

MARKEZ® Z1318 was specifically developed to handle a wide range of active pharmaceutical ingredients (API's) and aggressive cleansing agents, being especially suited to withstand steam-in-place (SIP) and cleans-in-place (CIP) procedures within pipes and vessels. This compound is also suitable for use in Water-For-Injection (WFI) systems.

ABOUT MARKEZ® #Z1318

MARKEZ® Z1318 is a top of the line material designed for high temperature and chemically abrasive medical and food applications.

- Cost effective
- Nearly universal chemical compatibility
- Low compression set
- Good dynamic properties - Long service life

APPLICATION EXAMPLES

- FDA Compliance
- USP Class VI <87 & 88> compliant
- Clean room manufactured & packaged
- Excellent resistance to a wide range of chemicals
- High physical properties
- Excellent steam resistance
- Free from animal derived Ingredients

APPLICATION EXAMPLES

- Pharmaceutical
- Bio-analytical
- Food processing application

ADDITIONAL INFORMATION

- Service Temperature of 5° to 500°F
- Spec: USP Class VI <87 & 88>

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

PHYSICAL PROPERTIES

ORIGINAL PROPERTIES	ASTM Method	Typical Test Results
Material Type	FFKM	
Color		White
Durometer, Shore A	D1415	75
Tensile Strength, MPa (psi)	D412	15.64 (2,268)
Elongation at break, %	D412	161
Modulus @ 100%, MPa (psi)		9.13 (1,324)
Compression Set, 72 hrs @ 200°C (392°F)	D395	0.224

GENERAL CHEMICAL COMPATIBILITY TESTING	COMPATIBILITY RATING	Typical Test Results (% Volume Swell)
Inorganic acid	A	<10%
Organic acid	A	<10%
Alkalis	A	<10%
Water / Steam	A	<10%
Ketons	A	<10%
Esters	A	<10%
Ethers	A	<10%
Aldehydes	A	<10%
Alcohols	A	<10%
HydroCarbons	A	<10%
Sour gas	A	<10%
Lubricants	A	<10%
Fluorinated fluids	C	30-50%
Amines (Room Temperature)	A	<10%
Hot amines (>70°C) *Markez Z1318 provides excellent chemical compatibility with most chemicals, including Amines below 70°C. For hot amines over 70°C, use Markez Z1352 compound.	B*	10-30%

CHEMICAL TESTING - H2SO4, 98%	Test	Typical Test Results
70h @ 60°C	Tensile Strength Change, %	-5
70h @ 60°C	Change in Elongation, %	-12
70h @ 60°C	Change in Hardness, pts Shore A	0
70h @ 60°C	Change in Volume, %	0.1

CHEMICAL TESTING - HF, 50%	Test	Typical Test Results
168h @ 80°C	Tensile Strength Change, %	-15
168h @ 80°C	Change in Elongation, %	10
168h @ 80°C	Change in Hardness, pts Shore A	-1
168h @ 80°C	Change in Volume, %	5
CHEMICAL TESTING - Formic Acid, 80%	Test	Typical Test Results
72h @ 23°C	Tensile Strength Change, %	0
72h @ 23°C	Change in Elongation, %	-4
72h @ 23°C	Change in Hardness, pts Shore A	1
72h @ 23°C	Change in Volume, %	0.6
CHEMICAL TESTING - Ammonia, 28%	Test	Typical Test Results
168h @ 45°C	Tensile Strength Change, %	-19
168h @ 45°C	Change in Elongation, %	3
168h @ 45°C	Change in Hardness, pts Shore A	2
168h @ 45°C	Change in Volume, %	1
CHEMICAL TESTING - MDEA	Test	Typical Test Results
168h @ 150°C	Tensile Strength Change, %	-28
168h @ 150°C	Change in Elongation, %	6
168h @ 150°C	Change in Hardness, pts Shore A	-4
168h @ 150°C	Change in Volume, %	5
CHEMICAL TESTING - Acetone	Test	Typical Test Results
168h @ 23°C	Tensile Strength Change, %	-7
168h @ 23°C	Change in Elongation, %	6
168h @ 23°C	Change in Hardness, pts Shore A	-1
168h @ 23°C	Change in Volume, %	1.3
CHEMICAL TESTING - Methyl Ethyl Ketone (MEK)	Test	Typical Test Results
168h @ 23°C	Tensile Strength Change, %	-5
168h @ 23°C	Change in Elongation, %	5
168h @ 23°C	Change in Hardness, pts Shore A	0
168h @ 23°C	Change in Volume, %	0.8
CHEMICAL TESTING - Ethylene Oxide (EtO)	Test	Typical Test Results
168h @ 23°C	Tensile Strength Change, %	-24
168h @ 23°C	Change in Elongation, %	7
168h @ 23°C	Change in Hardness, pts Shore A	-3
168h @ 23°C	Change in Volume, %	1.5