

NON-METALLIC GASKETS

technical data sheet

L441

COMPRESSED SHEET GASKET MATERIAL



Sealing Global - Servicing Local

Description:

L441 is a general service sheet gasket material with a wide range of application potential. Manufactured with a formulation of high quality fillers, premium aramid / inorganic fibers and a nitrile rubber binder, L441 is the workhorse of the Lamons sheet gasket line.

Applications and Characteristics:

- Excellent sealing ability
- Good chemical resistance
- Creep relaxation minimization
- Great Recovery

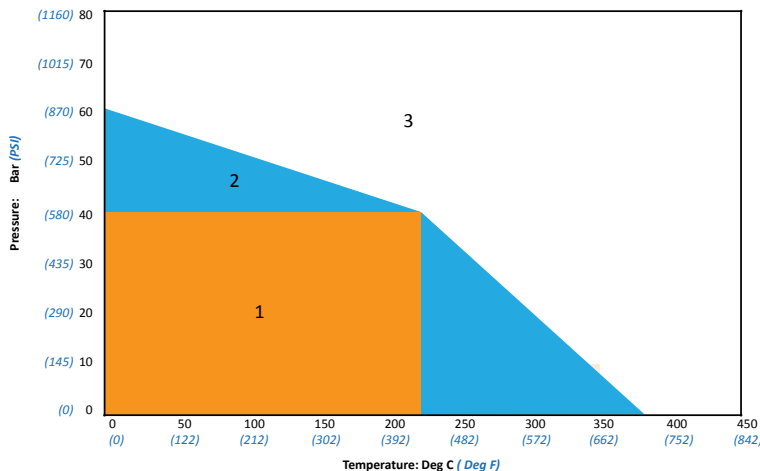
Please refer to Lamons Chemical Compatibility Chart for more information.

All Lamons sheet gasket materials are supplied with anti-stick coating as standard. Can be manufactured with wire insert.



Creep Relaxation	ASTM F-38B (1/32")	20%
Residual Stress	DIN 52913 (50 MPa @ 175°C)	28 MPa
	BS7531 (40 MPa @ 300°C)	20 MPa
Sealability	ASTM F-37A (1/32")	0.25 ml/hr
Gas Leakage	DIN 3535/6	< 1.0 ml/min
Compressibility	ASTM F-36 J	7 - 17%
Recovery	ASTM F-36 J	50% min
Tensile Strength	ASTM F-152	2000 psi (14 MPa)
Weight Increase	ASTM F-146 after immersion in Fuel B for 5 Hrs @ 73°F (23°C)	25% max
Thickness Increase	ASTM F-146	
	ASTM Oil 1, 5 hrs / 300°F (149°C)	0 - 5%
	ASTM Oil 3, 5 hrs / 300°F (149°C)	0 - 5%
	ASTM Fuel A, 5 Hrs / 73°F (23°C)	0 - 5%
	ASTM Fuel B, 5 Hrs / 73°F (23°C)	0 - 7%
Standard Line Callout	ASTM F-104	F712121B3E22M5
m & y values	1/16" thickness	1/8" thickness
m	2.5	3.2
y	3800	4100
Dielectric Strength	ASTM D149-95a	15 kV/mm
Leachable Chlorides	FSA Method (Typical)	100 ppm
Density		112 lbs/ft ³ (1.8 g/cc)
Color	Blue	
Thickness Range	1/64" (0.4 mm) to 1/8" (3.2 mm)	
Sheet Size Availability	Max: 120" x 60" (3 m x 1.5 m)	

L441 PRESSURE / TEMPERATURE GRAPH



All Pressure / Temperature values are based on 1/16" (1.5 mm) gasket thickness.

1. Suitable (Chemical Compatibility has to be considered).
2. Please contact Lamons Engineering department for clarification. engineering@lamons.com
3. Not Suitable.

NON-METALLIC GASKETS

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L443

COMPRESSED SHEET GASKET MATERIAL



Sealing Global - Servicing Local

Description:

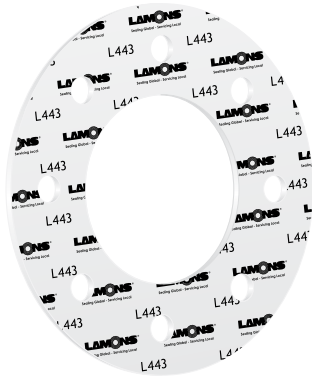
L443 is a premium sheet gasket material with a reinforcement structure consisting of glass and aramid fibers, it is bound together with a high quality nitrile rubber binder. L443 has excellent resistance to steam due to the addition of glass fiber.

Applications and Characteristics:

- Excellent sealing ability, high resistance to creep
- Good steam resistance
- Stronger acids and alkalis, inert gases, general chemicals, oils and fuels
- Petroleum and petroleum derivatives.

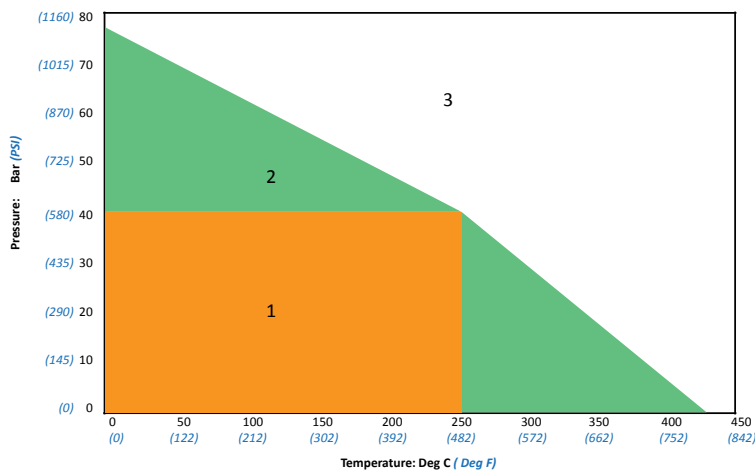
Please refer to Lamons Chemical Compatibility Chart for more information.

All Lamons sheet gasket materials are supplied with anti-stick coating as standard. Can be manufactured with wire insert.



Creep Relaxation	ASTM F-38B (1/32")	20%
Residual Stress	DIN 52913 (50 MPa @ 175°C)	32 MPa
	BS7531 (40 MPa @ 300°C)	27 MPa
Sealability	ASTM F-37A (1/32")	0.25 ml/hr
Gas Leakage	DIN 3535/6	< 1.0 ml/min
Compressibility	ASTM F-36 J	7 - 17%
Recovery	ASTM F-36 J	50% min
Tensile Strength	ASTM F-152	1500 psi (10 MPa)
Weight Increase	ASTM F-146 after immersion in Fuel B for 5 Hrs @ 73°F (23°C)	15% max
Thickness Increase	ASTM F-146	
	ASTM Oil 1, 5 hrs / 300°F (149°C)	0 - 5%
	ASTM Oil 3, 5 hrs / 300°F (149°C)	0 - 5%
	ASTM Fuel A, 5 Hrs / 73°F (23°C)	0 - 5%
	ASTM Fuel B, 5 Hrs / 73°F (23°C)	0 - 7%
Standard Line Callout	ASTM F-104	F712132B3E21M5
m & y values	1/16" thickness	1/8" thickness
m	2.5	3.2
y	3800	4100
Dielectric Strength	ASTM D149-95a	18 kV/mm
Leachable Chlorides	FSA Method (Typical)	200 ppm
Density		100 lbs/ft ³ (1.6 g/cc)
Color	White/Green	
Thickness Range	1/64" (0.4 mm) to 1/8" (3.2 mm)	
Sheet Size Availability	Max: 120" x 60" (3 m x 1.5 m)	
Approvals	Meets "BS7531 Grade AX" API 607 Fire Safe	

L443 PRESSURE / TEMPERATURE GRAPH



All Pressure / Temperature values are based on 1/16" (1.5 mm) gasket thickness.

1. Suitable (Chemical Compatibility has to be considered).
2. Please contact Lamons Engineering department for clarification. engineering@lamons.com
3. Not Suitable.

NON-METALLIC GASKETS

technical data sheet

L450

COMPRESSED SHEET GASKET MATERIAL



Sealing Global - Servicing Local

Description:

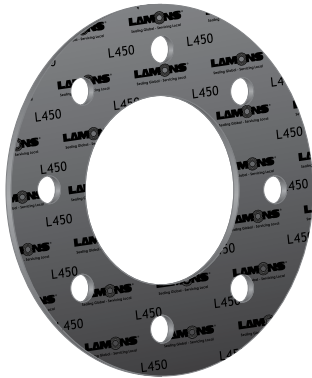
L450 is a premium sheet gasket material utilizing carbon and aramid fibers, it is bound together with a high quality nitrile rubber binder. L450 is designed to perform at high temperatures and pressures. Standardization and consolidation of many other gasket materials can be achieved by the use of L450.

Applications and Characteristics:

- Excellent sealing ability, high resistance to creep
- Good steam resistance
- Stronger acids and alkalis, inert gases, general chemicals, oils and fuels
- Petroleum and petroleum derivatives.

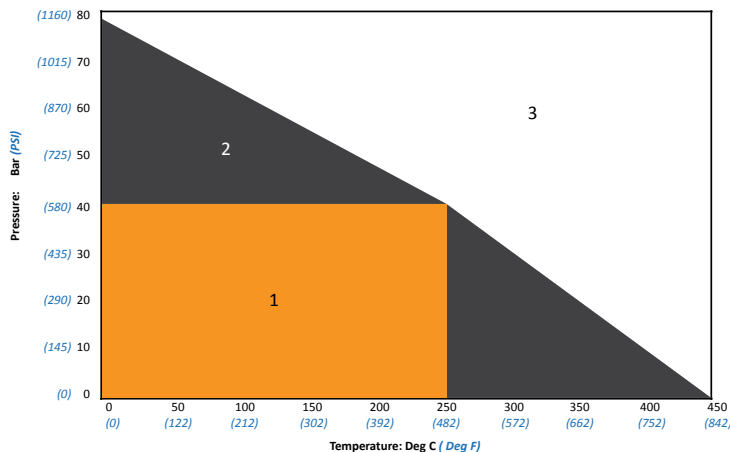
Please refer to Lamons Chemical Compatibility Chart for more information.

All Lamons sheet gasket materials are supplied with anti-stick coating as standard. Can be manufactured with wire insert.



Creep Relaxation	ASTM F-38B (1/32")	18%
Residual Stress	DIN 52913 (50 MPa @ 175°C)	31 MPa
	BS7531 (40 MPa @ 300°C)	26 MPa
Sealability	ASTM F-37A (1/32")	0.3 ml/hr
Gas Leakage	DIN 3535/6	< 1.0 ml/min
Compressibility	ASTM F-36 J	7 - 17%
Recovery	ASTM F-36 J	50% min
Tensile Strength	ASTM F-152	1500 psi (10 MPa)
Weight Increase	ASTM F-146 after immersion in Fuel B for 5 Hrs @ 73°F (23°C)	15% max
Thickness Increase	ASTM F-146	
	ASTM Oil 1, 5 hrs / 300°F (149°C)	0 - 5%
	ASTM Oil 3, 5 hrs / 300°F (149°C)	0 - 5%
	ASTM Fuel A, 5 Hrs / 73°F (23°C)	0 - 5%
	ASTM Fuel B, 5 Hrs / 73°F (23°C)	0 - 7%
Standard Line Callout	ASTM F-104	F712122B3E22M5
m & y values	1/16" thickness	1/8" thickness
m	2.5	3.2
y	3800	4100
Dielectric Strength	ASTM D149-95a	5 kV/mm
Leachable Chlorides	FSA Method (Typical)	200 ppm
Density		100 lbs/ft ³ (1.6 g/cc)
Color	Black	
Thickness Range	1/64" (0.4 mm) to 1/8" (3.2 mm)	
Sheet Size Availability	Max: 120" x 60" (3 m x 1.5 m)	
Approvals	Meets "BS7531 Grade AX" API 607 Fire Safe	

L450 PRESSURE / TEMPERATURE GRAPH



All Pressure / Temperature values are based on 1/16" (1.5 mm) gasket thickness.

1. Suitable (Chemical Compatibility has to be considered).
2. Please contact Lamons Engineering department for clarification. engineering@lamons.com
3. Not Suitable.

* Can be used up to a maximum short term peak temperature of 900°F (482°C)

NON-METALLIC GASKETS

technical data sheet

LG-SS

**FLEXIBLE GRAPHITE
SHEET GASKET MATERIAL**



Sealing Global - Servicing Local

This is an all graphite material containing no resins or inorganic fillers. It is available with or without a metal insertion, and in adhesive-back tape form. Flexible Graphite has outstanding resistance to corrosion against a wide variety of acids, alkalis and salt solutions, organic compounds, and heat transfer fluids, even at high temperatures. There are two proven metal reinforced flexible graphite laminate materials ideal for 95% of all sheet gasket applications. Lamons flexible graphite laminates (LG-SS and LG-TC) are surface branded for easy identification. These gasket materials meet refinery, petrochemical and industrial service requirements.

Description:

LG-SS is a flat metal 316/316L stainless steel reinforced flexible graphite sheet material made with minimum 98% typical carbon content.

Applications and Characteristics:

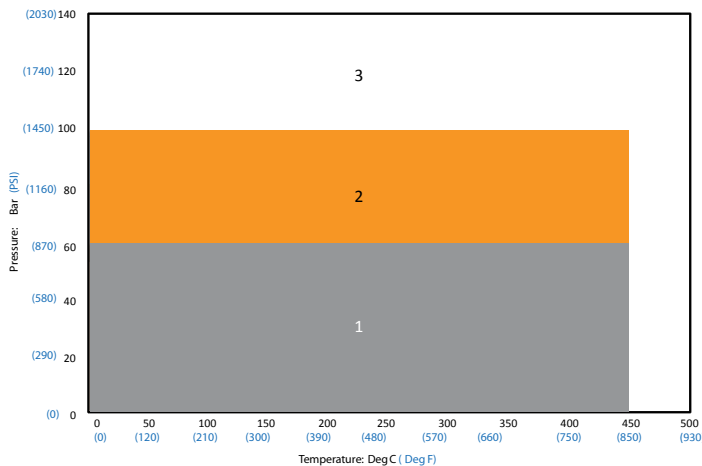
- Used successfully in mild organic and inorganic acids
- Diluted alkalis
- General chemicals
- Synthetic oils
- Petroleum and petroleum derivatives



Creep Relaxation	<4%
Stability under stress (DIN 52913)	48 N/m ²
Compressibility	30%-40%
Recovery	15%-20%
ASME code factor "M value"	2
ASME code factor "Y value"	900 psi
Number of inserts	1
Total chlorine (Max)	50 ppm
Density	70 lb/ft ³ (1.12 g/cc)
Ash content (Max)	2.0%
Tp max at 15,000 psi gasket stress	3227 psi (22 MPa)
PVRC design constants*:	G _b = 816 psi a = 0.377 psi G _s = 0.066 psi
Gas permeability according DIN 3535 (0.60")	<1.0 ml/min
Nominal Thickness	0.030"-0.120" (0.8 mm - 3 mm)
Typical Thicknesses	1/16" (1.5 mm) 1/8" (3 mm)
316/316L Insert Thickness	0.002" (0.05 mm)

*The values are taken from BFG-6.1 and ROTT. Test results are subject to interpretation and can lead to differing design constants.

LG-SS PRESSURE / TEMPERATURE GRAPH



All Pressure / Temperature values are based on 1/16" (1.5 mm) gasket thickness.

1. Suitable (Chemical Compatibility has to be considered).
2. Please contact Lamons Engineering department for clarification. engineering@lamons.com
3. Not Suitable.

NON-METALLIC GASKETS

technical data sheet

LG-TC

**FLEXIBLE GRAPHITE
SHEET GASKET MATERIAL**



Sealing Global - Servicing Local

This is an all graphite material containing no resins or inorganic fillers. It is available with or without a metal insertion, and in adhesive-back tape form. Flexible Graphite has outstanding resistance to corrosion against a wide variety of acids, alkalis and salt solutions, organic compounds, and heat transfer fluids, even at high temperatures. There are two proven metal reinforced flexible graphite laminate materials ideal for 95% of all sheet gasket applications. Lamons flexible graphite laminates (LG-SS and LG-TC) are surface branded for easy identification. These gasket materials meet refinery, petrochemical and industrial service requirements.

Description:

LG-TC is a reinforced flexible graphite sheet material laminated with tanged 316/316L stainless steel insert and made with minimum 98% typical carbon content.

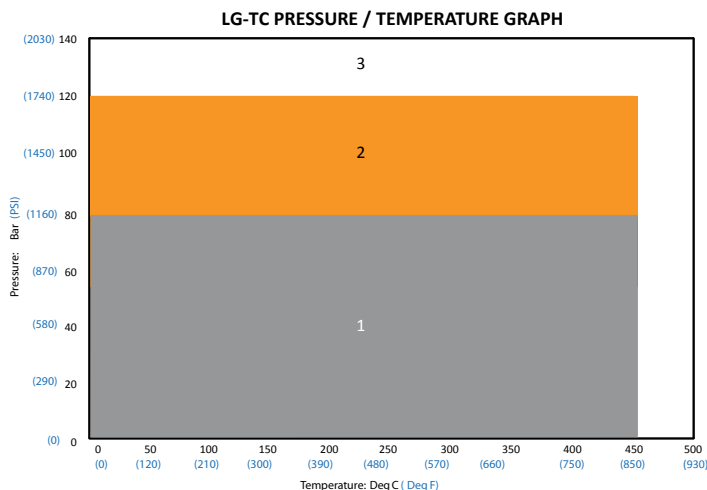
Applications and Characteristics:

- Used successfully in mild organic and inorganic acids
- Diluted alkalis
- General chemicals
- Synthetic oils
- Petroleum and petroleum derivatives



Creep Relaxation	<4%
Stability under stress (DIN 52913)	48 N/m ²
Compressibility	30%-40%
Recovery	15%-20%
ASME code factor "M value"	2
ASME code factor "Y value"	2500 psi
Number of inserts	1
Total chlorine (Max)	50 ppm
Density	70 lb/ft ³ (1.12 g/cc)
Ash content (Max)	1.0%
Tp max at 15,000 psi gasket stress	2287 psi (16 MPa)
PVRC design constants*:	G _b = 1400 psi a = 0.324 psi G _s = 0.010 psi
Gas permeability according DIN 3535 (0.60")	<1.0 ml/min
Nominal Thickness	0.030" - 0.120" (0.8 mm - 3 mm)
Typical Thicknesses	1/16" (1.5 mm) 1/8" (3 mm)
316/316L Insert Thickness	0.004"/0.005" (0.1/0.127 mm)

*The values are taken from BFG-6.1 and ROTT. Test results are subject to interpretation and can lead to differing design constants.



All Pressure / Temperature values are based on 1/16" (1.5 mm) gasket thickness.

1. Suitable (Chemical Compatibility has to be considered).
2. Please contact Lamons Engineering department for clarification. engineering@lamons.com
3. Not Suitable.

NON-METALLIC GASKETS

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L100 MATRIX



Description:

L100 is a high performance biaxially orientated PTFE gasket Material with the addition of a High Quality Silica filler system.

Applications:

L100 can be used to seal most chemicals except molten alkali metals, fluorine gas and hydrogen fluoride. Please refer to Matrix chemical resistance data.

L100 is approved for potable water service, complies with requirements of FDA regulations and can be used at all concentrations of Sulfuric Acid.

Approvals:

Complies with the requirements of FDA21 CFR 177.1550, TA-LUFT
Test information is available for: ROTT, BAM (Oxygen approval)

Operating Limitations

Minimum Temperature: -450°F (-268°C)

Maximum Temperature: 500°F (260°C)

Maximum Pressure: 1235 psi (8.5 MPa)

Matrix L100 Thickness Range:

1/32" (0.8mm) to 1/4" (6.4mm)



Typical Physical Properties (ASTM)

F36 Compression	7%
F36 Recovery	45%
F152 Tensile Strength	2320 psi (16 MPa)
F37 Liquid Leakage	<0.3 mL/hr
F38 Creep Relaxation	35%
F149 Dielectric Strength	20 kV/mm

Typical Physical Properties (Other)

Density	137 lbs/ft ³ (2.2 g/cc)
Residual Stress BS7531 @ 175°C	4496 psi (31 MPa)
Gas Leakage (DIN 3535)	<0.01 mg/(s-m)
Gas Leakage - BS7531	<0.005 mL/min
ROTT Constant Gb	172
ROTT Constant a	0.401
ROTT Constant Gs	2.76 x 10 ⁻⁶
Tpmax	2426
m	4
y	2175 psi (15 MPa)



NON-METALLIC GASKETS

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L104 MATRIX

LAMONS[®]
Sealing Global - Servicing Local

Description:

L104 is a superior performance biaxially orientated PTFE gasket material with the addition of Hollow Glass Microspheres.

Applications:

L104 can be used to seal most chemicals except molten alkali metals, fluorine gas and hydrogen fluoride. please refer to Matrix chemical resistance data.

L104 is approved for potable water service, complies with requirements of FDA regulations and has exceptional compression characteristics making it ideal for glass lined flanges or where loading problems exist.

Approvals:

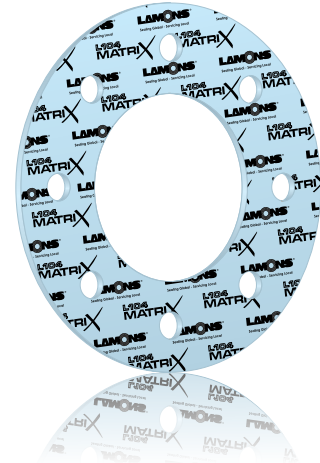
Complies with the requirements of FDA21 CFR 177.1550
Test information is available for ROTT

Operating Limitations

Minimum Temperature: -450°F (-268°C)
Maximum Temperature: 500°F (260°C)
Maximum Pressure: 1235 psi (8.5 MPa)

Matrix L104 Thickness Range:

1/32" (0.8mm) to 1/4" (6.4mm)



Typical Physical Properties (ASTM)

F36 Compression	35%
F36 Recovery	45%
F152 Tensile Strength	1885 psi (13 MPa)
F37 Liquid Leakage	<0.25 mL/hr
F38 Creep Relaxation	31%
F149 Dielectric Strength	15 kV/mm

Typical Physical Properties (Other)

Density	87 lbs/ft ³ (1.4 g/cc)
Residual Stress BS7531 @ 175°C	4351 psi (30 MPa)
Gas Leakage (DIN 3535)	<0.02 mg/(s-m)
Gas Leakage - BS7531	<0.01 mL/min
ROTT Constant Gb	100
ROTT Constant a	0.401
ROTT Constant Gs	2.87 x 10 ⁻⁵
Tpmax	33240
m	2
y	1595 psi (11 MPa)



NON-METALLIC GASKETS

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L110 MATRIX



Description:

L110 is a superior performance biaxially orientated PTFE gasket material with the addition of a Barium Sulphate filler system.

Applications:

L110 is used in sealing food, pharmaceuticals and other chemical media, please refer to Matrix chemical resistance data.

The material complies with the requirements of FDA regulations and is acceptable for use in aqueous hydrofluoric acid below 49%, but is not suitable for sealing molten alkali metals or fluorine gas.

Approvals:

Complies with the requirements of FDA21 CFR 177.1550, TA-LUFT

Test information is available for: HOBT, ROTT, EN 13555,
BAM (Oxygen approval)



Operating Limitations

Minimum Temperature: -450°F (-268°C)

Maximum Temperature: 500°F (260°C)

Maximum Pressure: 1235 psi (8.5 MPa)

Matrix L110 Thickness Range:

1/32" (0.8 mm) to 1/4" (6.4 mm)

Typical Physical Properties (ASTM)

F36 Compression	6%
F36 Recovery	40%
F152 Tensile Strength	2030 psi (14 MPa)
F37 Liquid Leakage	<0.02 mL/hr
F38 Creep Relaxation	13%
F149 Dielectric Strength	21 kV/mm

Typical Physical Properties (Other)

Density	180 lbs/ft ³ (2.9 g/cc)
Residual Stress BS7531 @ 175°C	4351 psi (30 MPa)
Gas Leakage (DIN 3535)	<0.01 cc/min
Gas Leakage - BS7531	<0.004 mL/min
ROTT Constant Gb	146
ROTT Constant a	0.375
ROTT Constant Gs	1.2
Tpmax	60460
m	2
y	1740 psi (12 MPa)

