Request a Quote

(800) 775-6525
sales@marcorubber.com
www.marcorubber.com

MARKEZ® Z1217 AMS-7257 PERFLUOROELASTOMER
TECHNICAL DATASHEET

GENERAL DESCRIPTION

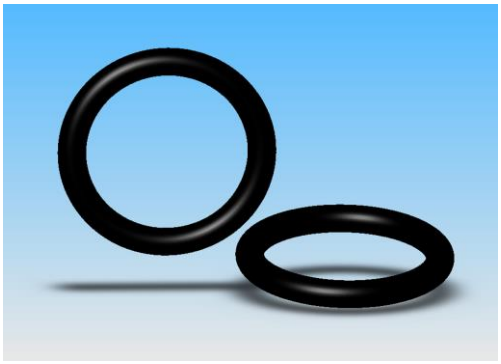
Markez Z1217 is a high temperature FFKM compound designed for jet engine and APU applications. This compound has excellent compatibility with nearly all common fuels, oils, and lubricants. Z1217 meets AMS-7257 specifications.

FEATURES AND BENEFITS

- Cost effective
- Nearly universal chemical compatibility
- Low compression set
- Good dynamic properties - Long service life
- Compatible with steam < 500°F
- Compatible with amines < 100°F

TYPICAL PHYSICAL PROPERTIES

PROPERTIES	AMS-7257 REQUIREMENTS	TYPICAL TEST VALUE
Color	Black	Black
Material Type	FFKM	FFKM
Hardness, Shore A	70 to 80	77
Tensile Strength, MPa	10.3	14.7
Elongation at Break, %	120 min.	165%
Compression Set (70 hrs @ 230°C)	40 max.	20%
Linear Coefficient of Thermal Expansion (1/°C)		3.5×10^{-4}
Min Operating Temp (lower spikes)		-15 °C (5°F)
Max Operating Temp (higher spikes)		315 °C (600°F)



Request a Quote

TESTING RESULTS OF MARKEZ® Z1217 UNDER VARIOUS CONDITIONS

CHEMICAL RESISTANCE

CHEMICAL	RATING
Inorganic acid	**A**
Organic acid	**A**
Alkalis	**A**
Amines (RT)	**A**
Hot amines (>70°C)	**C***
Water / Steam	**A**
Ketons	**A**
Esters	**A**
Ethers	**A**
Adelhydes	**A**
Alcohols	**A**
Hydrocarbons	**A**
Sour gas	**A**
Lubricants	**A**
Fluorinated fluids	**C**

*Markez Z1217 provides excellent chemical compatibility with most chemicals, including Amines below 70° C. **For hot amines over 70° C, use Markez Z1352 compound.**

RATING SYMBOL	VOLUME SWELLING
A	**<10%**
B	**10-30%**
C	**30-50%**
D	**>50%**

Markez Z1217 shows good compatibility with hot acids with minor physical property changes.

ACIDS

HCL 37%	80°C for 70 hrs.
Tensile strength change, %	-4.0
Elongation change, %	-15.0
Hardness, Shore A	-1.0
Volume change, %	1.6

HF 49%	80°C for 70 hrs.
Tensile strength change, %	5
Elongation change, %	-23
Hardness, Shore A	0
Volume change, %	0.3

Nitric acid 65%	80°C for 70 hrs.
Tensile strength change, %	-30
Elongation change, %	5
Hardness, Shore A	-10
Volume change, %	10

Glacial acetic acid	80°C for 70 hrs.
Tensile strength change, %	-35
Elongation change, %	-3
Hardness, Shore A	-10
Volume change, %	7

ALKALINE AND AMINES

KOH, 50%	125°C for 168 hrs.
Tensile strength change, %	-10.0
Elongation change, %	-15.0
Hardness, Shore A	-2.0
Volume change, %	0.4

N-methyl-diethanolamine (MDEA)	60°C for 336 hrs.
Tensile strength change, %	
Elongation change, %	
Hardness, Shore A	
Volume change, %	

NH, 28%	100°C for 336 hrs.
Tensile strength change, %	-15
Elongation change, %	-18
Hardness, Shore A	-7
Volume change, %	15

Ethylene diamine	60°C for 336 hrs.
Tensile strength change, %	-10
Elongation change, %	-13
Hardness, Shore A	-8
Volume change, %	20
Volume change, %, (23°C for 504 hrs.)	1.8

Request a Quote

WATER AND STEAM

Water	220°C for 168 hrs.
Tensile strength change, %	**-12.0**
Elongation change, %	**1.0**
Hardness, Shore A	**-1.0**
Volume change, %	**2.0**

Steam	220°C for 168 hrs.
Tensile strength change, %	**-9.0**
Elongation change, %	**5.0**
Hardness, Shore A	**-2.0**
Volume change, %	**2.2**

The peroxide curing system used to cross-link the Markez Z1217 compound gives it superior resistance to hot water and steam below 500°F.

AEROSPACE FLUIDS

Fuel B	23°C for 70 hrs.
Tensile strength change, %	**4.0**
Elongation change, %	**-2.0**
Hardness, Shore A	**1.0**
Volume change, %	**0.2**

Skydrol LD4	125°C for 70 hrs.
Tensile strength change, %	**-19.0**
Elongation change, %	**14.0**
Hardness, Shore A	**-4.0**
Volume change, %	**4.6**

Reference Oil 300	175°C for 720 hrs.
Tensile strength change, %	**-9.0**
Elongation change, %	**6.0**
Hardness, Shore A	**-2.0**
Volume change, %	**0.6**

ELECTRICAL PROPERTIES

Dielectric constant and loss factor at 50 Hz frequency
Volume and surface resistivity measured applying 100 V direct tension

Dielectrical Constant	$\in'$	3.5
Loss Factor	tan (δ)	0.03
Surface resistivity	R_s (Ω)	5 x 10^16
Volume resistivity	R_v (Ω cm)	6.1 x 10^16

GAS PERMEATION RATE

Permeation rate at 30°C (cm^3 (STP)-mm/m^2-atm-d)

Nitrogen	250
Oxygen	450
Helium	5400

COMPRESSION SET, %	ASTM REQUIREMENT	TYPICAL VALUE
70 hrs. @ 200°C	40	20
70 hrs. @ 230°C	40	24
336 hrs. @ 230°C	55	41

Date: 2016-7-1