Training - Well Architecture and Equipment

ARCHI-EN-P | Face-to-face only | 5 days

This course provides a thorough and practical understanding of the methodology for designing a casing program

Level

Knowledge

Public

Professionals involved in drilling operations and interested in well architecture for Oil & Gas, geothermal and storage wells (i.e. drilling & completion engineers, mud engineers, supervisors, drilling contractor personnel)

Objectives

Attendees will be able to implement the following skills:

- Calculate different casing strings using the Drilling Data Handbook
- Select the right position of casing shoes
- Calculate the stress applied to the casing pipes
- Select the casings as per the constraints encountered while drilling
- Choose the right wellhead with regard to the casings used

Pedagogical & technical resources

- Exercises
- Application to a real case (project) for participants in the "Drilling & Completion Engineering" training course

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

DRILLING & CASING PROGRAM — 0.5 day

Role of casings.
Parameters to be considered to determine well architecture:

- Well type.

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- Pore and frac pressures.
- Completion, lithology.

Different types of casings:

- Surface.
- Intermediate.
- Production.

WELLHEAD — 0.25 day

Different elements.
Wellhead assembly sequences.

CHARACTERISTICS OF CASINGS — 0.25 day

Geometric, physical and mechanical properties of the pipes, the connections.
Use of Drilling Data Handbook.

SHOE POSITIONING — 0.25 day

Hypotheses to be considered, casing point - Kick tolerance.
Casing point - Kick tolerance.
Examples and exercises.

CASING STRING CALCULATION — 0.25 day

Principles and assumptions to remember for the different strings.
Stress cases study:

- Collapse.
- Burst.
- Tension.
- Triaxial study.
- Safety factors.

Casing selection: examples and exercises.

CALCULATION EXAMPLES — 2.5 days

Case studies and writing of a spreadsheet in order to determine the casing point, the kick margin, the pressure max...

TECHNOLOGIES IN USE FOR ENERGETIC TRANSITION — 0.5 day

Geothermal wells and their thermal cyclic, casing strength at high temperature, corrosion resistance.
Underground storage well architecture guidelines for liquid, gaseous hydrocarbons, compressed air, hydrogen as well as for aquifer and depleted reservoir storage facilities.
Expandable casing to reduce the amount of energy needed to drill the bore.

KNOWLEDGE ASSESSMENT — 0.5 day

Sessions

Pau - From 03/02/2026 to 03/06/2026 — **4320 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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