



Leaks from bolted flange joints are an unnecessary cost to any client facility, and pose significant operational, environmental, and safety risks. Hydratight has proven that elimination of leaks from bolted joints can be achieved if our approach to Joint Integrity is adopted.

Hydratight's Joint Integrity approach is focused on the prevention rather than repair of leaks, and underpinned by a philosophy whereby bolted flange joint assembly is subject to the same standards as welded joint assembly.

Hydratight's Joint Integrity approach can be implemented at any stage of an asset's life, and Hydratight has set industry standards in Joint Integrity for more than 20 years. A measure of Hydratight's credibility, Hydratight has recently become the world's first ASME-PCC-1-2013 **qualifying organization**, following an independent audit by Lloyds Register Energy. At present Hydratight is the only organization in the world certified to **qualify** its own employees in accordance with ASME PCC-1-2013, and whose operating procedures are certified as compliant.

Hydratight's Joint Integrity approach is made up of a number of practical components, which when combined as a holistic package can ensure leak free startup and operation; providing Assured Joint Integrity to clients:-

- **Assurance** management services
- On site **service** execution by experienced, skilled craft technicians
- **Sale** and/or **rental** of a comprehensive range of bolting & on-site machining tools



### Assurance

Hydratight can support the development and on site implementation of a comprehensive assurance program for bolted flange joint design, assembly, inspection, tightening and management in accordance with industry best practice which includes:

- ASME PCC-1-2013 Guidelines for Pressure Boundary Bolted Flange Joint Assembly
- Energy Institutes Guidelines for the Management of Integrity of Bolted Joints in Pressurised Systems (2007)

Hydratight can provide a package of Joint Integrity Assurance services:

- Joint Integrity Pre Engineering
  - Benchmarking Analysis of clients existing processes and procedures against industry best practise by in house Subject Matter Experts; where required rewriting of any process or procedure.
  - Review of piping specifications and criticality assessment to ensure safe, leak free bolted flange joints.
  - Bolt Load Calculations, if appropriate using Hydratight's Informate® calculation engine, which includes bolt loads, torque values and hydraulic tool pressures designed to ensure leak free bolted flange joints.
  - Customized iDMS® software solution, tailored to customers needs.
  - Advise / support the tendering process for sub-contractors, to ensure Joint Integrity objectives are met.

**Assurance**

- Training & Competency Assessment programs for any client, contractor, or subcontractor personnel involved in controlled bolting.
- Onsite inspection, management, QA and QC of any Joint Integrity program ensuring compliance to mandated mechanical engineering standards, via the supply of teams of highly skilled:-
  - Joint Integrity Subject Matter Experts
  - Joint Integrity Project Managers
  - Joint Integrity Specialists
  - Joint Integrity Inspectors

**Service**

Supply of experienced, skilled, technicians to support the delivery of controlled bolting, on site machining, flange management and Joint Integrity work-scopes. Supported with Hydratight's bolting tools, Informat<sup>®</sup> calculation engine and iDMS<sup>®</sup> software.

All technicians pass through Hydratight's IMPACT competence development program, providing qualified technicians in accordance with ASME PCC-1-2013 Appendix A, as externally evaluated by Lloyd's Register Energy. Hydratight is also qualified to deliver any combination of requirements listed in ASME PCC-1-2013 Appendix G.

Hydratight's IMPACT program also qualifies technicians in accordance with EN-1591-Part 4: *Qualification of Personnel Competency in the Assembly of the Bolted Connections of Critical Service Pressurized Systems*.

**Sale or Rental**

Sale or rental of a comprehensive range of hydraulic torque wrenches, hydraulic bolt tensioners, on site machining tools, and associated ancillary equipment, supported with access to Hydratight's Informat<sup>®</sup> calculation engine.

Where standard tools are unsuitable, Hydratight is able to design and manufacture special tooling to order.

Hydratight's Joint Integrity offering is not a single product or service line, it is the culmination of everything we do, and our comprehensive approach is essential to ensure leak-free start up and operation of a safe and effective facility. Contact us today to discuss your requirements.

**It has to be Hydratight**