

Top Tensioned Riser Technology

Customer Benefits

- Complete riser system engineering management
- Global riser system sizing and design
- Global strength, fatigue, VIV, DIV and clashing analysis
- Coupled vessel, mooring and riser analysis
- Component specification and FEA analysis
- Procurement and construction management
- Installation planning, analysis, procedures and offshore installation support
- Production engineering support
- Decommissioning analysis and procedures

Introduction

The track record of riser systems has been well established for deepwater applications around the world. INTECSEA's experience in the area of dynamic risers covers the full range of technologies from steel catenary risers (SCRs), flexible risers, top tensioned risers (TTRs), marine drilling risers, hybrid riser towers and near surface or mid-depth transfer lines.

Top Tensioned Risers (TTRs) are often the most cost effective solution for the development of medium and deeper water oil and gas fields, allowing direct well access to complex reservoirs and optimisation of drilling. However, successful application of the technology involved with TTRs frequently presents challenges in interfacing with the topside and hull, risk management of critical components, materials and manufacturing technology (including involved performance verification and qualification). With our highly-trained experts and state-of-the-art tools, INTECSEA is well positioned to address project challenges and provide customers with invaluable advice and instruction tailored to their exact requirements.

World-Class riser technology expertise and technical excellence ensures operational benefits.

Advice from the Experts

INTECSEA's focus on engineering and management ensures that we can provide well-informed advice, gained from prior experience and technical excellence. Our team of experts offers a full range of capabilities to deliver riser and specifically TTR solutions. Although the centre of TTR technology is based in Houston, knowledge-sharing and collaboration amongst offices in Asia, Australia, Brazil and around the world allows INTECSEA to provide customers with global expertise and local support. Core capabilities include:

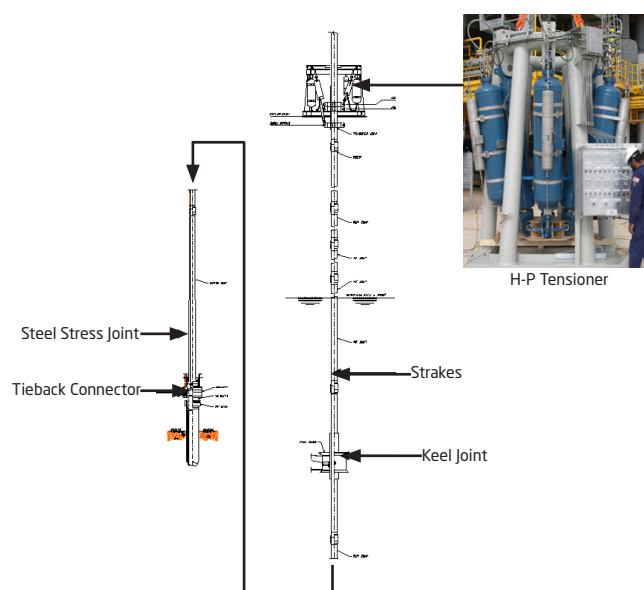
- TTR System design, component specification, manufacturing and installation management
- Global FEA of riser strings for strength, fatigue and interference assessment
- In depth knowledge of associated marine technology, including fully coupled floater motion analysis
- Proprietary experience in hydrodynamic interaction and VIV
- Carbon steel, specialty forging, weld integrity and performance assessment
- Elasto-plastic design including local 3D FEA on critical details for strength/fatigue
- Materials and components testing plans for strength and fatigue performance qualification
- Well conductor design including full coupled soil reaction

INTECSEA supports customers with key structural integrity aspects that may arise from engineering, design, operation and life extension with the aim to minimise risk and capital expenditures.

Riser Components Engineering and Performance Verification

INTECSEA's fracture and integrity group is fully supported by the materials and welding group, who provides input on materials selection, welding, corrosion protection, and suitable non-destructive examination techniques.

Complementary to the engineering, consultancy capabilities and resources of INTECSEA, is its capacity to manage and undertake a wide range of material testing services. This ranges from standard mechanical testing and environmental performance, to full scale static and dynamic assessment. INTECSEA will manage all aspects of the test programme including instrumentation, data acquisition, analysis and reporting.



For more information, contact:
technology@intecsea.com

www.intecsea.com