

Parco

9253-95 Fluorocarbon Seals

Need Explosive Decompression Resistant 95-Durometer FKM Seals?

Parco's latest 95-durometer fluorocarbon compound is tailored to meet the unique needs of oilfield machinery. Parco's 9253-95 seals perform extremely well in high pressure, caustic environments. That means less downtime and higher productivity for your down hole equipment.

9253-95 Meets Your Needs

1. Excellent Resistance to Explosive Decompression

Explosive decompression (ED) is a challenge in many oilfield applications. In high-pressure environments, gases can permeate a seal, causing leakage. If pressure in a well is released too quickly, the gases in the seal may expand, causing the seal to blister or tear. Parco's 9253-95 compound addresses those challenges. After conducting a single-cycle, 24-hour, pressure soak, Parco's 9253-95 seals exhibited no visible decompression damage.

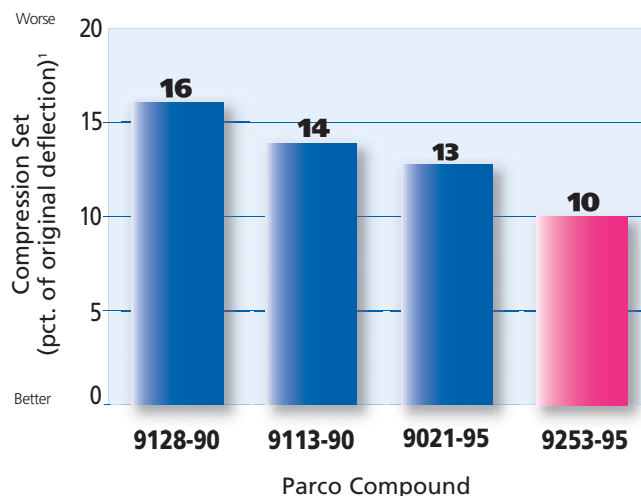
2. Enhanced Resistance to Extrusion

Modulus indicates the amount a seal resists deformation under stress. A seal with high modulus is more extrusion resistant than a seal with low modulus. Parco's extrusion-resistant 9253-95 seals are ideal for high-pressure oilfield machinery applications that cannot use contoured back-up rings. At 50 percent elongation, seals made from Parco's 9253-95 compound have a modulus of 1646 psi.

3. Outstanding Resistance to Compression Set

To perform properly, a seal must resist taking a set from compression after being installed. When a seal takes a set, it no longer exerts force on the mating surfaces, resulting in leakage. A compound with low compression set, like our 95-durometer fluorocarbon compound 9253-95, better maintains its elastomeric properties and original thickness, preserving seal integrity. Seals made from Parco's 9253-95 compound provide excellent resistance to compression set at higher temperatures (see figure 1). After testing 9253-95 for 22 hours at 392 F, it had a compression set of only 10 percent.

Fig. 1: **Compression Set of Typical Parco High Durometer FKM Compounds**



¹Compression set calculated after 22 hours at 200°C (392°F).
Source: Parco Test Reports.

Key Features

Parco's 9253-95 fluorocarbon seals are ideal for high-pressure applications. Key features include the following:

- **Excellent resistance to explosive decompression:**
After conducting a single-cycle, 24 hour pressure soak, Parco 9253-95 seals exhibited no visible decompression damage.
- **Enhanced resistance to extrusion:**
At 50 percent elongation, Parco 9253-95 seals have a modulus of 1646 psi.
- **Outstanding resistance to compression set:**
Parco 9253-95 seals have a compression set of only 10 percent after 22 hours at 392°F.

Typical Values for Compound 9253-95 95-Durometer Fluorocarbon

Physical Property	Requirement	Typical Value	ASTM ¹ Test Method
Original Properties			
Hardness, Shore A	90 ± 5	93	D2240
Tensile strength, MPa (psi), min.	13.8(2000)	20.8(3010)	D412
Ultimate elongation, pct., min.	60	93	D412
Modulus at 50 pct., elongation, psi	8.1(1170)	11.4(1646)	D412
Tear Resistance, Die B lbf/in	Report	288	D624
Compression Set, Plied Pct. of original deflection 22 hours at 200°C (392°F)			D395 Method B
Abrasion Resistance 1000 Rev, H18, 1000g Weight loss, mg revolution			D3389
Explosive Decompression Resistance CO₂ at 750 psig (0568-325) 22 hours at 23°C			NACE TM0192-92 D1414
Immediately after decompression			
Hardness change, pts., Shore A	Report	-17	
Cross section change, pct.	Report	11	
Median Visual*	Report	1	
10 minutes after decompression			
Hardness change, pts., Shore A	Report	-19	
Cross section change, pct.	Report	12	
Median Visual*	Report	1	
45 minutes after decompression			
Hardness change, pts., Shore A	Report	-11	
Cross section change, pct.	Report	5	
Median Visual*	Report	1	
*Visual Rating System (NACE TM0192-92, Section 8.6)			
1 - No visible damage			
2 - Minimal damage confined to the surface (few blisters and cracks)			
3 - External and internal damage (many blisters and cracks)			
4 - Extensive damage, fragmentation.			

¹ASTM is the acronym for the American Society for Testing and Materials.

Source: Parco Test Reports 8462C and 8592.

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