



Engineered Seal Products
5920 Dry Creek Ln NE
Cedar Rapids, IA 52402
www.espint.com

N6018

Revision: A

MATERIAL: NBR
COMPOUND: N6018
SPECIFICATION: ASTM D2000 2BG720 B34 EA14 EO14 EO34
COLOR: Black
CERTIFICATIONS: FDA CFR 21 177.2600, 3A Sanitary Standard 18 Class III
ADDITIONAL NOTES: -

Spec	<u>Original Physical and Mechanical Properties</u>	<u>Requirements</u>	<u>Result</u>
	Hardness, Shore A Pts, ASTM D 2240	70±5	73.1
	Tensile Strength, MPa (psi) min., ASTM D 412	13.8 (2000)	14.2 (2058)
	Ultimate Elongation, % min., ASTM D 412	250	372
	Modulus @ 100%, MPa (psi), ASTM D 412	-	4.8 (692)
	Modulus @ 200%, MPa (psi), ASTM D 412	-	8.7 (1257)
	Modulus @ 300%, MPa (psi), ASTM D 412	-	11.5 (1672)
	Specific Gravity	-	1.46
B34	<u>Compression Set (ASTM D 395, Method B) 22 h @ 100°C</u>	<u>Requirements</u>	<u>Result</u>
	% of Original Deflection, max.	25	24
EA14	<u>Water Resistance (ASTM D 471) 70 h @ 100°C</u>	<u>Requirements</u>	<u>Result</u>
	Change in Hardness, Pts	±10	-6
	Change in Tensile, %	-	-3
	Change in Elongation, %	-	1
	Change in Volume, %	±15	6.4
EO14	<u>Fluid Resistance (ASTM D 471) 70 h in IRM901 Oil @ 100°C</u>	<u>Requirements</u>	<u>Result</u>
	Change in Hardness, Pts	-5~+10	3.8
	Change in Tensile, % max.	-25	6
	Change in Elongation, % max.	-45	-13
	Change in Volume, %	-10~+5	-4.8

Note: the values listed above are only valid for material samples prepared for laboratory test purposes as documented in the standards listed above



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EO34	<u>Fluid Resistance (ASTM D 471) 70 h in IRM903 Oil @ 100°C</u>	<u>Requirements</u>	<u>Result</u>
	Change in Hardness, Pts	-10~+5	-4.9
	Change in Tensile, % max.	-45	-1
	Change in Elongation, % max.	-45	-16
	Change in Volume, %	0~+25	5.9
C2.1.1	<u>Low Fat Tolerance Absorption (ASTM D471) 22 h @ 70°C</u>	<u>Requirements</u>	<u>Result</u>
	Change in Hardness, Pts	±20	-3.7
	Change in Tensile, %	-	-5
	Change in Elongation, %	-	10
	Change in Weight, %	±25	-0.1
	Change in Volume, %	±25	0.1
	Change in Visual Appearance	-	Pass
C2.2.1	<u>Milk Fat Absorption (ASTM D471) 22 h @ 70°C</u>	<u>Requirements</u>	<u>Result</u>
	Change in Hardness, Pts	±10	-5
	Change in Tensile, %	-	-4
	Change in Elongation, %	-	2
	Change in Weight, %	±25	-1.3
	Change in Volume, %	±25	-1.7
	Change in Visual Appearance	-	Pass
C2.2.2	<u>Distilled Water Absorption (ASTM D471) 22 h @ 70°C</u>	<u>Requirements</u>	<u>Result</u>
	Change in Hardness, Pts	±10	-4.8
	Change in Tensile, %	-	-10
	Change in Elongation, %	-	-2
	Change in Weight, %	±15	1.6
	Change in Volume, %	±15	2.3
	Change in Visual Appearance	-	Pass

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C2.2.3 Air Aging Stability (ASTM D573) 166 h @ 70°C

	<u>Requirements</u>	<u>Result</u>
Change in Hardness, Pts	±10	1.3
Change in Tensile, %	-	-2
Change in Elongation, %	-	-6
Change in Volume, %	-	-0.2
Change in Visual Appearance	-	Pass

D4.7 Fluid Resistance (ASTM D471) 22 h in Phosphoric Acid @ 82°C

	<u>Requirements</u>	<u>Result</u>
Change in Hardness, Pts	±10	-6.1
Change in Tensile, %	-	-9
Change in Elongation, %	-	1
Change in Weight, %	±15	1.8
Change in Volume, %	±15	2.6
Change in Visual Appearance	-	Pass

D4.8 Fluid Resistance (ASTM D471) 22 h in Alkaline Cleaner @ 82°C

	<u>Requirements</u>	<u>Result</u>
Change in Hardness, Pts	±10	-3.7
Change in Tensile, %	-	-3
Change in Elongation, %	-	2
Change in Weight, %	±15	-0.4
Change in Volume, %	±15	-0.7
Change in Visual Appearance	-	Pass

D4.9 Fluid Resistance (ASTM D471) 22 h in Chlorine Sanitizer @ 21°C

	<u>Requirements</u>	<u>Result</u>
Change in Hardness, Pts	±10	-3.3
Change in Tensile, %	-	-10
Change in Elongation, %	-	-4
Change in Weight, %	±15	0.3
Change in Volume, %	±15	0.5
Change in Visual Appearance	-	Pass

Tear Strength (ASTM D 624 Die C)

	<u>Requirements</u>	<u>Result</u>
Tear Strength, kgf/cm	-	47.7

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