

M-Cor Inc.

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Mechanical Properties Data Sheet

Product Information

Product: Teflon Encapsulated O-Ring

Core: Silicone (70 Durometer)

Encapsulation: FEP (Fluorinated Ethylene Propylene)

Size: AS-214

Cross Section: 0.139 in (3.53 mm)

Inside Diameter: 0.984 in (25.0 mm)

Mechanical Properties - Core (Silicone 70 Durometer)

Durometer Hardness (Shore A): 70 +/- 5 (ASTM D2240)

Tensile Strength: ≥ 7 MPa (1015 psi) (ASTM D412)

Elongation at Break: $\geq 200\%$ (ASTM D412)

Compression Set, 22h @ 175 degrees C: $\leq 35\%$ (ASTM D395 Method B)

Operating Temp Range: -60 degrees C to +200 degrees C

Specific Gravity: ~ 1.15 (ASTM D297)

Mechanical Properties - Jacket (FEP Teflon)

Durometer Hardness (Shore D): 55-60 (ASTM D2240)

Tensile Strength: ≥ 25 MPa (3600 psi) (ASTM D638)

Elongation at Break: $\geq 300\%$ (ASTM D638)

Melting Point: ~ 260 degrees C (ASTM D3418)

Specific Gravity: ~ 2.15 (ASTM D792)

Water Absorption: $< 0.01\%$ (ASTM D570)

Permeability (H₂O/Steam): Very low (ASTM E96 mod)

Functional Properties - Combined

Chemical Resistance: Excellent (FEP jacket)

Dynamic Seal Capability: Moderate (not for high-speed reciprocation)

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Vacuum Suitability: Excellent (low outgassing FEP jacket)

Pressure Rating: Up to 1500 psi (static); consult for dynamic

Compression Recovery: Moderate (limited by jacket rebound)

FDA Compliance: CFR 21 177.1550 / 177.2600 (FEP/Silicone)

USP Class VI: Pass (typical for encapsulated O-rings)

PFAS Content: Yes (FEP contains PFAS compounds)

Notes

- FEP jacket limits elasticity - design for minimal stretch during installation.
- Silicone core offers superior flexibility and low-temperature performance.
- Not recommended for dynamic applications with reciprocating motion.
- Compression set is higher than FKM, but suitable for non-critical static seals.



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