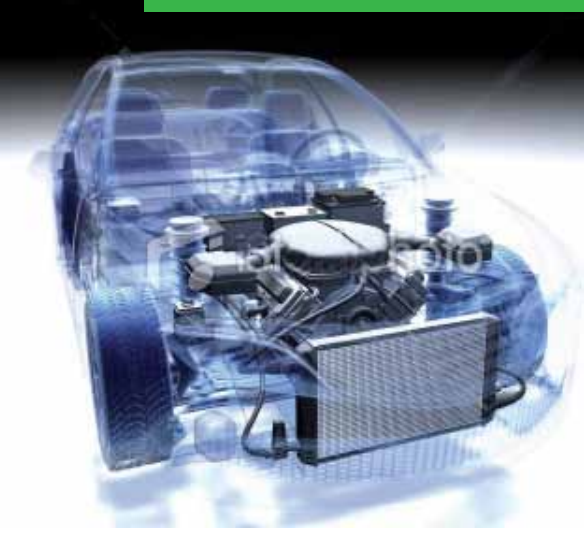
AUTOMOTIVE



armacell
engineered foams

Monarch® #8002

- ASTM D 1056-07 2A2 grade closed cell material
- Fine cell – manufactured in blocks (buns)
- Medium density, pure EPDM material
- Excellent resistance to ozone, UV, weathering and elevated temperatures
- Approved source for Delphi SD2-207, paragraph 6.7
- ASTM D 6576-07 Type II, Grades B & C, condition soft-medium

Monarch®

General Information

Armacell Monarch® #8002: Armacell LLC (Spencer, WV Plant) manufactures a black, closed cell, 9 ± 2 lb./ft^3 (144 ± 32 kg/m^3) density pure EPDM rubber product #8002, that meets all the requirements of ASTM D 1056-07 2A2 and SAE J18 APR2002 2A2. #8002 has excellent resistance to ozone. #8002 is manufactured with non-staining oils and anti-oxidants. #8002 does not incorporate a flame retardant but meets the requirements of FMVSS-302 at 0.125" (1/8") (3.1 mm) and higher.

Bun Size Information

Product	Bun Size (Inches)			Bun Size (mm)			Color
	W	L	T	W	L	T	
8002	40	54	2	1016	1372	50.8	Black

SEAL & DESIGN ABLE

SEAL & DESIGN INC.

SEAL & DESIGN HIGBEE

Automotive and Industrial Specifications

The following is a list of automotive and industrial specifications that Armacell Monarch® #8002 has been tested to or can meet. Additional specifications are listed that have a few exceptions. Feel free to suggest other automotive, military or industrial specifications, and a full review will be made.

Source	Specification	Armacell Monarch® #8002	Comments
ASTM	ASTM D1056-07	2A2	Additional (optional) suffixes can be added
ASTM	ASTM G21-09	Pass, rating 0	Fungus resistance test method
ASTM	ASTM D 925	Pass, no migration staining	Method B
ASTM	ASTM D 1149	Pass, no cracking, rating 0	Ozone resistance test method
ASTM	ASTM D 1171	Pass, no cracking, rating 0	Ozone resistance test method
ASTM	ASTM D 6576-07	Type II, Grades B & C, condition soft-medium	Formerly MILR6130-C
Chrysler	Chrysler MSZ-75 J18	2A2	Additional (optional) suffixes can be added
Chrysler	Chrysler MS JP9-4	Meets at thicknesses of 0.125" (1/8") (3.1mm) & higher	Flame resistance (horizontal burn rate)
Chrysler	Chrysler MSAY 430	Type 4	On approved source list
Delphi	SD2-207	Paragraph 6.7	See note 4. On approved source list
Federal	FMVSS-302	Meets at thicknesses of 0.125" (1/8") (3.1mm) & higher	Flame resistance (horizontal burn rate). See note 3
FORD	FORD WSK M2D 419-A	Type 3	See note 2
GM	GME 60-251	2A2U, pass, grade 0	Ozone Test
GM	GM 6086-M	Type II	CD tested at 50% deflection. See note 1
GM	GM 6090-M	(B4A) Meets at thicknesses of 0.125” (1/8”) (3.1mm) and higher	Flame resistance tested per GM 9070-P (horizontal burn rate)
GM	GMN11106	Type II	CD tested at 50% deflection. See note 1
GM	GMW15473	Class I Type IV	CD tested at 50% deflection. See note 1
Hyundai	Hyundai MS260-13	Classification ER	Additional (optional) suffixes can be added
ISO	ISO 6916	2A2	No exceptions
Military	ASTM D 6576-07	Type II, Grades B & C, condition soft-medium	Formerly MILR6130-C
SAE	SAE J18 APR2002	2A2	Additional (optional) suffixes can be added
SAE	SAE J369	Meets at thicknesses of 0.125" (1/8") (3.1mm) & higher	Flame resistance (horizontal burn rate)
SAE	SAE J 1351	Rating 2	Odor specification
Toyota	TSM 1501G	2A2	No exceptions
Toyota	TSM 0500G	Meets at thicknesses of 0.125" (1/8") (3.1mm) & higher	Flame resistance (horizontal burn rate)

Note 1: For all GM 6086-M, GMN11106 & GMW15473 callouts, Armacell Monarch® certifies to the “basic” requirements only. Request additional information for each product. Providing application (interior, exterior or under-hood) and part thickness is helpful.
Note 2: For all FORD WSK M2D 419-A callouts, request full information for each product due to some exceptions with non-tested staining requirements.
Note 3: A number of horizontal burn tests can also be listed (GM 6090, BMW, Volvo, etc.). Request additional information.
Note 4: See QMPL-3621 Revision 12. Effective date August 24, 2009.

DATA SHEET (Effective 4/1/11)

Monarch®

Polymer Base: **Pure EPDM**

F-08002 (Black)

Physical Properties	Unit	Test Method	Typical Results
Density	kg/m^3	ASTM D 1056	144 ± 32
	lb/ft^3	ASTM D 1056	9 ± 2
Hardness, Durometer Shore 00		ASTM D 2240	53 ± 5
Compression Deflection (25%)	kPa	ASTM D 1056	48 ± 14
	psi	ASTM D 1056	7 ± 2
Compression Set (Room temp)	%	ASTM D 1056	≤ 25%
Tensile Strength	kPa	ASTM D 412 (Die A)	520
	psi	ASTM D 412 (Die A)	75
Tear Strength	kN/m	ASTM D 624 (Die C)	2.1
	lb/in	ASTM D 624 (Die C)	12
Elongation	%	ASTM D 412 (Die A)	150%
Resilience	%	ASTM D 2632	45%
Service Temperature			
Low	˚F (˚C)	ASTM D 746	-70˚F (-56.7˚C)
High Continuous	˚F (˚C)	ASTM D 746	220 ˚F (104.4˚C)
High Intermittent	˚F (˚C)	ASTM D 746	250˚F (121.1˚C)
Water Absorption			
Maximum Weight Change	%	ASTM D 1056	< 10%
Fluid Immersion (7 days at 23˚C [73.4˚F])			
ASTM Ref. Fuel B, Weight Change (%)	%	ASTM D 1056	Not Applicable
Accelerated Aging (7 days at 70˚C [158˚F])			
Flexibility (180˚ bend without cracking)		ASTM D 1056	Pass
Appearance change		ASTM D 1056	None
Change in Compression Deflection	%	ASTM D 1056	± 30%
Combustion Characteristics		**Thicknesses**	**Comments**
FMVSS-302		0.125” (3.1 mm) & higher	Pass

ASTM D 1056 designation: 2A2
SAE J 18 APR2002 designation: 2A2
ASTM D 6576: Type II, Grades B & C, Condition Soft-medium
EPDM = (ethylene-propylene-diene-methylene)

SEAL & DESIGN ABLE

Seal & Design
Able Division

5533 Steeles Avenue West Unit 11
Toronto, Ontario M9L 1S7
Ph: (416) 741-0750
Gasket@AbleSealAndDesign.com

SEAL & DESIGN INC.

Seal & Design
Corporate Headquarters

4015 Casilio Parkway
Clarence, NY 14031
Ph: (716) 759-2222
Info@SealAndDesign.com
www.SealAndDesign.com

SEAL & DESIGN HIGBEE

Seal & Design
Higbee Division

6741 Thompson Rd N
Syracuse, NY 13221
Ph: (315) 432-8021
Sales@Higbee-Inc.com