THE ONE CONSTANT IS CHANGE

Flexitallic®

change

PROVEN TECHNOLOGY. PROVEN PROBLEM SOLVER.

IT'S MADE LIKE NO OTHER, SEALS LIKE NO OTHER, & PERFORMS 60% LONGER

CHANGE, IT'S SAFE.

change
THE FUTURE

THE CHANGE GASKET. UNIQUELY MANUFACTURED.

SHAPE

- > + 5 X Thickness Change
- > 304 – 316L & Others
- > Develops a Uniquely Solid Gasket

LASER WELDED

- > Higher unit adhesion
- > Pin point accuracy
- > Solid unit construction

ENGINEERED LIKE NOTHING ELSE. TO PERFORM LIKE NOTHING ELSE.

When we invented the spiral wound gasket in 1912, there was nothing like it. 100 years later, we introduced the Change™ gasket-an incredibly resilient metal-wound gasket that's designed to deliver the most dynamic seal ever. Today there are thousands of Change™ gaskets in service. Change™ is manufactured with proprietary equipment, using a 5X thicker metal spiral and a unique laser welding process that penetrates completely through the winding. Best of all, it's proven to perform without fail at least 60% longer than any other gaskets, CGI Spiral Wound, Double Jacketed, CMG, or Kammprofile. **AND THAT'S A GAME CHANGER.**

THE CHANGE GASKET IS AVAILABLE WITH A LOCATING RING IN ALL SIZES – UPON REQUEST.

Features	Spiral Wound Gasket	Flexpro (kammprofile)	CHANGE Gasket
Blowout Resistant	🟢	🟢	🟢
Excellent Tightness	🟢	🟢	🟢
Excellent Recovery	Yes, improved with HT Inc X-750	🔴	🟢
Cyclic Conditions	Yes, HT Inc X750 Recommended	🔴	🟢
Good Handle Ability	🔴	🟢	🟢
Low Seating Stress	Not in all Sizes/Pressure Ratings	🟢	🟢
Use on Nubbin, when centered	🔴	🔴	🟢
Flexibility Sealing Pipe Flanges	🟢	Potential Issue	🟢
Potential to: Reduce Complexity by Eliminating Spring Washers	Only with HT Inc X750	🔴	🟢
Potential to: Reduce Man Hours Required for Re-Torque	Only with HT Inc X750	🔴	🟢
Potential to: Improve safety by Eliminating Hot Torquing	Only with HT Inc X750	🔴	🟢

COMPRESSION VS RECOVERY

AT 18,000 PSI (124MPA) GASKET STRESS

Gasket Style	% Compression	% Recovery
Change	30	34
CGI, 316SS	30	26
DJ	26	7
Kammprofile	25	6

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The high level of stored energy gives the Change gasket extremely high recovery. In a compression test against other gaskets, the Change gasket recovered almost five-times better than Kammprofile and DJ gaskets.

CROSS SECTIONAL CUTAWAY

Wound like a spiral. Faced like a kammprofile.

GASKET CONSTANTS

ASME m	2.5
ASME Y	6,400 psi
PVRC Gb*	1,124 psi
PVRC a*	0.25
PVRC Gs*	16 psi

* 304SS/FG

Available Materials	**Standard Windings**	304, 316L, 347SS, & Inconel 625 available in 0.125", and 0.177"
		Monel, and Inconel X750 are available in 0.125" only
	Filler & Facing	Corriculite, Flexible graphite, PTFE, and Thermiculite
	Outer Ring	Carbon steel (other metals available upon request)
Diameters	**Minimum Diameter**	1" ID
	Maximum Diameter	90" ID **(see below)**
Thickness	**0.125" UP TO 30"**	
	0.177" UP TO 120"	
Radial Width	**Minimum Width**	**3/8"** **(for narrower widths please contact engineering)**
	Maximum Width	**1"** **(for larger widths please contact engineering)**
Shapes	**Round, Oval (up to 24")**	

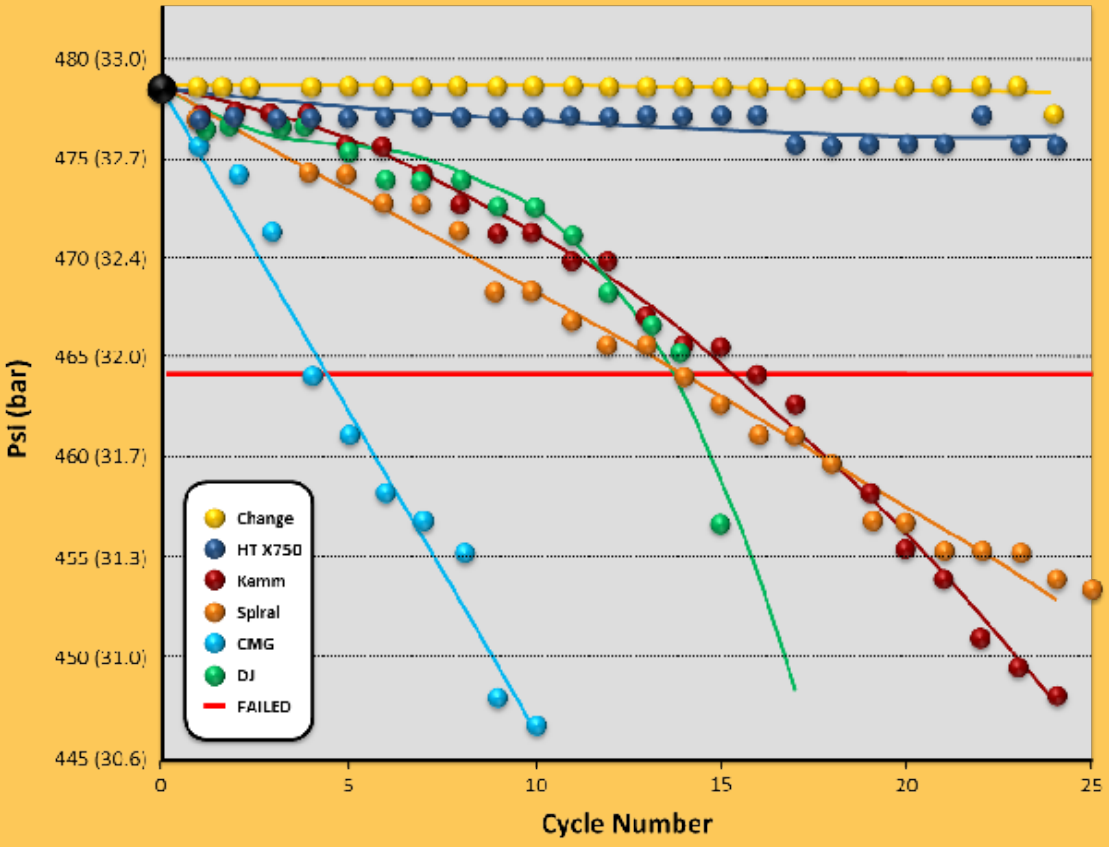
THERMAL CYCLE TEST– 24 CYCLES

Refinery specified rig and test represents the potential typical number of temperature fluctuations on a refinery over 4 years with no re-torque

- 4” Class 300, RF, B16 studs
- Thermal Cycle Phase
  - Purge and Heat up to 608°F (302°C) at 3.5°F/min (temp chosen so oxidation would not skew results)
  - Pressurize to 480 psi
  - Hold 1 hr
  - Unassisted Cooling to Ambient
  - Repeat 24 times unless gross failure occurs
  - Approximately 24 hours per cycle
- Record pressure drop every cycle
- Max allowable total pressure drop: 14.5 psi

PRESSURE VS. CYCLE NUMBER

Across a 24-day, 24-cycle pressure vs thermal cycle test at 608°F (302° C) replicating industry application conditions, the Change gasket lost just 1.5 PSI. total, never coming close to the failure point. It outperformed every other gasket tested by at least nine days. And there’s no telling how long it would have kept going if we hadn’t stopped the test.



SUCCESSFUL APPLICATION, FERTILIZER INDUSTRY

- Superheater exchanger
- Change gaskets installed October 2013 and “have withstood” 15 thermal cycles from ambient to 865°F (462°C) during the first 9 months of service
- Per operations, they are “still performing well and remain in service.”
- NO RE-TORQUING OR HOT TORQUING HAS BEEN REQUIRED
- NOx gas & steam
- Continuous operating conditions: 865°F (462°C), 150 psi
- 36” OD, 304 SS wire, Thermiculite
- Replaced Double Jacketed style that failed after 3 cycles

SUCCESSFUL APPLICATION, REFINING

- Application cycles from ambient to 715°F (379°C)
- Typically experience 28 thermal cycles between major outages requiring several gasket replacements
- Change in service since April 2013 with no issues to date and has already out-performed all previously attempted gaskets
- 63” diameter Change gasket, 510 psi

SUCCESSFUL APPLICATION, CHEM PROCESSING

- Molten Sodium
- Operating conditions: 15 psi, 360°F (182°C) with short term cycling to 1500°F (815°C)
- Flexible graphite tanged sheet caused a fire
- Change gasket safely and effectively sealing several WNRF to Lap Joint NPS flanged connections since November 2013

SUCCESSFUL APPLICATION, BOILER MANWAYS

- This steel mill converted all boiler manways to Change gaskets in March 2013
- The inherent resiliency of a Change gasket reacts ideally to changing loads when a boiler ramps up or down, expected or not
- Improved handling on larger diameter gaskets
- Replacing graphite Spirals & tanged sheet

SUCCESSFUL APPLICATION, STEAM PIPING SYSTEM

- Change gasket sealing all steam piping and headers since February 2013 in this pulp & paper mill 800°F (427°C), 90 - 215 psi
- Replaced standard Spiral Wound gaskets

SUCCESSFUL APPLICATION, SEALING OVER NUBBIN*

- Double Jacketed (DJ) gasket continuously leaked in this exchanger sealing steam at 650°F (343°C), 325 psi
- Change gasket dimensioned to center and seal over existing nubbin
- Per the refinery’s Sr. maintenance engineer, it has been “working without leaks” since July 2013

* Providing the gasket is well centered during assembly

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CHANGE SUMMARY

- Construction is more robust than a Spiral
- Creep is VERY low
- Recovery is VERY high
- Seals with exceptional tightness, especially thermal cycles
- Compression resistant; no inner ring/compression stop required for larger sizes and very high stress
- Fits most - if not all - flange arrangements
- Available in all industrial metals

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IT'S BETTER THAN ANY GASKET ON THE MARKET.

EVEN OURS

Give us your toughest application.

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