UTEX
INNOVATING SEALING PERFORMANCE

ChemTex® High-Performance Perfluoroelastomer (FFKM)

ChemTex® is the latest advancement in elastomer technology from UTEX Industries, Inc. The first generation of ChemTex® elastomers is a proprietary compound of perfluorinated elastomer polymers combined with a specialized filler system.
This formulation delivers elastomer components with exceptional chemical resistance comparable to PTFE, along with temperature capabilities ranging from -40°F to 662°F (-40°C to 350°C) and very low compression set.

This performance class is often referred to as High Temperature Chemical Resistance (HTCR), highlighting ChemTex®'s ability to maintain integrity in aggressive chemical environments at elevated temperatures.

ChemTex® is currently available in general-purpose black compounds with nominal durometers of 70, 80, and 90 (compounds 7807, 7808, and 7809).

Additional specialty compounds are available, including formulations designed for 660°F service in 70 and 90 durometers, non-black 70 and 90 durometer options, and Rapid Gas Decompression (RGD) resistant compounds in 70 and 90 durometers.

ChemTex® is offered in o-ring form (standard and custom) and in custom molded articles, as well as custom-molded components and specialty shapes.

Below are the typical properties of standard ChemTex® compounds, along with a general comparison of chemical compatibility.

Key Features

- Excellent resistance to a broad range of chemicals, including oils, acids, alkalis and solvents
- Some grades will perform well in steam applications
- Temperature handling in excess of 660°F
- Optimal mechanical properties for long-term sealing performance

Applications

- Aerospace industry
- Valves
- Hydraulic systems
- Diesel engines
- Mechanical seals
- Chemical handling/pumps
- Semiconductor manufacturing

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Benefits

- Greatly increased service life with improved total cost of ownership
- Custom-molded and standard sizes available
- Highest chemical attack resistance of any rubber elastomer

Typical Properties of ChemTex® Compounds

Compound Number	7807	7808	7809	78175	7819	7827	7828	7829	78975	7899
Specification	-	-	-	-	-	-	-	-	AMS-7257D	-
Hardness (A) Nominal	70+5	80+5	90+5	75+5	95+5	75+5	80+5	90+5	75+5	90+5
S.G.	2.05	2.00	1.95	2.07	1.95	2.05	2.03	2.00	2.07	2.00
Hardness (A) Typical	73	80	91	75	95	75	80	90	75	92
Tensile Strength (psi)	2200	2150	2100	2400	2800	2100	2200	2500	2300	2300
E/B (%)	160	130	80	150	45	160	150	80	175	75
Modulus 50% (psi)	375	550	1550	400		350	400	1350	500	2000
Modulus 100% (psi)	950	1350		1050		950	1200		1300	
Tear "C" (pli)	100	125	150	150	220	150	150	160	100	125
Max Temperature °F	550	550	550	550	550	550	550	550	600	600
Typical Use*	GP	GP	GP	ED	ED	NB	NB	NB	HT	HT
Compression Set ASTM 395B 22 Hours @ 392°F with button	5	5	10	5	15	5	5	10	10	25
70 Hours @ 392°F with button	10	10	15	10	25	10	10	15	15	35
22 Hours @ 392°F with .250 CS o-ring	10	15	20	20	25	15	15	20	15	35
70 Hours @ 392°F with .250 CS o-ring	15	20	30	25	35	20	20	25	20	40

*GP=General Purpose ED=Explosive Decompression Resistant NB=Non-Black HT=High Temperature

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General Chemical Resistance Comparison of HTCR, FKM and ChemTex®

	HTCR	FKM	CHEMTEX
High Temperature Steam/Hot Water	+	-	++
Caustics/High pH Fluids	+	-	++
Inorganic Acids	+	-	++
Phosphate Ester Hydraulic Fluid	+	+	++
Alcohols	+	-	++
Hydrocarbon Based Hydraulic Fluid	+	+	++
Water Glycol Hydraulic Fluid	+	-	++
Glycol Based Brake Fluids	+	+	++
Mineral or Silicon Oil Brake Fluids	+	-	++
Engine Oils (New Types)	+	-	++
Automatic Transmission Fluid (New Types)	+	-	++
Engine Coolants with Rust Inhibitors	+	-	++
Power Steering Fluid (New Types)	+	-	++
Sour (H_2S) Oil and Gas	+	-	++
Amine Corrosion Inhibitors	+	-	++
Gasoline	-	+	++
EP Gear Lubricants	+	-	++
Gamma Ray Radiation	++	-	+
Polar Solvents	-	-	++
Non-Polar Solvents	+	-	++
Oxidizing Agents	-	-	++
High Aromatics (i.e., Toluene, Xylene)	-	+	++
Jet Turbine Oils	+	-	++
Pulp and Paper Liquors	+	-	++

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