

Low-Emission (LE) Product Guide



Sealing for a Safer and Greener Tomorrow

www.teadit-na.com

The best packing for fugitive emission control in manual and automatic valves

STYLE® 2236

Valve Stem Packing, Flexible Graphite, Inconel®

APPLICATION / BENEFITS: **Style 2236** is ideal for valves and can be used within a broad range of applications. It is well suited for power plants, refineries, petrochemical industries, chemical processing as well as sealing applications in steam at high pressure and temperatures.

This product is self-lubricating, non-hardening, dimensionally stable and resistant to gases and fluids as well as heat, pressure and chemicals. The Inconel® filament jacket affords mechanical stability and resists extrusion. The advanced construction provides leakage control and has high integrity in steam service.

Best Packing for fugitive emission control in valves

STYLE® 2236



Highly Suitable for services with

Fugitive Emissions

Exceeds TA-Luft requirement



KEY FEATURES

- » Certified Low-Leakage Packing Technology
- » TA-Luft approved
- » Suitable to VOC and VHAP emissions regulations
- » Environmentally friendly valve stem packing with extreme emissions control
- » API 607
- » API 622
- » API 624
- » ISO 15848

SERVICE LIMITS

Products		2236
Temperature °F (°C)	Minimum	-400°F (-240°C)
	Maximum	850°F (455°C)
	Steam	1200°F (650°C)
Pressure PSI (bar)	Valves	6500 PSI (450°C)
pH		0-14

Standard Package														
Size	mm	3.2	4.8	6.4	7.9	9.5	11.1	12.7	14.3	15.9	19.1	22.2	25.4	
	inch	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	
Package**		1Kg (2.2lb)					2Kg (4.4lb)				5Kg (11lb)			

** Subject to change depending on tolerance expected +/-10%.

— Low Emission Technology —

API 622 Maximum 22 ppmv in 1,500 cycles and with an average of 2 ppm



Yarmouth Research and Technology, LLC

API 622 PROJECT SUMMARY

Customer: Teadit North America Start Date: 8-Jun-11
Project #: 211142

Packing Information

Packing Description: Teadit Style 2236
Rings cut from spool and installed by Yarmouth
Test conducted in test fixture (1)

Source of Sample: Customer
Packing Cross Section: 1/4 inch nominal
Packing Free Ht: 1.375 inches measured

Test Conditions

Specification: API 622, 2nd Edition, 2011
Test Media: 99% Methane Test Pressure: 600 psig
Recommended Packing Nut Torque: 57 ft-lb
Maximum Allowable Leakage: 100 PPMv
Stem Linear Travel During Cycling: 4.0 inches
Cycling Rate: 45 seconds per cycle

Dimensions (inches)

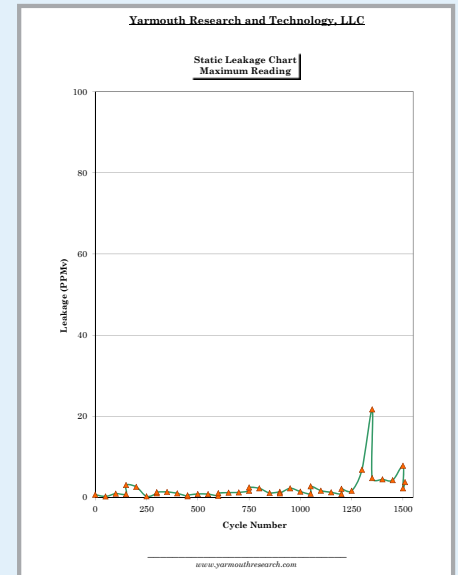
Stem Diameter: 1.000	Bore Diameter: 1.500
Follower Height: 1.015	Bore Depth: 1.250
Gland Ht at Start: 0.058	% Compression: 35%
Gland Ht at End: 0.058	% Compression: 35%
Gland Bolt Diameter: 5/8	

Results

Average Test Pressure: 600 psig
Number of Mechanical Cycles Completed: 1510
Number of Thermal Cycles Completed: 5
Number of Packing Adjustments Required: 0
Cycle Number(s) of Packing Adjustments: n/a
Average Leakage Throughout Test: 2 PPMv
Maximum Leakage Throughout Test: 22 PPMv

Witness: *Matthew J. Wasilowski*
Matthew J. Wasilowski, PE
President, Yarmouth Research

www.yarmouthresearch.com



ECOTAPE-LE®

Thread seal tape made from Expanded PTFE combined with Graphite.

ECOTAPE-LE® is manufactured to provide an advanced structural matrix which incorporates Graphite into the Expanded PTFE. Due to the excellent properties of PTFE and graphite, this combination ensures a wide degree of chemical resistance, low coefficient of friction, excellent heat dissipation due to the high thermal conductivity of graphite and superior mechanical resistance.

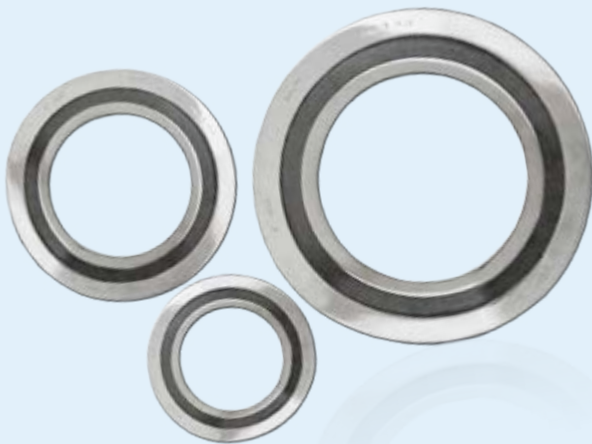
Our unique manufacturing process provides the final product a high degree of integrity proven to supply the best sealing solution for thread seal tape.



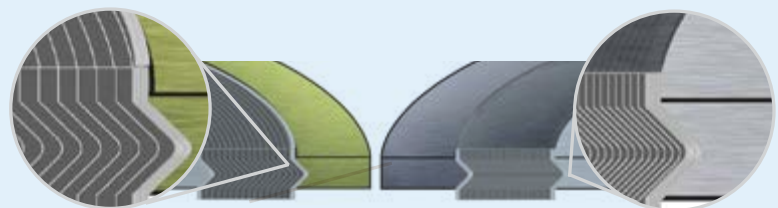
SERVICE LIMITS		SUPPLY	
Temperature Limits		Spool Width	
Maximum	535 F (280°C)	width	5/8 in (15.8mm)
pH	0-14	length	82 ft (25m)

METALFLEX® 913M-LE

Low Emission Spiral Wound



The **Metalflex 913M-LE** spiral wound gasket is a major improvement on the traditional ASME B16.20 design. Where the traditional design is based primarily on dimensional criteria, the 913M-LE takes this and adds proven low-emission performance. Teadit Research & Development has discovered that density of the sealing element, a well-defined preformed metallic strip, and an enhanced soft filler material configuration, along with mandatory outer and inner rings, together play key roles in achieving sealing ability which can meet even the most stringent fugitive emission requirements. Furthermore, the design provides low-emission performance at a level significantly below the minimum ASME seating stress rating for spiral wound gaskets – making the 913M-LE a truly low seating stress design!



*Spiral Wound: Conventional vs. New Technology - Metalflex 913M-LE
Increase of metal windings, higher density*

- **Reliability - High Pressures**
- **Sealability - Very Low Emission**

* Material and Dimension per ASME B 16.20.

Teadit is a global leader in the development and production of a broad range of sealing solutions. Our mission is to assist you in achieving leak-free and low-emission levels of performance.

KÖLN (GERMANY)



KUFSTEIN (AUSTRIA)

HOUSTON (USA)



SHANGHAI (CHINA)



BUENOS AIRES (ARGENTINA)



BARODA (INDIA)



CAMPINAS (BRAZIL)



RIO DE JANEIRO (BRAZIL)



The application parameters indicated in this brochure are typical. Specific applications should be looked at independently for an evaluation on compatibility. Please consult Teadit engineering for recommendations about specific use.



Sealing for a Safer and Greener Tomorrow

Teadit Indústria e Comércio Ltda.

Av. Pastor Martin Luther king Jr. 8939
Colégio - Rio de Janeiro - RJ - 21530-012
Phone (55-21) 2132-2500
Fax (55-21) 2132-2550
Email: dvrj@teadit.com.br

Teadit Argentina

Alvarez Thomas 2150 Valdenegro 3163/67
AR- C1431ACI Buenos Aires
Phone +54 - 11 - 4543 4849
Fax +55 - 19 - 3225 5614
Email: ventas@teadit.com.ar

Teadit Alemanha GmbH

Schanzenstrasse 35
DE-51063 Köln
Phone: +49-221-922 342-0
Fax: +49-221-922 342-22
E-mail: germany@teadit.eu

Teadit® Sealing Materials Company Ltd.

Room206 Building 1 No. 288 Banting Road (E)
Shanghai 201615 China
Phone: 021-37701274
Fax: 021-37701294
E-mail: sales@teadit.com.cn

Teadit Juntas

Av. Mercedes Benz, 390 - Distrito Industrial
Campinas - São Paulo - 13054-750
Phone (55-19) 3765-6501
Fax (55-19) 3225-5614
Email: juntas@teadit.com.br

Teadit North America, Inc.

10545 Red Bluff Rd
US- Pasadena, TX, 77507
Phone (713) 281-476-3900
Fax (713) 281-476-3999
Email: sales@teadit.com

Teadit Internacional Produktions GmbH

Rosenheimer Str. 10
A-6330 - Kufstein - Austria
Phone: +43-5372-64020-0
Fax: +43-5372-64020-20
Email: austria@teadit.eu

Teadit Packing & Gaskets Pvt Ltd.,

E-75, GIDC Savli, Village Manjusar,
Dist Baroda, Gujarat, India - 391775
Phone: +91 2667264017
Email: brd@teadit.in