Steel Catenary Riser Flexible Joints

Steel Catenary Riser (SCR) Flexible Joints

LORD Dual-Barrier SCR flexible joints accommodate the heave and roll motion of the vessel, react the riser tension and contain hydrocarbons under pressure.

FEATURES & BENEFITS

• Based on LORD riser flexible joint patented designs from 1970s -1980s
• Features unique Dual-Barrier design:
  - Seal bearing provides first barrier and is optimized for high-pressure containment and hydrocarbon resistance
  - Load bearing provides second, fully redundant barrier and is optimized for low rotational stiffness and fatigue strength
  - Provides a failsafe mechanism unavailable with a stress joint, conventional flexible joint or other components of the riser system
  - Continuous pressure monitoring of the seal bearing integrity available if desired.
  - Dual-Barrier design enables higher temperatures and higher pressures than conventional flexible joint designs
• Superior thin-layer laminated elastomeric element design and manufacturing:
  - Proprietary elastomer formulations internally developed for optimum chemical resistance, temperature range and fatigue properties provide industry-leading performance
  - Overcomes the challenges associated with rapid gas decompression (RGD) and long-term creep.
  - Advanced modeling and elastomer testing techniques enable us to accurately predict actual manufactured stiffness
  - Ability to customize design to meet customer’s application
SERVICE LIFE
The flexible joint is designed for 30+ years of service. In the unlikely event that it is ever compromised, the Dual-Barrier flexible joint design results in significantly less production shutdown time due to both the seal element and the load element being designed to withstand the fluid exposures. The patented repair process on the Dual-Barrier design can be scheduled for a convenient time while maintaining full production. A conventional flexible joint design would need to discontinue production until the replacement operations can be performed.

Image shows the aerospace-proven processes and quality systems applied to our Oil & Gas products to ensure each part performs consistently and reliably.