

M-Cor Inc. — Physical Data Sheet

Material: Platinum-Cured Silicone Rubber (General-Purpose LSR/HCR), **70 Shore A**

Intended use: General reference for engineering and QA. Values are typical (not guaranteed) and depend on specific grade, cure, and post-cure. For specifications, request an **M-Cor grade-specific TDS/COC**.

Company & Document Info

Company: M-Cor Inc.

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1) Identification

- **Material family:** Silicone Elastomer (Polydimethylsiloxane), addition-cured (Pt catalyzed)
 - **Form:** Liquid Silicone Rubber (LSR) or High Consistency Rubber (HCR), depending on process
 - **Nominal hardness:** 70 Shore A
 - **Color:** Natural translucent (pigmentable)
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2) Recommended Service Temperature

- **Continuous service:** **-55 °C to +200 °C** (-67 °F to +392 °F)
- **Short excursions (intermittent):** up to **+210 °C** (+410 °F) depending on grade and heat stabilization
- **Low-temperature brittleness:** typically passes at **-55 °C** (-67 °F); some grades non-brittle to **-73 °C** (-100 °F)

Note: Actual limits depend on the selected compound, part geometry, load, media, and duty cycle.

For exposures ≥ 180 °C, select a heat-stabilized grade or consult M-Cor Engineering.

3) Typical Physical Properties (70 Shore A, post-cured where applicable)

Property	Typical Value	Test Method
Hardness, Shore A	70 (±3)	ASTM D2240 / DIN 53505
Density (Specific Gravity)	1.13 – 1.15 g/cm ³	ASTM D792
Tensile Strength	8.5 – 10 MPa (1,230 – 1,450 psi)	ASTM D412 / DIN 53504
Elongation at Break	350 – 450 %	ASTM D412 / DIN 53504
Tear Strength	18 – 25 N/mm (100 – 145 ppi)	ASTM D624 (Die B/C)
Compression Set (22 h @ 175 °C)	20 – 30 %	ASTM D395 B
Resilience (Bashore)	30 – 45 %	ASTM D2632
Linear Shrink (molding)	≤ 2.0 % (grade-dependent)	Typical
Post-cure	2–4 h @ 200 °C (if required by grade/ compliance)	Typical

Ranges shown reflect common 70A platinum-cured silicone grades from multiple major producers. Grade-specific values may differ.

4) General Performance Characteristics

- **Thermal:** Excellent heat resistance; retains elasticity across wide temp range.
- **Environmental:** Excellent UV/ozone/weathering resistance.
- **Electrical:** Inherently insulating; dielectric properties available upon request.
- **Chemical:** Good resistance to water, steam, dilute acids/bases; limited resistance to non-polar solvents, fuels, and some aromatics.
- **Biological:** Silicone is physiologically inert; medical/food contact suitability depends on grade and regulatory testing.

For aggressive media (solvents, fuels, hot oxidizers) or vacuum/semiconductor environments, consult M-Cor for compound selection or alternative cores (FKM/FFKM) and encapsulations (FEP/PFA).

5) Processing Notes (for molded/extruded parts)

- **Cure system:** Addition cure (Pt) — minimal by-products; low volatile grades available.
 - **Pigmentation:** Compatible with silicone color masterbatches (observe mix limits to maintain properties).
 - **Post-cure:** May be required to meet low-volatiles or regulatory targets; confirm with grade TDS.
 - **Inspection:** M-Cor offers digital measurement and Certificates of Conformance (COC) upon request.
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6) Options & Customization

- **Alternate hardness:** 30–80 Shore A
 - **Heat-stabilized grades** for sustained ≥ 180 °C
 - **High-tear / high-strength** grades for demanding molding
 - **Pigmented & translucent** options
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7) Disclaimers

This data sheet provides **typical** properties only and does **not** constitute a specification or warranty. Actual performance varies by compound, part geometry, processing, and environment. Users must validate suitability for their application. Regulatory compliance (e.g., FDA/USP/ISO) is **grade-specific** and available upon request.

For quotes, engineering assistance, or grade-specific TDS/COC

Contact M-Cor: _____ | <https://www.m-cor.com>

Request: "M-Cor Grade-Specific 70A Platinum Silicone TDS + COC" with part/drawing number, media, duty cycle, and temperature profile.