

# Style 4000

Leading the way in WRAS approved sealing solutions

## MATERIAL PROPERTIES

<b>Color:</b>	Pale Yellow
<b>Composition:</b>	Aramid fibres with a nitrile binder
<b>Fluid Services<sup>1</sup>:</b>	Water, oils and gasoline, solvents, steam & gases
<b>Temperature<sup>2</sup>, °C (°F)</b>	
<b>Minimum:</b>	-73°C (-100°F)
<b>Continuous Max:</b>	230°C (445°F)
<b>Pressure<sup>2</sup></b>	
<b>Maximum, bar (psig):</b>	100 (1428)
<b>PxT (max.)<sup>2</sup>, bar x °C (psig x °F)</b>	
<b>0.8mm and 1.5mm:</b>	12,500 (375,000)
<b>3mm</b>	8900 (267,000)
<b>BS7531 Grade X</b>	
<b>Meets Specifications:</b>	Water regulations Advisory Scheme - Approved Material



## PHYSICAL PROPERTIES

ASTM TEST METHOD	TYPICAL PHYSICAL PROPERTIES	TYPICAL RESULTS	
ASTM F36:	<b>Compressibility</b> , %:	6	
ASTM F36	<b>Recovery</b> , %:	>50	
ASTM F38	<b>Creep Relaxation</b> , %:	20	
ASTM F152	<b>Tensile</b> , Across Grain, psi (N/mm <sup>2</sup> ):	2175 (15)	
ASTM F1315	<b>Density</b> , lbs./ft <sup>3</sup> (grams/cm <sup>3</sup> ):	112 (1.8)	
ASTM F433	<b>Thermal Conductivity (K)</b> , W/m <sup>2</sup> K (Btu. In./hr. ft <sup>2</sup> °F)	0.29 - 0.38 (2.00 - 2.65)	
ASTM D149	<b>Dielectric Properties</b> , range, volts/mil.		
	Sample Conditioning	<b>1.5mm</b>	<b>3mm</b>
	3 hours at 250°F	130	140
	96 hours at 100% Relative Humidity	24	24
ASTM F586	<b>Design Factors</b>	<b>1.5mm</b>	<b>3mm</b>
	“m” factor:	2.75	3.5
	“y” factor, psi (N/mm <sup>2</sup> )	3625 (25.0)	4350 (30.0)
ASTM F104	<b>Line Call Out:</b>	F712102A9B4E23K5L101M9	

## GARLOCK STYLE 4000

### SEALING CHARACTERISTICS\*

	ASTM F37B Fuel A	ASTM F37B Nitrogen	BS7531 Gas Leakage
<b>Gasket Load</b> , psi (N/mm <sup>2</sup> ):	<b>500 (3.5)</b>	3000 (20.7)	4640 (32)
<b>Internal Pressure</b> , psig (bar):	<b>9.8 (0.7)</b>	30 (2)	580 (40)
<b>Leakage</b>	-	<b>0.5 ml/hr.</b>	<b>0.75 ml/min.</b>

### IMMERSION PROPERTIES\* - ASTM F146 FLUID RESISTANCE AFTER FIVE HOURS

	ASTM Oil 901 300°F (150°C)	ASTM Oil 903 300°F (150°C)	ASTM Fuel A 70 - 85°F (20 - 30°C)	ASTM Fuel B 70 - 80°F (20 - 30°C)
<b>Thickness increase, (%)</b>	<10	<10	<5	<10
<b>Weight increase, (%)</b>	<7.5	-	<7.5	<10
<b>Tensile Loss, (%)</b>	-	<30	-	-

#### 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 (1.50mm) sheet thickness unless otherwise mentioned.

\* Values do not constitute specification Limits

<sup>1</sup> See Garlock chemical resistance guide

<sup>2</sup> Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or 50% of maximum P×T, consult Garlock Applications Engineering. Minimum temperature rating is conservative.



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#### GARLOCK

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