

TUBING STRESS ANALYSIS

Detailed Course Contents

Morning (08:30-12:30)

1. Strength of Materials & API Documentation
 - a. Stress & Strain / Yield Strength / Tensile Strength
 - b. API Documentation
 - i. Spec 5CT - Manufacture
 - ii. TR 5C3 (Bulletins 5C2 & 5C3) – Performance Calculations
 - iii. RP 5C5 - Connections
 - iv. RP 5C7 – Coiled Tubing
2. Tubing Movement Hand Calculations
 - a. Piston
 - b. Buoyancy
 - c. Ballooning
 - d. Buckling
 - e. Temperature

Afternoon (13:30 – 17:30)

3. Design Safety Factors & Service Life Load Cases
 - a. API Uniaxial/Biaxial Stress Calculations
 - b. Von Mises equivalent Triaxial Stress Calculations
 - c. API Spec 11D1 Packer Performance Envelope
 - d. Design Factors vs. Design Safety Factors
 - e. Typical Service Life Load Cases
 - f. Deriving Internal, External & Temperature Profiles for Load Cases
4. WellCat & Osprey Tubular Designer Technical Application Software
 - a. Program introduction

- b. Basic Program Workflow
- c. Quick Start Guide
- d. Basic Case Study Example
- e. Pipe weight, grade & connection selection

END