

Parco

0228-70 Nitrile Seals



Need Fuel Resistant Nitrile Seals?

Parco is committed to being the leader in competitively priced fuel resistant seals. Seals made from Parco's 0228-70 compound meet the critical requirements of the motor vehicle industry to ensure vehicle safety and performance.

0228-70 Meets Your Needs

1. Outstanding Resistance to Fuels

Parco's 0228-70 seals offer excellent performance in low alcohol fuel applications. Fuel may cause seals to swell significantly. Our 0228-70 seals had volume swell of only 19 percent after 70 hours at 73°F in Fuel B.

2. UL-listed

Parco's 0228-70 seals are listed by Underwriter's Laboratory (UL) 157 for end-use applications in gasoline/alcohol blends. UL tests and certifies certain products to ensure the safety of end-use applications. You can view a complete list of Parco's UL-listed compounds on our website.

Nitrile Sets the Standard

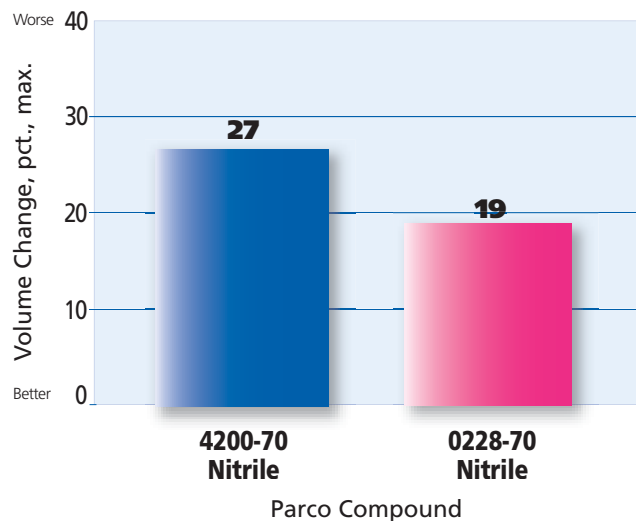
Because nitriles are versatile and inexpensive, they are the most popular industrial seal material. Nitrile compounds are copolymers of acrylonitrile and butadiene. Acrylonitrile provides resistance to petroleum based fluids, such as oil and fuels.

Butadiene contributes low-temperature flexibility. Standard nitrile is also known as Buna N.

Nitrile compounds perform well in gasoline, crude oil, power-steering fluid, hexane, toluene, water, water-based hydraulic fluids, and dilute bases, such as sodium hydroxide. Because nitriles contain unsaturated carbon-carbon bonds in the base polymer, they are not suitable for exposure to ozone, sunlight, and weathering.

Fig. 1:

Volume Change of Popular Parco 70-Durometer UL-Listed Nitrile Compounds



¹Volume change calculated after 70 hours at 23°C (73°F) in ASTM Reference Fuel B. Source: Parco Test Reports.

Parco seals made from 0228-70 have excellent resistance to fuels. At 19 percent, 0228-70 outperforms our most popular general-purpose UL-listed 70-durometer nitrile compound.

Key Features

Parco's 0228-70 nitrile seals are ideal for use in fuels. Key features include the following:

- **Outstanding resistance to aggressive fuels:**
Parco 0228-70 seals show minimal swell in low alcohol fuel applications.
- **UL-listed:**
Parco 0228-70 seals are listed by UL-157 for end-use applications in gasoline/alcohol blends.
- **Wide range of service temperatures:**
Parco 0228-70 seals are suitable for applications ranging from -40 to +200°F.

Chemical Resistance

USE WITH	DO NOT USE WITH
Ammonia Diester Synthetic Lubricants Gasoline Naphtha Propane	Automatic Transmission Fluid Hot Air Ultraviolet Light

Typical Values for Compound 0228-70 70-durometer nitrile for UL-157

Section of Spec.	Physical Property	Requirement ¹	Typical Value	ASTM ² Test Method
	Original Properties			
	Hardness, Shore A	70 ± 5	66	D2240
	Tensile strength, psi, min.	10(1450)	13.3(1924)	D412
	Ultimate elongation, pct., min.	250	347	D412
Z1	Modulus at 100 pct., elongation, psi	Report	620	D412
Z2	Specific gravity	Report	1.27	D297
	Heat Aging			
	70 hours at 100°C (212°F)			D573
Basic	Hardness change, pts., Shore A	±15	2	
	Tensile strength change, pct.	±30	10	
	Ultimate elongation change, pct., max.	-50	-17	
	Fluid Aging, IRM³ 903 Oil			
	70 hours at 100°C (212°F)			D471
Basic	Volume change, pct., max.	40	-9	
	Compression Set, Solid			D395 Method B
	22 hours at 100°C (212°F)			
B34	Pct. of original deflection, max.	25	22	
	Fluid Aging, ASTM Reference Fuel A			
	70 hours at 23°C (73°F)			D471
EF11	Hardness change, pts., Shore A	±10	0	
	Tensile strength change, pct., max.	-25	-2	
	Ultimate elongation change, pct., max.	-25	-6	
	Volume change, pct.	-5 to 10	-1	
	Fluid Aging, ASTM Reference Fuel B			
	70 hours at 23°C (73°F)			D471
EF21	Hardness change, pts., Shore A, max.	-30 to 0	-14	
	Tensile strength change, pct., max.	-60	-14	
	Ultimate elongation change, pct., max.	-60	-25	
	Volume change, pct., max.	0 to 40	19	

¹Compound 0228-70 meets the requirements shown above for ASTM D2000 M2BG710 B34 EF11 EF21 Z1 Z2. ²ASTM is the acronym for the American Society for Testing and Materials. ³IRM is the acronym for Industry Reference Material.

Source: Parco Test Report 8823A.

⚠ This brochure is intended as a guideline and reference. Appropriate testing and validation by users having technical expertise is necessary for proper use of Parco products.

Parco

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