

Maintaining the Integrity of Bolted Structures

Boltstress Ultrasonics and ICON Technologies have teamed up to offer a complete suite of specialised bolting services to industry. Boltstress Ultrasonics is a long-time provider of precision ultrasonic bolting services to the mining, oil & gas, and process industries. Now they have teamed up with ICON Technologies to add on-line monitoring of bolt tension and the mechanical health of bolted structures to their repertoire.

Two companies working together to bring you a complete bolting solution: Bolt it right the first time; keep it bolted right; and receive real-time feedback on the behaviour of bolted structures under dynamic load.

Better Bolting, Better Business

Traditional torque wrenches do not meet the accuracy and precision standards required for many critical bolting applications. Less than optimal bolting can lead to unscheduled downtime, less reliable operation, and excessive maintenance.

Our complete range of bolting services means safer, more reliable operation of your critical bolted structures, with increased uptime and more predictable maintenance:

- Meet startup objectives without re-work
- Prevent unplanned shutdowns due to bolt failure
- Minimise joint assembly times during planned shutdowns
- Optimise production through better understanding of the behaviour of critical bolted structures under load
- Minimize high-risk manual maintenance



Ultrasonic verification of bolt tension: Delivers precise bolt tensions to better than 1% accuracy, compared with $\pm 25\%$ accuracy for standard torquing procedures. Boltstress Ultrasonics has used ultrasonic techniques to address bolting issues in F1 racing engines, fleet submarines, oil rigs & gas platforms, turbines and other critical environments.

Services That We Provide

Boltstress Ultrasonics and ICON Technologies together offer a complete range of services to maintain the integrity of bolted structures:

- High-accuracy/high-precision bolting
- Ad-hoc and scheduled maintenance inspections
- On-line measurement of bolt tension under dynamic load
- Monitoring of load, strain, vibration and other condition variables on the associated infrastructure
- Auto-tensioning systems
- Supply of standard bolting tools & custom tooling
- Technology transfer/training to support in-house staff

To Find Out More

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Dynamic measurement of bolt tension on a rotating Ball Mill: The Logger is mounted on the Ball Mill as it rotates at around 6-8 RPM, and is used to verify the dynamic load on critical bolts immediately following maintenance. It logs four or more channels of dynamic strain, plus one channel of inclinometer, at 100 Sa/s/Ch.