Request a Quote

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Marco Compound # E1045
70 Durometer, Black, USP Class VI EPDM
Technical Datasheet

Common Names:
Ethylene-Propylene (EP, EPDM)

General Description:
EPDM rubber (ethylene propylene diene monomer rubber) is an elastomer which is characterized by wide range of applications and good chemical resistance. Marco compound E1045 is specially formulated to be FDA and USP Class VI compliant.

Features:
- FDA and USP Class VI compliant
- Good heat and compression resistance.
- Resistant to ketones, hot and cold water, steam, alkalis, polar solvents, ozone, sunlight, alcohols, glycol engine coolant and Skydrol (phosphate ester hydraulic fluid).

Limitations:
- Not recommended for oils, gasoline, kerosene, aromatic and aliphatic hydrocarbon, halogenated solvents, concentrated acids, non-polar solvents, petroleum oils, mineral oils and aromatic fuels.

Cure System:
- Peroxide

Service Temperature:
-70 to 250° F (-56 to 121° C)

Specification:
ASTM M3CA 710 A25 EA14 F18 Z1 Z2 Z3 Z4 Z5

PHYSICAL PROPERTY STANDARDS

ORIGINAL PROPERTIES – ASTM D412	D2000 Specification Requirements	Typical Test Results
Hardness, Shore A	70 +/- 5	72
Color	Black	Black
Tensile Strength, psi	1,450	1,500

HEAT AGING – ASTM D573 (22 hrs. @ 125°C)	D2000 Specification Requirements	Typical Test Results
Hardness Change, points, max.	-5 to +5	+1
Tensile Strength Change, %, max.	-20	-13
Ultimate Elongation Change, %, max.	-15	-7

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HEAT AGING – ASTM D865 (22 hrs. @ 100°C)	**D2000 Specification Requirements**	**Typical Test Results**
Hardness Change, points, max.	+10	+1
Tensile Strength Change, %, max. (Z4)	-40	-30
Ultimate Elongation Change, %, max.	-40	-25

WATER IMMERSION – ASTM D471 (70 hrs. @ 100°C)	**D2000 Specification Requirements**	**Typical Test Results**
Hardness Change, points	No limit	-2
Volume Change, %,	+1.0	+1.0

COMPRESSION SET – ASTM D395 (22 hrs. @ 100°C)	**D2000 Specification Requirements**	**Typical Test Results**
Permanent Set, %, max.	60	4

LOW TEMPERATURE RESISTANCE – F19, ASTM D 2137	**D2000 Specification Requirements**	**Typical Test Results**
Non-brittle after 3 min. @ -50°C	Non-Brittle	Pass

COMPRESSION SET – (Z1) ASTM D395 (70 hrs. @ 150°C)	**D2000 Specification Requirements**	**Typical Test Results**
Deflection, %, max.	50	30

STEAM – (Z2), AS568A-214 O-Ring (70 hrs. @ 150°C)	**D2000 Specification Requirements**	**Typical Test Results**
Hardness Change, points, max.	+/- 10	-5
Tensile Strength Change, %, max.	-70	-57
Ultimate Elongation Change, %, max.	-30	-29
Volume Change, %	+/- 10	+6

HEAT AGING – (Z3) ASTM D573 (70 hrs. @ 100°C)	**D2000 Specification Requirements**	**Typical Test Results**
Hardness Change, points, max.	+/- 5	0
Tensile Strength Change, %, max. (Z4)	+/- 20	+3
Ultimate Elongation Change, %, max.	+/- 20	-10

Date: 2015-11-20