

EJ280-70

USP Class VI Approved, Animal-Free
Ethylene Propylene



Parker Animal Free EPDM:

Parker O-ring products are at the leading edge of elastomer technology, solving industry needs with new, innovative materials. Our seals are used in medical devices, pharmaceutical and bio-tech manufacturing, diagnostic equipment and drug delivery. For this reason, Parker developed EJ280-70, a USP Class VI rated, animal free ethylene propylene designed specifically to address the risks associated with using animal derived products during manufacturing.

Stearates are commonly used in the manufacturing of many elastomers. Most commercially available stearates are derived from beef tallow. Risk of exposure to Bovine Spongiform Encephalopathy (BSE) (also known as Mad Cow Disease) increases with consumption or exposure to contaminated animal products. Although there has never been a documented case of transmitting this disease through an elastomeric seal, there is concern surrounding the possibility. For this reason, EU has several directives that restrict products of animal origin.



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Advantages:

- Eliminates risk of BSE transmission from seal
- Seal is free of ingredients derived from animal origin
- Eliminates need to monitor changes to process requirements
- Meets USP Class VI requirements

ENGINEERING YOUR SUCCESS.

EJ280-70 to ASTM D2000 M2CA710 A25 B44 EA14 F17 G11 Z1 (Animal-free) Z2 (USP Class VI rated)

Original Physical Properties	Test Method	Specification Limits	Test Results
Hardness, Shore A, pts.	ASTM D2240	70±5	70
Tensile Strength, Mpa	ASTM D412	1450	2472
Ultimate Elongation %	ASTM D412	200	246
(G11) Tear Resistance, Die B min. kN/m (psi)	ASTM D624	17 (97)	35(201)
Specific Gravity	ASTM D297	as received	1.14
Compression Set (Plied) 22 hrs. @ 212°F			
Percent of original defection, max.	ASTM D395 Method B	60	7
(B44) Compression Set (Plied) 70 hrs. @ 212°F			
Percent of original deflection, max.	ASTM D395 Method B	70	10
Heat age, (basic requirement) 70 hrs. @ 257°F			
Hardness Change, pts	ASTM D573	±15	+2
Tensile Strength Change, %		±30	+2
Ultimate Elongation Change, %		±50	+11
(A25) Heat age 70 hrs @ 257°F			
Hardness Change, pts	ASTM D865	+10	+2
Tensile Strength Change, %		-20	-12
Ultimate Elongation Change, %		-40	-10
(EA14) Water Resistance 70 hrs. @212°F			
Volume Change, %	ASTM D865	±5	+3
(F17) Low Temperature			
Brittleness 3 min. @ -40°C	ASTM D2137	Pass	Pass

USP Class VI and ISO 10993-3 Systemic Toxicity Study

Extract	# Deaths / # Tested	#Deaths / # Tested
Saline	0/5	0/5
Alcohol in Saline	0/5	0/5
Polyethylene glycol 400	0/5	0/5
Sesame Oil	0/5	0/5

USP Class VI Intracutaneous Study

Extract	Avg. Test Score	Control Test Score	Difference
Saline	0.0	0.0	0.0
Alcohol in Saline	0.0	0.0	0.0
Polyethylene glycol 400	0.0	0.0	0.0
Sesame Oil	0.7	0.7	0.0

