



## **Bolted Joint Integrity Services**

# Bolted Joint Integrity Services

## Services That Go Beyond Just Tightening

The cost of a leak is exponential compared to the cost of a solid bolted joint integrity program. Even if a leak does not result in a major incident, to rework an integrity point can cost ten times the amount it would cost to properly install and maintain the bolted joint the first time.

TEAM's bolted joint integrity services go beyond just tightening. To minimize downtime, our comprehensive program offering provides analysis, development of procedures, engineering support, training, inspections and more.

We are committed to assisting companies in the establishment and implementation of bolted joint integrity management programs. This includes analyzing joint criticalities to determine risk based upon process media, temperature and pressures, focusing on the leak and loss potential of each flange. Based upon this information, unique and specific rules are then applied to the management of each bolt integrity risk category. TEAM utilizes this data to help customers develop best-in-class procedures covering facility-specific execution, management and inspection.

### Managing a Bolted Joint Like a Welded Joint

The make-up of a solid bolted joint integrity program should parallel that of a welded joint integrity program – trained and certified bolters, material control, documented procedures, integrity and hydro testing and comprehensive record keeping. Both joints are used on the same line with the same pressure, same processes, same cycling and same stresses. Yet, one joint is often fabricated with a certified technician, tested and inspected, while the other may have a few testing requirements in place, but minimal at best.

At TEAM, we help companies recognize the importance of client ownership of a solid integrity program and set requirements and standards around a bolted joint, just like they would with a welded joint, rather than just general guidelines.

### Bolted Joint vs. Welded Joint

#### Bolted Joint

Material Control

Competent Personnel

Documented Procedure

Hydro-tested

Integrity-tested

Records

#### Welded Joint

Material Control

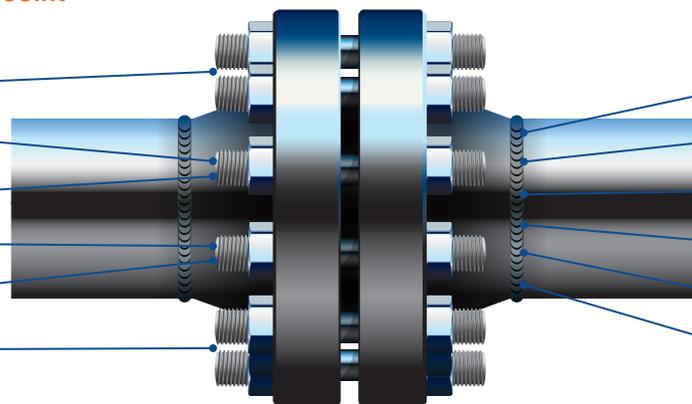
Coded Welder

Documented Procedure

NDT Verification

Hydro-tested

Records



#### Solutions Offering

- + GAP analysis
- + Development of procedures
- + Engineering support
- + Flange management and bolt load software
- + Joint integrity infield inspectors
- + Training programs
- + Craft execution and equipment
- + Bolt load validation



### Getting It Right the First Time

TEAM's comprehensive bolted joint management programs include proper training and competency management, utilization of the right tools and components, and the development of a set of processes and procedures to ensure each step along the way is clear, concise, and repeatable throughout company facilities.

Our procedures are ASME PCC-1 compliant assuring that we perform all bolting activity from break out and assembly to the tightening in accordance with a well-defined standard and industry accepted standard. Additionally, TEAM can provide Joint Integrity Engineers to manage all items related to flange management as well as certified Joint Integrity Inspectors to support TEAM's work or the work of any contractor on site.

### TEAM Can Provide Insights and Solutions

- Provide access to some of the world's best PHD engineering resources to support troubleshooting and solving any leak issues
- Utilize the world's leading flange management software
- Provide certified Joint Integrity Engineers to manage all items related to flange management during CAPEX and OPEX events
- Support TEAM technicians or other onsite contractors with ASME PCC-1 and ASNTC-1 VT Certified Joint Integrity Inspectors
- Setup mobile and modularized training programs
- Perform all bolting activity including break out, assembly and tightening of all BFJA's
- Provide post closure inspection and bolt load validation work of all bolting jobs

**TEAM experts are available 24 hours a day,  
7 days a week, 365 days a year.**

Find your local contact at [TeamInc.com](http://TeamInc.com).

### Why TEAM?

- + Single supplier for asset integrity management solutions worldwide
- + Company-wide commitment to safety
- + Trained and certified expert technicians
- + Complete range of maintenance and repair services
- + Engineering, manufacturing and technical support



