

SEVERE CYCLIC

CONDITIONS?

Flexitallic

For the most demanding cyclic conditions, the choice is Flexitallic's Thermiculite 835 Spiral Wound Gasket with Heat Treated Inconel X-750 winding.

**HEAT
TREATED
INCONEL
X-750
WINDING**



Differential thermal expansion and contraction of components in a bolted joint, due to the effects of cyclic conditions, requires that extra resiliency be built into the joint or the gasket to compensate for fluctuating load conditions.

Normal gasket materials do not provide sufficient resiliency, and therefore cannot compensate for the adverse effects of cyclic conditions. Special Heat Treated Inconel X-750 gasket materials have been developed by Flexitallic to ensure that joint integrity is maintained during thermal cycles.

In OEM and End User testing comparing the performance of standard 316L SS windings vs. Heat Treated Inconel X-750 windings (precipitation hardened), HT Inconel X-750 winding material significantly increased the yield strength resulting in increased springback before leakage, or usable recovery.

FLEXITALLIC'S THERMICULITE 835 HEAT TREATED INCONEL X-750 SPIRAL WOUND GASKET

Increased Safety. Proven Results. Proven Cost Savings.

Ethylene Cracker Unit

- 1300°F service
- Flexible graphite gaskets lasted only 3 to 6 months
- Hydrocarbon leaks resulted in flash fires and unplanned shutdowns
- Style CGI spirals, Heat Treated Inconel X-750 with Thermiculite 835 filler extended service beyond 1-1/2 years until scheduled shutdown

Net result was increased production and elimination of safety related issues, resulting in savings "in the \$millions".



FULL SCALE TEST RESULTS (AVERAGED) GASKET DIMENSIONS 40-5/8" X 42" X .175"

WINDING MATERIAL	316L SS	HEAT TREATED INCONEL X-750
INITIAL THICKNESS	0.178"	0.179"
COMPRESSED THICKNESS	0.122"	0.121"
TOTAL SPRINGBACK	0.011"	0.013"
SPRINGBACK TO LEAKAGE @ 2500 PSI TEST PRESSURE	0.0038"	0.0078"

Hardened Windings Improve Gasket Performance in Cyclic Conditions

Heat Treated (precipitation hardened) Inconel X-750 winding material significantly increases the yield strength resulting in increased springback before leakage, or usable recovery.

Specify Flexitallic's proprietary precipitation hardened Inconel X-750 windings in applications where there are concerns about:

- Cyclic Conditions
- Differential Thermal Expansion and Contraction
- Radial Shear
- Bolt Relaxation
- Hot Torquing

Be Sure to Specify Heat Treated Inconel X-750 Windings for Superior Resiliency



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