High-Performance Seals

Parco 4457-65 Nitrile Seals

Need Seals to Meet AMS-P-5315?

4457-65 Meets Your Needs

1. Exceeds AMS-P-5315

Seals made from our 65-durometer nitrile compound 4457-65 exceed the requirements of AMS-P-5315 (see test report on reverse side). Parco supplies seals to 65 military and aerospace specifications. We are also one of only a few manufacturers approved to supply Qualified Products List (QPL) rubber seals. Our quality system is certified to ISO/TS 16949 and AS9100. So when you specify 4457-65, rest assured that you've made the right choice.

2. Excellent Resistance to Low Temperatures

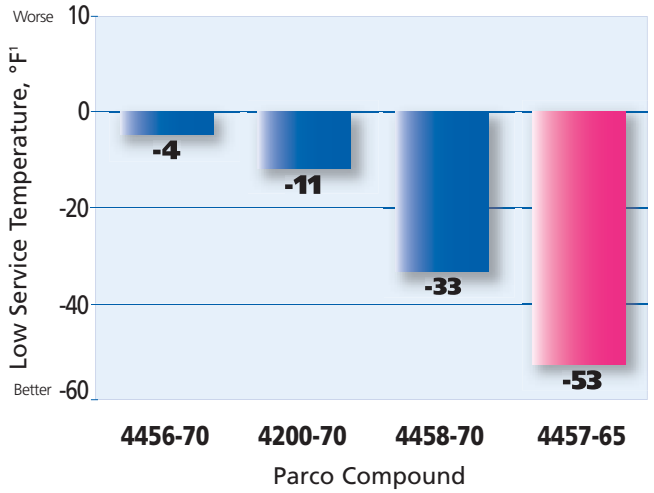
Seals used in low temperatures may become hard and brittle, making them more susceptible to cracking. Parco's 4457-65 seals can be used in static sealing applications with continuous service temperatures as low as -65°F. The American Society for Testing and Materials (ASTM) recommends the temperature retraction (TR-10) test to evaluate rubber for low-temperature service. Our laboratory technicians performed a TR-10 test on our 4457-65 material. After stretching O-rings made from our 4457-65 compound 50 percent in freezing temperatures, we gradually raised the temperature. The O-rings retracted 10 percent at the low temperature of -53°F. The temperature at which rubber retracts 10 percent approximates the material's low service temperature in dynamic applications. The excellent low-temperature properties of 4457-65 seals enables them to resist cracking in low-temperature applications (see Figure 1).

3. Exceptional Prices

Parco's 4457-65 prices are among the lowest available. We use the latest manufacturing techniques and sell in huge volume. That allows us to provide you with seals for AMS-P-5315 at a great price.

Fig. 1:

Low-Temperature Properties of Medium Durometer Nitrile Compounds



[1]Values taken from temperature retraction (TR-10) tests.
Source: Parco Test Reports.

4457-65 seals have excellent low-temperature properties compared to other medium durometer nitrile compounds. 4457-65 seals can be used in dynamic sealing applications with continuous service temperatures as low as -53°F.

4457-65

Key Features

Parco's 4457-65 nitrile seals are ideal for use in low-temperature applications. Key features include the following:

- **Meets popular aerospace specification:**
  Parco 4457-65 seals exceed the requirements for AMS-P-5315.
- **Excellent resistance to low temperatures:**
  Parco 4457-65 seals can be used in static applications with continuous service temperatures as low as -65°F.
- **Exceptional prices:**
  Parco 4457-65 prices are among the lowest available.
- **Wide range of service temperatures:**
  Parco 4457-65 seals are suitable for applications ranging from -65 to +200°F.

Typical Values for Compound 4457-65
65-durometer nitrile for AMS-P-5315

Section of Spec.	Physical Property	Requirement[1]	Typical Value	ASTM[2] Test Method
	Original Properties			
Z1	Hardness, Shore A	65 ± 5	65	D2240
	Tensile strength, MPa (psi), min.	8(1160)	10.4(1509)	D412
	Ultimate elongation, pct., min.	200	246	D412
Z2	Modulus at 100 pct., elongation, psi	Report	669	D412
Z3	Specific gravity	Report	1.33	D297
	Heat Aging			
Basic	**70 hours at 100°C (212°F)**			D573
	Hardness change, pts., Shore A	±15	5	
	Tensile strength change, pct.	±30	12	
	Ultimate elongation change, pct., max.	-50	-14	
	Compression Set			D395
B14	**22 hours at 100°C (212°F)**			Method B
	Pct. of original deflection, max.	25	6	
	Fluid Aging, Fuel A			
EF11	**70 hours at 23°C (73°F)**			D471
	Hardness change, pts., Shore A	±10	-4	
	Tensile strength change, pct., max.	-25	-10	
	Ultimate elongation change, pct., max.	-25	-15	
	Volume change, pct.	-5 to 10	8	
	Fluid Aging, Fuel B			
EF21	**70 hours at 23°C (73°F)**			D471
	Hardness change, pts., Shore A	-30 to 0	-12	
	Tensile strength change, pct., max.	-60	-29	
	Ultimate elongation change, pct., max.	-60	-41	
	Volume change, pct.	0 to 40	33	
	Low Temperature Property			
Z4	TR-10, °C (°F)	Report	-47(-53)	D1329

[1]Compound 4457-65 meets the requirements shown above for ASTM D2000 M2BG708 B14 EF11 EF21 Z1 Z2 Z3 Z4. Compound 4457-65 also meets the requirements for Aerospace Material Specification, AMS-P-5315, *Butadiene - Acrylonitrile (Nbr) Rubber for Fuel-Resistant Seals 60 to 70.*

[2]ASTM is the acronym for the American Society for Testing and Materials.

Source: Parco Test 8232.

Parco

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