



Manufacturer of TFE-O-SIL[®] O-Rings & Gaskets Since 1976
FEP & PFA Encapsulated Silicone, Fluoroelastomer & EPDM

EPDM – 70 DUROMETER

USP Class VI compliant - Peroxide Cured
FDA Conforming – Title 21 CFR 177.2600
3A Sanitary Standard compliant

Original Properties	ASTM D2000 Test Method	Requirement	Result
Durometer, Shore A	D2240	70 \pm 5	73
Tensile strength, psi	D 412	1450	1700
Elongation, %	D 412	250	310

Heat Aged 70 Hours @ 100°C (212°F)

Durometer change, pts., max.	D2240	\pm 10	+ 1
Tensile change, %, max.	D 573	- 25	- 4
Elongation change, %, max.	D 573	- 25	-21

Compression Set 22 Hours @ 100°C (212°F)

% of original deflection, max.	D 395	35	27.0
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Low Temperature Brittleness

3 minutes @ -55°C	D2137	non-brittle	Pass
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Temperature Range °C (°F) -54° to + 175°C (-65° to + 350°F)

II Hot water & steam service to 162°C (325°F)

729 W. Winthrop Avenue • Addison, IL 60101
Phone: 800-770-7128 / 630-628-9221
Web: www.row-inc.com • Email: sales@row-inc.com



Temperature Information - EPDM O-Rings and Adhesives

The service temperature range of the EPDM elastomer conforming to the USP Class VI requirements is: **-65° to +300° F**

Regarding the adhesive used to bond the ends of the cord:

1. The USP Class VI approved adhesive will lose tensile strength as the service temperature increases. It will lose 50% of its tensile strength at 212° F and up to 75% of its tensile at its upper service temperature of 300° F.
2. If our standard FDA approved adhesive were used, at least 75% of its tensile strength would be maintained at the elastomer upper service limit of 300° F.

Summary:

In order for the elastomer and adhesive to be USP Class VI approved, there would be a compromise in the tensile strength of the joint at elevated temperature (175° F and above). If the integrity of the joint is critical, and service temperatures will exceed 212° F, we would suggest using our standard FDA adhesive.

If the USP Class VI approval is required in its entirety, the maximum recommended service temperature for our EPDM vulcanized O-Rings would be +225°F

