

NBR (Nitrile) O-RING



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MS ISO/IEC 17021:2011
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Certificate Number : FM 646287
ISO 9001 : 2015

Basis

Aerolite® NBR O-Ring is manufactured from acrylonitrile-butadiene rubber, the most widely used general-purpose sealing elastomer. Its performance is governed by acrylonitrile (ACN) content — higher ACN improves oil and fuel resistance, while lower ACN improves low-temperature flexibility. NBR offers an excellent balance of mechanical strength, oil resistance, and cost, making it the default choice for hydraulic and pneumatic sealing.

Key Features & Benefits

- Excellent resistance to petroleum-based oils, fuels, and hydraulic fluids
- High tensile strength and good abrasion resistance
- Low compression set for reliable long-term sealing
- Good resistance to water and mild chemicals

Applications

- Hydraulic and pneumatic cylinders, valves, and pumps
- Fuel systems and lubricating oil lines
- General industrial machinery and rotating equipment
- Automotive engine and transmission seals
- Air, water, and low-pressure gas sealing

● **Technical Data - Shore 70**

Property	Test Method	Specified Value	Unit
Physical Properties			
Hardness (Shore A)	DIN 53505 / ASTM D 2240	70 ± 5	—
Tensile Strength	DIN 53504 / ASTM D 412	≥ 140	kg/cm ²
Elongation at Break	ASTM D 412	≥ 250	%
Specific Gravity	-	1.25	g/cm ³
Oil Ageing — ASTM Oil No. 1, 70 h @ 100°C (ASTM D 471)			
Change in Hardness	ASTM D 471	≤ +5	Shore A
Change in Tensile Strength	ASTM D 471	≤ -15	%
Change in Elongation	ASTM D 471	≤ -20	%
Change in Volume	ASTM D 471	0 to -10	%
Oil Ageing — ASTM Oil No. 3, 70 h @ 100°C (ASTM D 471)			
Change in Hardness	ASTM D 471	0 to -10	Shore A
Change in Tensile Strength	ASTM D 471	≤ -15	%
Change in Elongation	ASTM D 471	≤ -15	%
Change in Volume	ASTM D 471	≤ +15	%
Air Ageing — 70 h @ 100°C			
Change in Hardness	-	≤ +10	points
Change in Tensile Strength	-	≤ -10	%
Change in Elongation	-	≤ -20	%
Air Ageing — 70 h @ 120°C			
Change in Hardness	-	≤ +10	points
Change in Tensile Strength	-	≤ -15	%
Change in Elongation	-	≤ -40	%
Compression Set — 25% Deformation, 22 h (ASTM D 395 Method B)			
Compression Set @ 100°C	ASTM D 395 B	≤ 15	%
Compression Set @ 120°C	ASTM D 395 B	≤ 25	%
Low Temperature			
Brittle Point	ASTM D 2137	-35	°C

All information/applications contained in these publications are to best of our product knowledge. Since condition of uses is beyond our control, users must satisfy themselves that products are suitable for the intended processes and uses. Failure of select the proper sealing products could result in property damage and/or serious personal injury. We reserve the right to change product information without notice.