

## Garlock HOCHDRUCK® Style 3128 Gasket —high performance reinforced graphite gasket material with improved sealability characteristics

HOCHDRUCK® is a sealing material with excellent mechanical properties which is manufactured by a patented process without the use of adhesives (adhesives tend to weaken load retention at elevated temperatures). HOCHDRUCK® is available in Standard Grade and Reduced Sulfur Grade "RS", certified to meet D50YP12 and other current nuclear and military specifications.



### Specifications

<b>Temperature</b>	Min -400°F (-240°C) to +850°F (-454°C) in atm. +1200°F (+650°C) in steam
<b>PxT (max)*</b>	700,000 (25,000) 1/16" and .040" 350,000 (12,000) 1/8"
<b>Pressure</b>	2,000 psig (70 bar)

**NOTE:**

This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results are in accordance with ASTM F104; properties based on .040" (1.0mm) sheet thickness (except as noted).

\* P x T = psig x °F (bar x °C)

### Value & Benefits

- Better handling and greater safety, when compared with other metal-inserted graphite sheet products
- Anti-scratch and anti-stick properties on surface of product
- Patented "Adhesive Free" technology
- Can be cut with a utility knife
- Extremely high compressive strength; can replace metal gaskets in some applications
- Tight sealing (Meets TA-LUFT requirements at 60MPa stress)
- Great value - Less breakage compared to conventional graphite sheet products

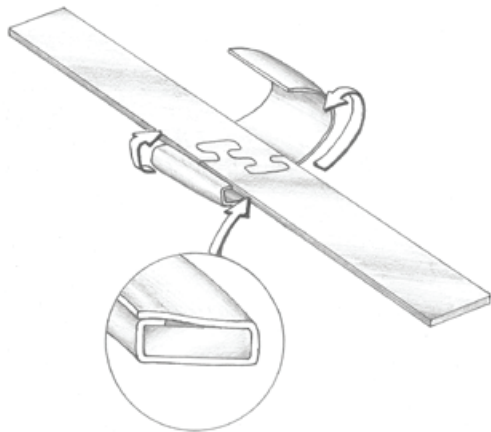
# Garlock

SEALING TECHNOLOGIES®

# Physical Properties

ASTM Test Method	Typical Physical Properties	Typical Results
F-37B	<b>Sealability</b> Milliliters/Hour Leakage, <b>ASTM Fuel A (isooctane):</b> Gasket Load, 500 psi (3.5 N/mm <sup>2</sup> ) Internal Pressure, 9.8 psig (0.7 bar) <b>Nitrogen:</b> Gasket Load, 3000 psi (21 N/mm <sup>2</sup> ) Internal Pressure, 30 psig (2 bar)	<b>0.2</b>  <b>0.1</b>
F-36	<b>Compressibility, % Range</b>	<b>30-40</b>
F-36	<b>Recovery, %</b>	<b>20</b>
F-38	<b>Creep Relaxation, %</b>	<b>10</b>
F-152	<b>Tensile Strength, (psi)</b> Across Grain, psi (N/mm <sup>2</sup> )	<b>4500 (31)</b>
DIN 3535	<b>Gas Permeation, (cc/min)</b> Nitrogen Internal pressure: 580 psig (40 bar) Gasket Load: 4640 psi (32 N/mm <sup>2</sup> )	<b>0.4</b>
DIN 52913	<b>Stability Under Stress, % (N/mm<sup>2</sup>)</b>	<b>96 (48)</b>

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## Hochdruck®

High Pressure gasketing material with multiple stainless steel foil laminations and graphite blocking agents. This creates a gasketing material that has a scratch resistant surface, increased sealability and is more rigid than standard graphite sheet. Hochdruck® is easy to:

- Cut
- Dovetail
- Seal
- Handle
- Install
- Remove

### Easy to Cut

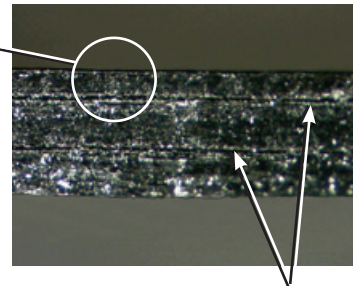


### Easy to Install



### Easy to Seal

Graphite Blocking Agent Throughout



316L Stainless Steel Inserts

### Dovetail Installation Instructions

After mating the matching dovetail sections together, wrap a length of either Garlock Smooth Finished or Garlock Diamond Textured Graphite tape (0.010" thick) around dovetail area. Width of graphite tape must be at least 1/2" greater than dovetail area. Wrap tape one full revolution around gasket in dovetail area. Be sure to overlap tape by approximately 1/2" and cut tape. DO NOT attempt to open or move tape at this point - it will damage the tape. With a smooth piece of metal that is greater in area than the dovetail area, softly tap with a hammer and blend the tape into the gasket. Place flanges together and follow normal installation procedures.

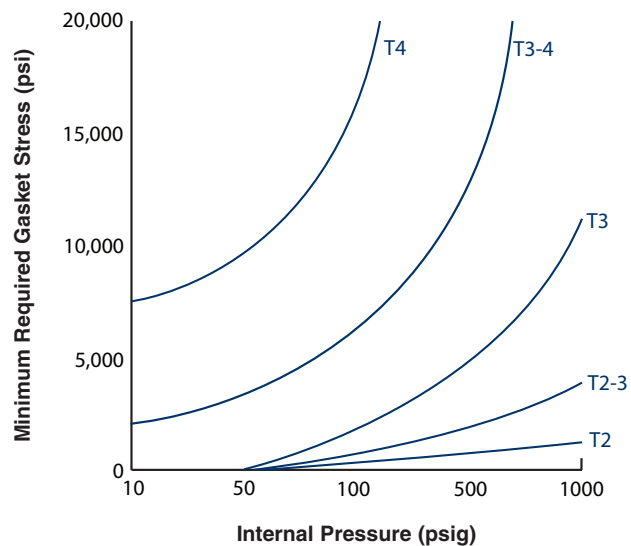
# Style 3128 HOCHDRUCK® Ordering Information

## High Performance Multilayer Flexible Graphite Foil with 316SS Insert (.002" thick) - Branded

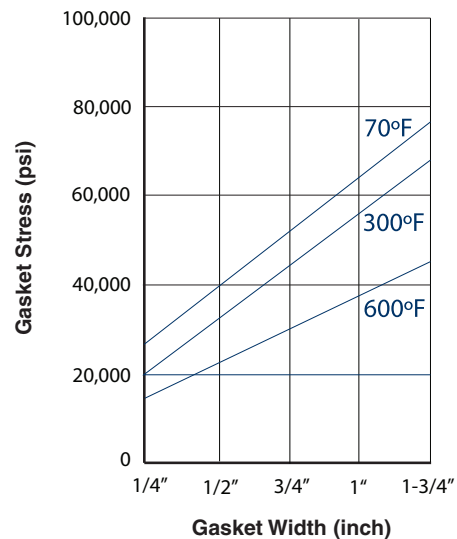
Order Code	Style	Description	THK (inches)	Width (inches)	Length (inches)	Number of Inserts	Approx. lbs / pc
31280-7031	3128	Hi-Perf Graphite with 316-SS Insert	0.040	39.4"	39.4"	1	3.0
31280-7131	3128	Hi-Perf Graphite with 316-SS Insert	0.040	59.4"	59.4"	1	6.0
<b>31280-7014</b>	3128	Hi-Perf Graphite with 316-SS Insert	0.060	39.4"	39.4"	2	4.6
<b>31280-7104</b>	3128	Hi-Perf Graphite with 316-SS Insert	0.060	59.4"	59.4"	2	9.5
31280-7027	3128	Hi-Perf Graphite with 316-SS Insert	0.080	39.4"	39.4"	3	6.1
31280-7127	3128	Hi-Perf Graphite with 316-SS Insert	0.080	59.4"	59.4"	3	12.7
<b>31280-7015</b>	3128	Hi-Perf Graphite with 316-SS Insert	0.120	39.4"	39.4"	5	8.7
<b>31280-7105</b>	3128	Hi-Perf Graphite with 316-SS Insert	0.120	59.4"	59.4"	5	18.5
31280-7106	3128	Hi-Perf Graphite with 316-SS Insert	0.157	59.4"	59.4"	7	24.0

**NOTE:** 1. Stock items appear in **BOLD** type. For items and sizes not listed, contact your Garlock representative. 2. Thickness tolerance = ±10%.

### Tightness Performance 0.060" thick Hochdruck®



### Maximum Gasket Stress 0.060" thick Hochdruck®



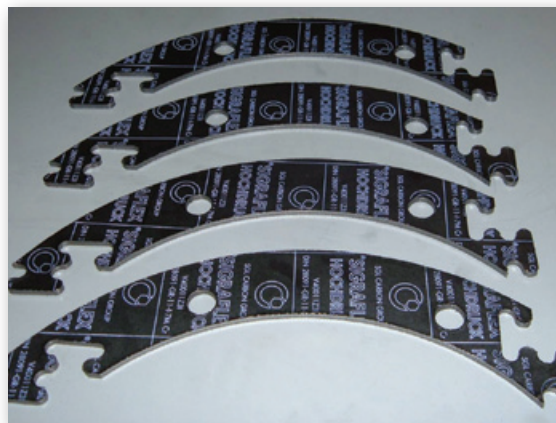
#### Tightness Factors

- T1 =  $2 \cdot 10^{-1}$  mg/(s·mm) : Economy
- T2 =  $2 \cdot 10^{-3}$  mg/(s·mm) : Standard
- T3 =  $2 \cdot 10^{-5}$  mg/(s·mm) : Tight
- T4 =  $2 \cdot 10^{-7}$  mg/(s·mm) : Extremely Tight

## External Performance Tests and Approvals

- ROTT - Room Temperature Tightness Test (TTRL)
- HOTT - High Temperature Tightness Test
- Fire Safe Test, modified API 607 and ISO 10497-BS 6755 (TUV NL)
- Ethylene / Propylene Oxide (BAM)
- Oxygen Service (BAM)
- US Coast Guard
- Compression Tests (MPA)
- Gas Permeability, regular tests (DVGW)

NOTE: HOCHDRUCK™ is marketed exclusively by Garlock Sealing Technologies of the Americas.



## AUTHORIZED REPRESENTATIVE



# Garlock

RUBBER TECHNOLOGIES®

an EnPro Industries company

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<b>Denver, CO, USA</b>	Phone 1.303.988.1242	Fax 1.303.988.1922
<b>Sydney, Australia</b>	Phone 61.2.9793.2511	Fax 61.2.9793.2544
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### 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.

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