



MARKEZ® Z2004 FDA, USP VI, PERFLUOROELASTOMER TECHNICAL DATASHEET – REV 1, MAY 2019

Z2004 is our FDA compliant, USP VI FFKM compound. Z2004 features competitive pricing, an extremely broad range of chemical resistance, and resistance to high temperature steam. Used as a cost-effective alternative to Kalrez 6375 and Chemraz 505 in countless applications across various industries where resistance to harsh solvents and steam resistance is required. Available in O-rings and custom shapes. Our experienced application engineers welcome the opportunity to assist you in selecting the compound that provides the best value for your application.

FEATURES AND BENEFITS

- FDA Compliant
- USP VI (87 & 88)
- Nearly universal chemical compatibility
- Cost Effective
- Compatible with steam < 300°F
- Compatible with amines < 200°F
- Good dynamic properties - Long service life
- High purity

APPLICATION EXAMPLES

- Food Handling
- Pharmaceutical
- Connectors, Controls & Filters
- Solvents
 - Acetone, Heptane
 - Glycol ethers, Naphtha
 - Toluene, Turpentine
 - White spirit, Xylene
 - Methyl ethyl ketone (MEK)
 - Dimethylformamide (DMF)
- Suitable for Ozonated Deionized Water
- Suitable for Water for Injection (WFI) Systems
- Inorganic & Organic Acids & Alkine
- Ketones, Esters, Ethers, Aldehydes



TYPICAL PHYSICAL PROPERTIES

PROPERTIES	ASTM	TYPICAL VALUE
Color		Black
Material Type	FFKM	FFKM
Hardness, Shore A	D2240	75
100% Modulus, MPa (psi)		6.4 (928)
Tensile Strength, MPa (psi)	D412	13.1 (1,899)
Elongation at Break, %	D412	150
Compression Set: 72 hrs. @ 150°C (302 °F)		20%
Min Operating Temp (lower spikes)		-15 °C (5°F)
Max Operating Temp (higher spikes)		220 °C (428°F)

This information is to the best of our knowledge accurate and reliable. However, Marco Rubber makes no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It's the customer's responsibility to evaluate parts prior to use.

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MARKEZ® Z2004 CHEMICAL RESISTANCE

CATEGORY	CHEMICAL	TEMP	DAYS	Z2004	
Acids	Hydrochloric Acid (37%)	25°C	7	A	
		25°C	28	A	
		80°C	7	A	
	Hydrochloric Acid (3.5%)	25°C	28	A	
		Sulfuric Acid (98%)	25°C	7	A
			80°C	7	A
	90°C		28	A	
	Fuming Sulfuric Acid	180°C	7	C	
		Nitric Acid (60%)	25°C	7	A
			80°C	7	A
	Nitric Acid (70%)	25°C	28	A	
	Hydrofluoric Acid(50%)	25°C	7	A	
		70°C	28	A	
	Hydrofluoric Acid (49%) : Nitric Acid (70%)= 1:5	25°C	28	A	
	Hydrofluoric Acid (49%) : Nitric Acid (70%)= 1:100	25°C	28	A	
	Hydrogen Peroxide (30%)	25°C	28	A	
	Glacial Acetic Acid	25°C	7	A	
	Acetic Anhydride	25°C	7	A	
	Phosphoric Acid	25°C	7	A	
		25°C	7	A	
25°C		28	A		
Formic Acid	25°C	7	A		
Aqua Regina	25°C	7	A		
Alkali	Sodium Hydroxide (50%)	25°C	7	A	
		80°C	7	A	
	Sodium Hypochlorite (10%)	25°C	7	A	
	Ammonia Water (28%)	25°C	7	A	
		25°C	28	A	
	Tetramethylammonium Hydroxide (25% TMAH)	80°C	28	A	
Ammonium Fluoride	25°C	7	A		
Alcohol	Methanol	25°C	7	A	
		25°C	7	A	
	Isopropyl Alcohol (IPA)	25°C	7	A	
		80°C	28	A	
Amines	n-Methyl-2-Pyrrolidone (NMP)	25°C	7	A	
		90°C	3	A	
		150°C	7	B	
	Ethylenediamine	25°C	7	A	
		90°C	3	B	
	Monoethanolamine:Dimethyl sulfoxide = 7:3	80°C	7	A	
Dimethylacetamide	150°C	7	A		

Volume Swell: A = 0-5% B = 5-10% C = 10-20% D = 20% +

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CATEGORY	CHEMICAL	TEMP	DAYS	Z2004
Ketones Esters Ethers	Acetone	25°C	7	A
	Methyl Ethyl Ketone (MEK)	25°C	7	A
	Methyl Isobutyl Ketone (MIBK)	25°C	7	A
	Butyl Lactate	25°C	7	A
	Butyl Acetate	25°C	7	A
	Cyclohexanone	25°C	7	A
	Propylene Glycol Monomethyl Ether (PGME)	25°C	7	A
	Propylene Glycol Monomethyl Ether Acetate (PGMEA)	25°C	7	A
Aldehyde Furan	Tetrahydrofuran	25°C	7	A
	Acetaldehyde	25°C	7	A
	Furfural	25°C	7	A
Hydrocarbons	Cyclohexanone	25°C	7	A
	Isooctane	25°C	7	A
	Benzene	25°C	7	A
	Toluene	25°C	7	A
Chlorinated Solvents	Chloroform	25°C	7	A
	Methylene Chloride	25°C	7	A
	Trichlorethylene	25°C	7	A
Steam	Steam	150°C	7	A
Other Semiconductor Related Chemicals	Hexamethyldisilazane (HMDS)	25°C	7	A
	Piranha Solution (H2SO4-H2O2 / 3:1)	25°C	7	A
	SPM[H2SO4 (98%) : H2O2 (30%) / 2:1]	80°C	28	A
	SC-1[NH4OH (27%)-H2O2 (30%)-H2O / 1:1:5]	25°C	7	A
	SC-2[HCL (37%)-H2O2 (30%)-H2O / 1:1:6]	25°C	7	A
		70°C	28	A
	BHF (HF-NH4F-H2O)	25°C	7	A
	DHF (HF-H2O)	25°C	7	A

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