



SHRINK-FIT™ FLANGE

TECHNICAL ADVANTAGES

- Use of high strength steel
- Eliminates the need for welding and associated qualification
- Improves fatigue performance
- Reduces riser weight and top tension
- Improves riser performance

APPLICATION

- Standard riser joints
- Taper Joints
- Tension Joints

COMMERCIAL ADVANTAGES

The SHRINK-FIT Flange has a number of commercial advantages over the welded alternative:

- Lower joint capital cost
- Improved pipe grade flexibility
- Shorter fabrication/ assembly schedule
- Eliminates schedule critical weld qualification
- Reduced materials risk/ criticality

SRP have developed their patented SHRINK-FIT™ FLANGE for use in critical riser applications. The flange is fitted to the pipe without the need for welding, using a mechanical interference fit. The SHRINK-FIT FLANGE has been specifically developed for high pressure dynamic riser applications with pressure ratings up to 15,000psi. However, the process also offers many benefits to other applications.

The shrinking process is achieved thermally and generates a high integrity connection with respect to sealing, strength and fatigue. The interface between the pipe and flange incorporates a profiled surface to reliably generate frictional contact and a mechanical locking. The process is fully controllable ensuring repeatability and high quality of the finished product.

The SHRINK-FIT solution allows welding to be eliminated and so high strength, non weld-able steel grades to be used. The SHRINK-FIT solution is ideally suited to thick walled applications, such as required for high pressure applications. In such applications welding is particularly difficult and costly, both to qualify and during final production.

Furthermore, eliminating the weld offers significant improvements in the fatigue performance of the joint particularly where a thickness correction factor must be applied.

The SHRINK-FIT technology can be applied to taper and tension joints, enabling the use of a smaller diameter forging as the flange is added to the taper joint afterwards, significantly reducing material whilst maintaining high quality fatigue details. The SHRINK-FIT flange is a highly effective, cost efficient and short schedule solution compared to alternative welded interfaces. The design has been extensively developed and optimized using FEA methods and subjected to rigorous qualification testing.

