GARLOCK DATA SHEETS

Blue Gylon, Off-White Gylon
Multi-Swell and more

PTFE Gasketing Material

Garlock: **Fawn Gylon 3500**

PROUD DISTRIBUTOR of Garlock SEALING TECHNOLOGIES®

DESCRIPTION

PTFE with Silica Filler. The GYLON® process minimizes creep and cold flow normally associated with PTFE products, while retaining other positive characteristics of PTFE. Fawn GYLON® received Chemical Processing magazine's Vaaler Award in 1968. The Garlock family of GYLON® products has evolved over the years with a focus on quality to meet and exceed customer expectations.

BENEFITS

- *Tighter seal*
- *Reduced creep relaxation*
- *Chemical resistance*
- *Cost savings*
- *Largest sheet sizes*
- *Branding and color coding for easy identification of superior GYLON® products*

2-295 Superior Blvd. Mississauga, Ontario L5T 2L6 T: (905)-564-0807 F:(905)-564-4812 E: sales@specialtygaskets.com

Material Properties	
Colour:	Fawn
Composition:	PTFE with silica
Fluid Services[1]:	Strong acids (except hydrofluoric), steam, solvents, hydrocarbons, chlorine and cryogenics
Temperature[2], **°F (°C)**	
Minimum:	-450 (-268)
Continuous Max:	+500 (+260)
Pressure[2], **Maximum, psig (bar):**	1200 (83)
P × T (max.)[2], **psig × °F (bar × °C)**	
1/32 and 1/16":	350,000 (12,000)
1/8":	250,000 (8,600)
Flammability:	Will Not Burn
Bacterial Growth:	Will Not Support
Meets Specification:	ABS, FDA, and USDA

Typical Physical Properties				
ASTM F36	Compressibility, %:	-		
ASTM F36	Recovery, %:	40		
ASTM F38	Creep Relaxation, %:	-		
ASTM F152	Tensile, Across Grain, psi (N/mm²):	2000 (13.8)		
ASTM D792	Specific Gravity:	-		
ASTM D1708	Modulus @ 100% Elongation, psi (N/mm²):	1600 (11.0)		
ASTM F433	Thermal Conductivity (K), W/m°K (Btu.in./hr.ft.·°F):	0.36-0.45 (2.50-3.15)		
ASTM D149	Dielectric Properties, range, volts/mil.	-		
	Sample conditioning	1/16"		1/8"
	3 hours at 250°F:	362		-
	96 hours at 100% Relative Humidity	61		-
ASTM F586	Design Factors	1/16" & Under		1/8"
	"m" factor:	5.0		5
	"y" factor, psi (N/mm²):	2750 (19.0)		3500 (24.1)
ROTT	Gasket Constants, 1/16":	Gb=949	a=0.253	Gs=2.6
	1/8":	Gb=1980	a=0.169	Gs=0.393
ASTM F104	Line Call Out:	F451999A9B4E99K6M6[3]		

Sealing Characteristics		
	ASTM F37B Fuel A	**DIN 3535 - 4 Gas Permeability**
Gasket Load, psi (N/mm²)	1000 (7)	4640 (32)
Internal Pressure, psig (bar)	9.8 (0.7)	580 (40)
Leakage	0.22 ml/hr.	<0.015 cc/min

Notes: This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results in accordance with ASTM F-104; properties based on 1/32" (0.8mm) sheet thickness unless otherwise mentioned. *Values do not constitute specification Limits

[1] See Garlock chemical resistance guide.
[2] Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperatureor 50% of maximum PxT, consult Garlock Applications Engineering.
[3] Increase in IRM Oil #903 (fourth numeral 9 is thickness, fifth numeral 9 is weight): Thickness = 1.0% max, Weight = 2.0% max. Sixth numberal 9: % Increase in Water: Weight = 1.0% max. A9: Leakage in Fuel A (Isooctane), Gasket Load = 1,000psi (7.0N/mm2), Pressure = 9.8psig (0.7bar): Typical = 0.22ml/hr, Max = 1.0ml/hr. E99: % Increase in ASTM Fuel B: Weight: 2.0% max., Thickness: 1.0% max.

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PTFE Gasketing Material

Garlock: **Off-White Gylon 3510**

PROUD DISTRIBUTOR of Garlock SEALING TECHNOLOGIES®

DESCRIPTION

PTFE Gasketing with barium sulfate filler. The Garlock family of GYLON® products has evolved over the years with a focus on quality to meet and exceed customer expectations. The Off-White Gylon 3510 was created to meet the needs of the growing market as well as the increase of the variety and quantity of industrial chemicals.

BENEFITS

- *Tighter seal*
- *Reduced creep relaxation*
- *Chemical resistance*
- *Cost savings*
- *Largest sheet sizes*
- *Branding and color coding for easy identification of superior GYLON® products*

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Material Properties

Colour:	Off White
Composition:	PTFE with barium sulfate
Fluid Services[1]:	Strong caustics, moderate acids, chlorine, gases, water, steam, cryogenics, hydrocarbons and aluminum fluoride
Temperature[2], °F (°C)	
Minimum:	-450 (-268)
Continuous Max:	+500 (+260)
Pressure[2], Maximum, psig (bar):	1200 (83)
P × T (max.)[2], psig × °F (bar × °C)	
1/32 and 1/16":	350,000 (12,000)
1/8":	250,000 (8,600)
Flammability:	Will Not Burn
Bacterial Growth:	Will Not Support
Meets Specification:	ABS, and FDA

Typical Physical Properties

ASTM F36	Compressibility, %:	4-10		
ASTM F36	Recovery, %:	40		
ASTM F38	Creep Relaxation, %:	11		
ASTM F152	Tensile, Across Grain, psi (N/mm²):	2000 (13.8)		
ASTM D792	Specific Gravity:	2.80		
ASTM D1708	Modulus @ 100% Elongation, psi (N/mm²):	1400 (9.6)		
ASTM F433	Thermal Conductivity (K), W/m°K (Btu.in./hr.ft.²°F):	0.29-0.38 (2.00-2.65)		
ASTM D149	Dielectric Properties, range, volts/mil.	-		
	Sample conditioning	1/16"		1/8"
	3 hours at 250°F:	466[3]		-
	96 hours at 100% Relative Humidity	59		-
ASTM F586	Design Factors	1/16" & Under		1/8"
	"m" factor:	2.0		2.0
	"y" factor, psi (N/mm²):	2350 (16.2)		2500 (17.2)
ROTT	Gasket Constants, 1/16":	Gb=289	a=0.274	Gs=6.61x10^{-11}
	1/8":	Gb=444	a=0.332	Gs=1.29x10^{-2}
ASTM F104	Line Call Out:	F451999A9B2E99K5M6[4]		

Sealing Characteristics

	ASTM F37B Fuel A	DIN 3535 - 4 Gas Permeability
Gasket Load, psi (N/mm²)	1000 (7)	4640 (32)
Internal Pressure, psig (bar)	9.8 (0.7)	580 (40)
Leakage	0.04 ml/hr.	<0.015 cc/min

Notes: This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results in accordance with ASTM F-104; properties based on 1/32" (0.8mm) sheet thickness unless otherwise mentioned.

*Values do not constitute specification Limits
[1] See Garlock chemical resistance guide.
[2] Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or50% of maximum PxT, consult Garlock Applications Engineering.
[3] Indicates current arced around and not through gasket. Dielectric higher than indicated.
[4] Increase in IRM Oil #903 (fourth numeral 9 is thickness, fifth numeral 9 is weight): Thickness = 1.0% max, Weight = 2.0% max. Sixth numberal 9: % Increase in Water: Weight = 1.0% max. A9: Leakage in Fuel A (Isooctane), Pressure = 9.8psig (0.7bar), Gasket Load = 1,000psi (7.0N/mm2): Typical = 0.04ml/hr, Max = 1.0ml/hr. E99: % Increase in ASTM Fuel B: Weight: 2.0% max., Thickness: 1.0% max.

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PTFE Gasketing Material

Garlock: **Blue Gylon 3504**

PROUD DISTRIBUTOR of Garlock SEALING TECHNOLOGIES®

DESCRIPTION

PTFE Gasketing with aluminosilicate microspheres. The Garlock family of GYLON® products has evolved over the years with a focus on quality to meet and exceed customer expectations. The Blue Gylon 3504 was created to meet the needs of the growing market as well as the increase of the variety and quantity of industrial chemicals.

BENEFITS

- *Tighter seal*
- *Reduced creep relaxation*
- *Chemical resistance*
- *Cost savings*
- *Largest sheet sizes*
- *Branding and color coding for easy identification of superior GYLON® products*

2-295 Superior Blvd. Mississauga, Ontario L5T 2L6 T: (905)-564-0807 F:(905)-564-4812 E: sales@specialtygaskets.com

Material Properties	
Colour:	Blue
Composition:	PTFE with Aluminosilicate microspheres
Fluid Services[1]:	Moderate concentrations of acids, some caustics, hydrocarbons, solvents, hydrogen peroxide, refrigerants and cryogenics
Temperature[2], °F (°C)	
Minimum:	-450 (-268)
Continuous Max:	+500 (+260)
Pressure[2], Maximum, psig (bar):	800 (55)
P × T (max.)[2], psig × °F (bar × °C)	
1/32 and 1/16":	350,000 (12,000)
1/8":	250,000 (8,600)
Flammability:	Will Not Burn
Bacterial Growth:	Will Not Support
Meets Specification:	ABS, FDA, and USP

Typical Physical Properties				
ASTM F36	Compressibility, %:	25-45		
ASTM F36	Recovery, %:	30		
ASTM F38	Creep Relaxation, %:	40.0		
ASTM F152	Tensile, Across Grain, psi (N/mm²):	2000 (13.8)		
ASTM D792	Specific Gravity:	1.70		
ASTM D1708	Modulus @ 100% Elongation, psi (N/mm²):	1500 (10.3)		
ASTM F433	Thermal Conductivity (K), W/m°K (Btu.in./hr.ft.²°F):	0.14-0.24 (1.00 - 1.65)		
ASTM D149	Dielectric Properties, range, volts/mil.	-		
	Sample conditioning	1/16"		1/8"
	3 hours at 250°F:	318		-
	96 hours at 100% Relative Humidity	245		-
ASTM F586	Design Factors	1/16" & Under		1/8"
	"m" factor:	3.0		2.5
	"y" factor, psi (N/mm²):	1650 (11.4)		3000 (20.7)
ROTT	Gasket Constants, 1/16":	Gb=183	a=0.357	Gs=4.01x10^{-3}
	1/8":	Gb=1008	a=0.221	Gs=2.23
ASTM F104	Line Call Out:	F456999A9B7E99K3M6[(3)]		

Sealing Characteristics		
	ASTM F37B Fuel A	**DIN 3535 - 4 Gas Permeability**
Gasket Load, psi (N/mm²)	1000 (7)	4640 (32)
Internal Pressure, psig (bar)	9.8 (0.7)	580 (40)
Leakage	0.12 ml/hr.	<0.015 cc/min

Notes: This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results in accordance with ASTM F-104; properties based on 1/32" (0.8mm) sheet thickness unless otherwise mentioned.
*Values do not constitute specification Limits

[1] See Garlock chemical resistance guide.
[2] Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or50% of maximum PxT, consult Garlock Applications Engineering.
[3] Increase in IRM Oil #903 (fourth numeral 9 is thickness, fifth numeral 9 is weight): Thickness = 1.0% max, Weight = 2.0% max. Sixth numberal 9: % Increase in Water: Weight = 1.0% max. A9: Leakage in Fuel A (Isooctane), Pressure = 9.8psig (0.7bar), Gasket Load = 1,000psi (7.0N/mm2): Typical = 0.12ml/hr, Max = 1.0ml/hr. E99: % Increase in ASTM Fuel B: Weight: 2.0% max., Thickness: 1.0% max.

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Specialty Gaskets INC

Microcellular PTFE Gasketing

Garlock: **White Gylon 3545**

PROUD DISTRIBUTOR of Garlock SEALING TECHNOLOGIES®

DESCRIPTION

Style 3545 is for low bolt load applications and designed specifically to seal pitted, warped, or wavy flanges. Featuring soft, compressible outer layers and a rigid PTFE inner core, it is ideal in situations where a rigid gasket is required. The layers of rigid PTFE and microcellular PTFE are sandwiched together using the proprietary GYLON® thermal bonding process, rather than adhesives, for longer gasket life.

BENEFITS

- *Tighter seal*
- *Excellent chemical compatibility*
- *Easy to cut and install*

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Material Properties	
Colour:	White
Composition:	Microcellular PTFE
Fluid Services[1]:	Strong caustics, strong acids, chlorine, hydrocarbons, cryogenics, glass-lined equipment and low bolt load applications[3]
Temperature[2], °F (°C)	
Minimum:	-450 (-268)
Continuous Max:	+500 (+260)
Pressure[2], Maximum, psig (bar):	1200 (83)
P × T (max.)[2], psig × °F (bar × °C)	
1/32 and 1/16":	350,000 (12,000)
1/8":	250,000 (8,600)
Flammability:	Will Not Burn
Bacterial Growth:	Will Not Support
Meets Specification:	ABS, and FDA

Typical Physical Properties				
ASTM F36	Compressibility, %:	60-70		
ASTM F36	Recovery, %:	15		
ASTM F38	Creep Relaxation, %:	15		
ASTM F152	Tensile, Across Grain, psi (N/mm^2):	-		
ASTM D149	Dielectric Properties, range, volts/mil.			
	Sample conditioning	1/16"		1/8"
	3 hours at 250°F:	248		244
	96 hours at 100% Relative Humidity	222		264
ASTM F586	Design Factors	1/16" & Under		1/8"
	"m" factor:	2.6		2.0
	"y" factor, psi (N/mm^2):	1500 (10.3)		2200 (15.2)
ROTT	Gasket Constants, 1/16":	Gb=162.1	a=0.379	Gs=1.35x10^{-9}
	1/8":	Gb=92.48	a=0.468	Gs=2.50x10^{-3}
ASTM F104	3/16":	Gb=628	a=0.249	Gs=7.93x10^{-5}
	Line Call Out:		F419000A9B3[4]	

Sealing Characteristics		
	ASTM F37B Fuel A	**DIN 3535 - 4 Gas Permeability**
Gasket Load, psi (N/mm^2)	1000 (7)	4640 (32)
Internal Pressure, psig (bar)	9.8 (0.7)	580 (40)
Leakage	0.15 ml/hr.	<0.015 cc/min

Notes: This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results in accordance with ASTM F-104; properties based on 1/32" (0.8mm) sheet thickness unless otherwise mentioned.
*Values do not constitute specification Limits

[1] See Garlock chemical resistance guide.
[2] Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or50% of maximum PxT, consult Garlock Applications Engineering.
[3] For flat face flanges, a minimum compressive stress of 1500psi (103N/mm2)is recommended on the contacted gasket area for 150psig (10.4bar) liquidservice. Consult with the flange manufacturer to confirm that adequate compressive stress is available.
[4] Third numeral 9: F36 Compressibility = 60-70%. A9: Leakage in Fuel A (Isooctane), Gasket Load = 1,000psi (7.0N/mm2), Pressure = 9.8psig (0.7bar): Typical = 0.15ml/hr, Max = 1.0ml/hr.

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Specialty Gaskets INC

Gasketing Material

Garlock: ***Multi-Swell Style 3760***

PROUD DISTRIBUTOR *of* Garlock SEALING TECHNOLOGIES®

DESCRIPTION

Aramid fibers with a proprietary rubber binder gasketing material that creates a seal where the available compressive load on the gasket is low, or where the flanges are not rigid enough to compress a standard gasket material in the areas between bolts. The seal is created by a combination of highly compressible material and the interaction of the gasket with water or oil that causes the gasket to swell and create load.

BENEFITS

- *Creates **compressive load in light weight flanges in oil and water service** — seals where standard gaskets won't*
- *More universal than gaskets that swell in oil only — reduces inventory*
- *Performs well in flanges that might crush an elastomer gasket, providing use in a **wide array of applications***
- ***More compressible than standard fiber gaskets** & seals with low load*
- ***Easy to cut and handle** — extremely flexible, minimizes waste*
- ***Replaces vegetable fiber gaskets** in many applications — won't weep, improving plant safety*
- *Seals flanges in "less than perfect" conditions **minimizing maintenance***

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Material Properties	
Colour:	Blue/Off-white
Composition:	Synthetic fibers with a proprietary rubber binder
Fluid Services[1]:	Water, aliphatic hydrocarbons, oils and gasoline
Temperature[2], °F (°C)	
Minimum:	-100 (-73)
Continuous Max:	+400 (+205)
Pressure[2], Maximum, psig (bar):	500 (34.5)
P × T (max.)[2], psig × °F (bar × °C)	
1/32 and 1/16":	150,000 (5,100)
1/8":	100,000 (3,400)
Meets Specification:	ABS

Typical Physical Properties			
ASTM F36	Compressibility, %:	15-30	
ASTM F36	Recovery, %:	40	
ASTM F38	Creep Relaxation, %:	30	
ASTM F152	Tensile, Across Grain, psi (N/mm²):	1000 (6.9)	
ASTM F1315	Density, lbs./ft.3 (grams/cm3):	85 (1.36)	
ASTM D149	Dielectric Properties, range, volts/mil.		
	Sample conditioning	1/32"	1/68"
	3 hours at 250°F:	607	385
	96 hours at 100% Relative Humidity	-	-
ASTM F104	Line Call Out:	F719996B6L100M3[(3)]	

Sealing Characteristics		
	ASTM F37B Fuel A	**ASTM F37B Nitrogen**
Gasket Load, psi (N/mm²)	500 (3.5)	3000 (20.7)
Internal Pressure, psig (bar)	9.8 (0.7)	30 (2)
Leakage	0.15 ml/hr.	0.20 ml/hr.

Immersion Properties*- ASTM F146 Fluid Resistance after Five Hours			
	ASTM #1 Oil 300°F (150°C)	**ASTM IRM #903 300°F (150°C)**	**Distilled Water 70-85°F (20-30°C)**
Thickness Increase, (%)	≥15	<75	25
Weight Increase, (%)	<30	<85	-
Tensile Loss, (%)	-	-	-

Notes: This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results in accordance with ASTM F-104; properties based on 1/32" (0.8mm) sheet thickness unless otherwise mentioned
*Values do not constitute specification Limits

[1] See Garlock chemical resistance guide.
[2] Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or50% of maximum PxT, consult Garlock Applications Engineering. Minimum temperature rating is conservative.
[3] Third numeral 9: F36 Compressibility 15-30%. Fourth numeral 9: % Thickness Increase in IRM Oil #903 = 75% max. Fifth numeral 9: % Weight Increase in IRM Oil #903 = 85% max.

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