engineers, Tool Pushers, Reservoir and Senior Reservoir Engineers, Geologists, Production Engineers, Well site Engineers, Foremen, and Industry Personnel

Course Outline:

- Introduction
 - Purpose of Casing
 - Casing Profiles and Drilling Scenarios
 - Casing Types & Functions
 - General Casing Programme Considerations
 - Casing Design Preliminaries
 - Typical Casing Design Policies
 - Casing Connections Standards
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- Casing Setting Guidance
- Casing Types & Tools
- Selection of Casing Seats
- Pipe Mechanics
- Tubular Range Lengths and Color Coding
- Mechanical Properties of Steel
- Casing Seat Selection

- Material Aspects
- Performance Properties
- Fundamental Design Principles
- Casing Loading and Design Considerations
- Service Life Design Load Equations
- Load Capacity Diagrams
- Introduction to TDAS / EXP
- Special Design Condition
- Kick Tolerance Guidance
- Casing Wear Standards & Guidance
- Temperature Considerations
- Buckling Considerations
- Corrosion Design Considerations
- API Standards Overview
- API Specifications
- Classification & Performance Properties of Casing
- Basic Applied Mechanics Related to Casing Design

- Corrosion
- Basic Handling and Running
- Casing Design Mathematical Models
- Casing Problems and How to Overcome Them

- Rock Mechanics & Casing Shoe Strength
- Collapse
- Burst
- Tension
- Compression
- Connections
- Wear
- Buckling