2.1 KaMOS® Patented RTJ Gasket – Description of KaMOS® Leaktest Method

By using a unique patented technique KaMOS® has developed a sealing arrangement for pipe systems which incorporates surveillance of flange conventions for all sizes. The method will be able to provide a quick and effective control as to whether the flange connection is intact before the flange receives system pressure. This will offer large safety benefits. The risk of leaks after maintenance actions will be reduced. Experience shows this to have been a safety problem.

It will also offer major economic savings since the leaktest method is significantly faster than traditional leak testing. Production can recommence faster after a maintenance action. Also, there will be a decrease in the volumes of nitrogen/helium used since the test equipment requires only tiny amounts of gas.

The principal applied in the leak test is based on pressurizing the annual space above and below the seal ring. If no pressure loss is experienced in this pressurization, the seal is deemed tight.

Advantages by using KaMOS® Patented RTJ Gasket:

- The flange is tested for leaks before the process pressure is applied
- Flanges that would not otherwise be leak or pressure tested (such as blind flanges to isolate spools) can be tested
- Certainty that the seal actually seals all contact surfaces (primary and secondary sides)
- Time of testing is significantly reduced, resulting in significantly less downtime due to leak testing
- KaMOS® Test Equipment is simple and easy to use
- Necessary volumes of nitrogen required for testing are minimal, which means that large quantities of test medium will be saved compared with conventional leak testing
- The method can also be used for continuous monitoring of seals by equipping an indicator
- The pressurization line can be used to feed in liquid sealant in case of emergency
- Future surveillance for leakages of flanged connections
- The test will offer a safety benefit and an economic benefit because at an early stage it will detect flange connections which are leaky
- The KaMOS® method is DNV and ABS approved and reported to have compared favour with conventional methods in test program run at the Statoil F&U laboratory and has over the past years been adapted for a number of projects by Total, Cameron, Norsk Hydro, Statoil and Shell UK to name a few

The modification needing to be done, involving drilling a hole in the sealing ring, are considered to have no practical consequences for the strength or deformation characteristics of the ring.

Application of the test medium, which must be introduced into the annular space, is envisaged using a easy portable KaMOS® Test Equipment, consisting of a reservoir, valves, hoses, and manometers.

The KaMOS® Test Equipment makes it possible to test single flanges without pressurizing the entire piping system.

The KaMOS® method also has another advantage since it checks that all sealing faces in the seal are tight. The traditional leak test method only serves to confirm that seal surfaces are tight on the inside or outside.

Leakage or “blow-outs” with serious consequences may be prevented

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