

The science of sealing™

HYDROCARBON PROCESSING INDUSTRY

PRODUCT RECOMMENDATION GUIDE



Garlock
SEALING TECHNOLOGIES®

Product Recommendation Guide

Garlock plays a major role in providing sealing solutions for the Hydrocarbon Processing Industry. Garlock's products and technical expertise can help you cut costs, improve efficiency and reduce downtime to ensure uninterrupted production.

Garlock technical experts and a network of authorized distributors provide prompt service and delivery anywhere in the world.

Recommended Products

Equipment	Application	Recommended Products					
		Compress. Packing	Expansion Joint	Non-Metal Gasketing	Helicoflex Metal Seal	Mechanical Seal	Metal Gasket
Boilers	Handholes, manways						
Columns, towers, vessels, reactors	Coke drums						FLEXSEAL GRAPHONIC
	Cooling tower fin fans			3500			623, 626 640
	Furnaces			3125SS	HN O-rings		FLEXSEAL
	MEK filter drums	98 5888					
Heat exchangers (Shell and tube)				3510 3125SS G-9900	HN O-rings		GRAPHONIC Kammprofile 600 Series
Mixers, agitators, autoclaves	Corrosive, abrasive service	98 1333-G		3510 3125SS	HN	3-D mixer	EDGE FLEXSEAL Kammprofile
	Handholes, manways			3510 3545			FLEXSEAL GRAPHONIC
Piping	Hydrocarbons, corrosives			3510 3125SS	HN O-rings C-rings		EDGE FLEXSEAL GRAPHONIC
	Steam, boiler feed, condensate		204 206 Saber	3125SS G-9900	HN O-rings C-rings		EDGE FLEXSEAL GRAPHONIC
	Flue duct hot gases		8400	3125TC	C-rings		600 Series
Pumps, centrifugal, reciprocating	Acids, caustics, solvents			3510 3545	HN O-rings	GMP-I GMP-II	FLEXSEAL Kammprofile Tandem
	Asphalt, cat cracker slurry	98		3125SS 3510	HN O-rings	P/S-II	FLEXSEAL Kammprofile
	Boiler feed, condensate	98 1333-G	204 206	G-9900 3125SS	HN O-rings	GMP-I GMP-II	FLEXSEAL Kammprofile
	Crude oil	98 1333-G		G-9900 3545		GMP-I GMP II	FLEXSEAL GRAPHONIC
	diaphragm			3522			
Railroad tank cars	Chemical tanks, dome lids			3545 3510			GRAPHONIC
Valves, ball, gate, globe, slide	Hydrocarbons, hydrogen, solvents	EVSP 1303-FEP 5888 5889		G-9900 3125SS 3510	HN O-rings		FLEXSEAL GRAPHONIC
	Saturated steam	EVSP 1303-FEP		G-9900 3125SS	HN O-rings		FLEXSEAL GRAPHONIC Kammprofile

Compression Packing



Style 98

LATTICE BRAID® carbon fiber packing withstands hot hydrocarbons, MEK and solvents; ideal for asphalt and cat cracker slurry pumps.



1303-FEP

Fire-safe valve packing of flexible graphite reinforced with INCONEL* complies with most stringent VOC and VHAP emissions regulations.



1333-G

Made of reinforced flexible graphite braid, it's the economical choice for high-speed, high-temperature rotary service and steam valve applications.



Style 5888 and 5889

High purity PTFE filament with good dimensional stability and wide chemical resistance. 5888 is a dry packing for use in valves and 5889 is treated with PTFE dispersion and can be used in rotating equipment.



9000 EVSP

GRAPH-LOCK® rings in patented "cup and cone" design plus Style 98 end rings create a tight, effective seal for reduced VOC emissions.

Mechanical Seals



3-D mixer seal

Floating housing compensates for excessive axial movement, eccentricity, shaft deflection and vibration for tight seal in mixers, agitators and reactors.



GMP-I, GMP-II

Single or double cartridge seal is very well-suited for centrifugal pumps in service to 300 psi; effectively seals caustics, water, acids, solvents, oils.



P/S®-II

Cartridge seal with multiple sealing elements handles clean asphalt and other viscous products, in positive displacement pumps to 150 psi.

Non-Metallic Gasketing



Style 9518

High-performance VITON® sheet rubber gasketing resists hot oils, fuels, a variety of solvents and acids, and other harsh media.



Style G-9900

Graphite fiber gasketing withstands elevated heat and pressures; maintains a tight seal during thermal cycling, even in saturated steam and hot oils.



GRAPH-LOCK® (3125SS, TC)

Fire-safe, pure exfoliated graphite gasketing excels in extreme conditions, withstanding high temperatures, pressures and aggressive chemicals.



GYLON® (3500, 3510, 3522, 3545)

Restructured PTFE gasketing exhibits outstanding chemical resistance and seals under low bolt load; ideal for hydrocarbon piping, tanks and fin fans.

* INCONEL is a registered trademark of Inco Alloys International, Inc.



— Fire-safe

HELICOFLEX® Metal Seals



C-rings, O-rings

Metal seals with O- or C-shaped cross sections resist high temperatures, pressures, chemical attack and failure due to thermal cycling.



HELICOFLEX® HN series seals

Unique spring-energized seals offer exceptional sealing at extreme temperatures and pressures; ideal for heat exchangers, boilers and reactors.

Expansion Joints



Styles 204, 204 HP

Spool-type expansion joints with single or multiple arch configurations withstand full vacuum, high pressure, and excessive movement.



Style 206 EZ-FLO®

Unique self-flushing arch is designed to eliminate media buildup and reduce fluid turbulence; excellent choice for difficult slurry applications.



Style 8400

Strong, flexible flue duct expansion joints handle high temperature, low pressure gases; in round or rectangular shapes, from 6" to 100' ID.



SABER™ Metallic Expansion Joints

Metal joints withstand pressures to 1,000 psi and temperatures to 1,500°F (815°C). Available in wide range of configurations and alloys.

Metallic Gaskets



600 series double jacketed

Metal clad styles 623, 626, 629 and 635 are the economical choice for high temperature service: heat exchangers, flue ducts and coke drums.



EDGE®

Unique spiral wound design seals tightly at low bolt load, prevents costly leaks and flange damage; ideal for high temperature / high pressure service while preventing radial buckling.



FLEXSEAL®

Spiral wound gaskets excel in high temperature areas, especially heat exchangers, boiler manways and handholes.



GRAPHONIC®

Corrugated metal core is surrounded by a soft sealing element, maintains tight seal during thermal and pressure cycling. Excellent in boiler manways and handholes to 1,000 psi.



Kammprofile

Serrated metal core faced with soft material seals under low loads; well-suited for high pressures and cyclic conditions.



Tandem

Designed to provide a chemical resistant PTFE seal and fire safety in a single gasket. Two sealing elements reduce corrosion, erosion and bacterial contamination of flanges while sealing to the I.D. of the pipe bore. Can be used in Hydrofluoric Acid Alkylation process.

Training

Worldwide, Garlock customer training programs are available at your location or ours. They range in scope from public field seminars to programs that are tailored to meet the specific needs of your on-site contractors or plant maintenance personnel.

Garlock customers also benefit from the extensive factory training programs that our own sales, marketing and technical personnel must undergo. This rigorous training provides them with the product knowledge and hands on experience required to service your fluid sealing needs.

Testing Capabilities

Our testing capabilities enable us to provide Garlock customers with comprehensive performance data and ensure that the products we manufacture are not only of the finest quality, but

that they also are safe. Garlock testing facilities are the most comprehensive and most sophisticated in the industry. As a result, our products are thoroughly tested to worldwide standards such as API, DIN, JIS, ASTM, and more, and are proven for the widest range of applications, temperatures, pressures and chemicals.

Environmental Awareness

Through our global network, we stay informed of environmental standards and laws so that our sealing technologies and products will always meet or exceed your needs. We make every effort to keep our customers fully informed of changing standards and regulations.

Our products help customers remain good neighbors by conserving water and other natural resources, reducing noise pollution and increasing safety in the workplace.

Technical Support Engineering Capabilities:

Our engineering staff will work with your maintenance and technical people to design and recommend products to meet your specific application needs.

Research and Development:

Using some of the most technologically advanced equipment available, our research and development teams explore new opportunities presented by new materials, constructions and applications.

Problem-solving Assistance:

Garlock team technicians are available for problem solving when and where you need them. This includes being available to monitor or assist in the installation of products in critical applications to ensure that products are properly installed, and to offer application recommendations and trouble-shooting tips.

AUTHORIZED REPRESENTATIVE



ISO 9001:2000
Cert. #001762

WARNING:

Properties/applications shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult Garlock. Failure to select the proper sealing products could result in property damage and/or serious personal injury. Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing.

While the utmost care has been used in compiling this brochure, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice.

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