

V1090 high durometer FKM compound has been specifically designed for use in Oil and Gas drilling applications. This material is highly versatile and has a wide range of chemical compatibility. This compound has passed testing for Norsok M-710 and NACE TM0297 standards for rapid gas decompression.

## ABOUT #V1090

Marco Compound #V1090 high durometer FKM compound from Marco Rubber & Plastics was specifically designed for use in oil and gas drilling applications. This material is highly versatile, resists a number of corrosive substances, and has a wide range of chemical compatibility. This compound has passed testing for Norsok M710 and NACE TM0297 standards for rapid gas decompression.

## FEATURES

- Excellent explosive decompression resistance
- Tested to Norsok M-710 and NACE TM0297
- Superior resistance to RGD reduces maintenance and increases MTB (mean time between failures)

## APPLICATION EXAMPLES

- Low-temperature environments
- High-pressure environments
- Exploration & drilling equipment
- Subsea valves and pumps
- Compressors

## ADDITIONAL INFORMATION

- Service Temperature of -40° to 437°F
- Spec: ASTM 2000 M3HK914 A1-10 B37 B38 E078 EF31 Z1 Z2

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 D2000 Requirements	Typical Test Results
Hardness, Shore A (ASTM D2240-05)	90 +/- 5	90
Color	Black	Black
Tensile Strength, MPa (psi) (ASTM D412-06a)	14.0 (2,031)	21.01 (3,047)
Ultimate Elongation, % (ASTM D412-06a)	100 min.	204
Compression Set, 22 hrs @175°C (ASTM D395-03, Method B) (Pilled)	30 max.	18.2
Compression Set, 22 hrs @200°C (ASTM D395-03, Method B) (Pilled)	30 max.	18.9
Compression Set, 70 hrs @200°C (ASTM D395-14, Method B) (Button)	30 max.	10.1
TR-10 (ASTMD1329-08)	----	-30°C
<b>HEAT RESISTANCE – ASTM D 573 (70 hrs. @ 250°C)</b>	<b>ASTM D2000 Requirements</b>	<b>Typical Test Results</b>
Hardness Change, points	+10 max.	+3
Tensile Strength Change, %	-25 max.	-10
Ultimate Elongation Change, %	-25 max.	+10
Weight Change, %		-2.2
<b>FLUID RESISTANCE – FUEL C – ASTM D471-12 (70 hrs. @ 23°C)</b>	<b>ASTM D2000 Requirements</b>	<b>Typical Test Results</b>
Hardness Change, points	+/- 5	-5
Tensile Strength Change, %	-25 max.	-18
Ultimate Elongation Change, %	-20 max.	-16
Volume Change, %	0 to +10	4.3
<b>FLUID RESISTANCE – SERVICE FLUID 101 – ASTM D 471 (70 hrs. @ 175°C)</b>	<b>ASTM D2000 Requirements</b>	<b>Typical Test Results</b>
Hardness Change, points	-15 to +5	-12
Tensile Strength Change, %	-40 max.	-24
Ultimate Elongation Change, %	-20 max.	-4
Volume Change, %	0 to +15	14.7
<b>RAPID GAS DECOMPRESSION – NORSOK M-710</b>	<b>NORSOK M-710</b>	<b>Test Result</b>
Test gas °F 90/10 mol % CH <sub>4</sub> /CO <sub>2</sub> compressed to 150 bar and decompressed at a rate °F 20.5 bar/min. 10 decompression cycles @ 100°C	Pass	Pass
<b>RAPID GAS DECOMPRESSION – NACE TM0297 (100°C)</b>	<b>NACE TM0297 Requirements</b>	<b>Test Result</b>
Test gas °F 100% CO <sub>2</sub> compressed to 380 bar @ 150°C (maintained for 24 hrs) and decompressed at a rate °F 70 bar/min	NACE Rating °F 1	Pass
Status	No RGD Damage	