

ChromaResist™ 90

New 3D-printable polyurethane material for chemically-resistant seal and gasket applications

ChromaResist 90 is a strong, flexible polyurethane material with a high degree of crosslinking. It was designed for high-temperature applications requiring high tensile strength, good hydraulic oil resistance, good resistance to lithium greases, and low compression set. It also has improved hydrolytic stability. It has a temperature range from -20° C to 140° C.

FEATURES

- Smooth parts without post processing
- Isotropic tensile properties
- High tensile strength
- Seals tightly against gases and liquids
- Solidly filled parts
- No warping during prints

PROPERTY	MEAN	STD. DEVIATION	UNIT	STANDARD
Tensile Strength (XY)	41.3 (5994)	2.5 (361)	MPa (psi)	ASTM 638
Tensile Strength (Z)	42.8 (6201)	2.8 (410)	MPa (psi)	ASTM 638
Elongation at Break (XY)	354	8	%	ASTM 638
Elongation at Break (Z)	385	8	%	ASTM 638
Modulus at 100% Strain (XY)	10.7 (1540)	0.2 (28)	MPa (psi)	ASTM 638
Modulus at 100% Strain (Z)	10.2 (1537)	0.2 (32)	MPa (psi)	ASTM 638
Hardness	92	+/-5	Shore A	ASTM D2240

COMPRESSION SET PROPERTIES

36%

STANDARD

ASTM D395 (100° C for 22 hours, 25% deflection)

CHEMICAL PROPERTIES

Resistance to Hydraulic Fluids	Very Good
Resistance to Compressor Oil	Very Good
Resistance to Hydrolysis at 80° C	Very Good
Resistance to Lithium Greases	Very Good

CHROMARESIST™ RESINS

ChromaResist resins are flexible, colored, translucent or opaque polyurethane resins. They have best-in-class chemical resistance for polyurethanes. They have good hydrostability and low compression set, making them suitable for applications with long-term static or dynamic load. They have been specifically developed for applications with our RX-AM™ platform. This unique system is being evaluated for applications ranging from rail and automotive to oil and gas to hydraulic piston seals and gaskets. ChromaResist is available to make near net-shape parts, such as billets, that can be machined into tight tolerance seal applications.

To learn more about ChromaResist™, please contact us at info@c3dm.com