

The What, Why, When, How & Who of Hot Bolting.

WHAT is Hot Bolting?

Hot bolting is a method for changing out bolts on piping flanges whilst the process piping remains fully or partially pressurised. It is also known as single stud replacement, line bolting or bolt replacement.

Is Hot Bolting safe?

Hot bolting is safe if you identify and mitigate the risks to personnel, the environment and the asset. The risks include temperature, pressure, process medium, flange condition, work access etc.



WHY is Hot Bolting Used?



By changing out corroded or degraded bolts whilst production continues, there is a reduction in the workload carried out during an upcoming shutdown.

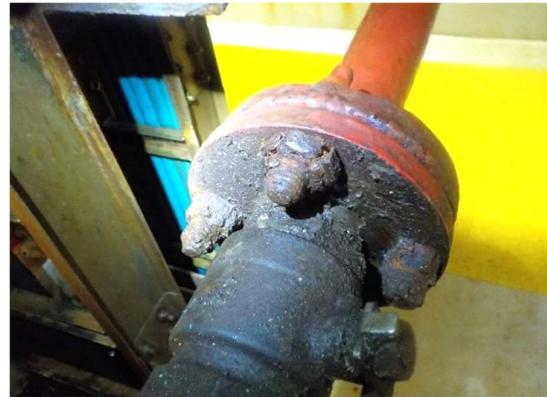
Hot bolting flanges before a shutdown enables the rapid breaking of flanges once the shutdown is in progress.

Hot bolting is often used when mechanical completion has not been carried out correctly, and incompatible bolt materials have been installed. The correct bolts can be installed without loss of early production.

WHEN do you do Hot Bolting?

Hot bolting is usually carried out when bolts are corroded and require replacement to prevent loss of containment or degradation to the flange itself.

The ideal time to hot bolt is in the period before a process shutdown to enable a clear picture of flange integrity to be understood before the shutdown takes place.



HOW can I carry out Hot Bolting safely?



Hot bolting safely relies on two fundamental principles:

1. Retaining the flange compression on the gasket whilst each bolt is replaced to prevent loss of process containment.
2. Ensuring that the gasket is not over-compressed or crushed, a situation which could lead to flange joint leakage after bolt replacement.

The SRJ BoltEx® flange clamp addresses both of these principles and can also be used as a method of flange reinforcement in the run-up to a shutdown if required.

SRJ recommends that the asset operator has a dedicated hot bolting process that includes the risk assessment of each flange before bolt change out. SRJ Consulting can incorporate a flange risk assessment methodology into existing hot bolting procedures if required.

WHO can carry out Hot Bolting safely?

The BoltEx® flange clamp can be used for hot bolting by qualified piping bolters, trained and certified to relevant ASME, EN (European) or ECITB (Engineering Construction Industry Training Board) standards.

Additional online training and certification in the installation and use of the BoltEx® flange clamp is provided by SRJ.

SRJ BoltEx® Training

- Product Overview
- Pre-Installation Checks
- Installation
- Use for Hot-Bolting
- Leaving BoltEx® in Place
- Removal and Disassembly
- Storage and Upkeep



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