



## WILLIAM JOHNSTON & COMPANY LIMITED



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**Blue Food Quality Nitrile Rubber 60° shore WJ166**  
**Approved to: US FDA 21 CFR177,2600 – EU1935/2004 and USP Class V1 Compliant**

PROPERTIES	TEST METHOD	VALUES FPS UNITS	TEST METHOD	VALUES METRIC UNITS
SPECIFIC GRAVITY	ASTM D297	1.4 +- 0.05	DIN 53508	1.4 +- 0.05
HARDNESS	ASTM D2240	60 ± 5 SH A	DIN 53505	60 ± 5 SH A
TENSILE STRENGTH (MIN)	ASTM D412	1140 PSI	DIN 53504	60 KG/CM2
ELONGATION AT BREAK (MIN)	ASTM D412	350%	DIN 53504	350%
COMPRESSION SET (70 °C/24 HRS/25% SET) (MAX)	ASTM D395 METHOD B	40%	DIN 53517	40%
TEAR RESISTANCE (ANGULAR) MIN	ASTM D624	112 LBS/INCH	DIN 53515	20 KG/CM
CHANGE IN PROPERTIES				
HEAT AGEING (72 HRS. AT 70 °C)	ASTM D573			
--- HARDNESS (PTS)		+ 4 (MAX)		+ 4 (MAX)
--- TENSILE STRENGTH (%)		+ 10 / - 15		+ 10 / - 15
--- ELONGATION AT BREAK (%)		+ 10 / - 20		+ 10 / - 20
VOLUME SWELL: AT 70° C FOR 72 HRS/IN	ASTM D 471			
ASTM OIL NO.1		+ 3 %		+ 3 %
ASTM OIL NO.2		+ 16%		+ 16%
ASTM OIL NO.3		+ 20%		+ 20%
POLYMER CONTENT (NITRILE)		100%		100%
CHEMICAL RESISTANCE				
--- OZONE	ASTM D 1149	FAIR		FAIR
--- DILUTE ACIDS AND BASES		GOOD		GOOD
--- CONCENTRATED ACIDS AND BASES		NOT RECOMMENDED		NOT RECOMMENDED
--- OILS		GOOD		GOOD

PROPERTIES	TEST METHOD	VALUES FPS UNITS	TEST METHOD	VALUES METRIC UNITS
--- SOLVENTS		FAIR		FAIR
TEMPERATURE RANGE		-25° TO + 110° C		-25° TO + 110° C
COLOUR		RAL 5017 BLUE		RAL 5017 BLUE
POLYMER CONTENT (%)		100		

**Test Name – Determination of Amount of extractives**

Method: With reference to US FDA 21 CFR 177.2 00

Extractants	Test Condition	Amount of Extractives mg/inch <sup>2</sup>	Acceptable limit mg/inch <sup>2</sup>	Conclusion
		1		
Distilled Water	70 °C for 2 hours	10	20	Pass
n-Hexane	70 °C for 2 hours	100	175	Pass

Note:

1. mg/inch<sup>2</sup> denotes Milligram per square inch
2. °C denotes Degrees Celsius

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