UTEX

Product Bulletin

UPB - 75 04/11/00
Rev. G 11/13/07

CHEMTEX® I High Performance Perfluoroelastomer (FFKM)

CHEMTEX® I is the latest in elastomer technologies from UTEX Industries, Inc. The first generation of CHEMTEX elastomer is a proprietary alloy of perfluorinated elastomer polymers with a filler system to provide elastomer parts with exceptional chemical resistance, similar to PTFE, temperature capabilities from 20°F to 600° F, -7°C to 315°C with very low compression set.

CHEMTEX I is currently available in general purpose black compounds, a nominal 70, 80 and 90 durometer compound 7807, 7808 and 7809 as well as other specialty compounds suited for 600°F 70 and 90 duro, non-black 70 and 90 durometer and Rapid Gas Decompression (RGD) 70 and 90 duro.

CHEMTEX I is available in standard AN series o-rings and in custom molded articles and specialty shapes.

Below are the typical properties of CHEMTEX I standard compounds and a general comparison of chemical compatibility. Utex Engineering Document ETS-018 provides a comparison of HTCR™ and CHEMTEX I over a much broader range of chemicals.

Typical Properties of CHEMTEX® I Compounds

Compound No.	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 I

	HTCR	FKM	CHEMTEX I
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 (H2S) 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	+	-	++

++ IS BEST **+ IS BETTER PERFORMANCE THAN -**

Comparison of O-Ring Compression Sets (.139 c/s)

	Kalrez® DuPont 1050LF	**Chemraz®** Greene Tweed CPD 505	**ChemTex® I** Utex 7807
22 Hours @ 392°F	28.57	8.33	9.09
70 Hours @ 392°F	35.29	16.67	15.15
22 Hours @ 450°F	43.33	19.35	22.86
70 Hours @ 450°F	73.33	37.71	45.45