

AUTOMOTIVE



Monarch® #8001

- ASTM D 1056-07 2A1 grade closed cell material
- Fine cell – manufactured in blocks (buns)
- Medium density, pure EPDM material
- Excellent resistance to ozone, UV, weathering and elevated temperatures
- ASTM D 6576-07 Type II, Grades B & C, Condition Soft

Monarch®

General Information

Armacell Monarch® #8001: Armacell LLC (Spencer, WV Plant) manufactures a black, closed cell, $9 \pm 2 \text{ lb./ft}^3$ ($144 \pm 32 \text{ kg/m}^3$) density pure EPDM rubber product #8001, that meets the requirements of SAE J-18 APR2002 2A1 and ASTM D 1056-07 2A1. #8001 has excellent resistance to ozone and elevated temperatures. #8001 is manufactured with non-staining oils and anti-oxidants. #8001 does not incorporate a flame retardant but meets the requirements of FMVSS-302 at 0.125" (1/8") (3.1 mm) and higher. This product is also available in gray (#8901).

Bun Size Information

Product	Bun Size (Inches)			Bun Size (mm)			Color
	W	L	T	W	L	T	
8001	40	62	1.75	1016	1575	44.5	Black
8001	40	54	2	1016	1372	50.8	Black

Automotive and Industrial Specifications

The following is a list of automotive and industrial specifications that Armacell Monarch® #8001 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® #8001	Comments
ASTM	ASTM D1056-07	2A1	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 6576-07	Type II, Grades B and C, Condition Soft	Formerly MILR6130-C
Chrysler	Chrysler MSZ-75 J18	2A1	Additional (optional) suffixes can be added
Chrysler	Chrysler MS JP9-4	Meets at thicknesses of 0.125" (1/8") (3.1mm) and higher	Flame resistance (horizontal burn rate)
Federal	FMVSS-302	Meets at thicknesses of 0.125" (1/8") (3.1mm) and higher	Flame resistance (horizontal burn rate)
FORD	FORD WSK M2D 419-A	Type 2	See note 2
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
GM	GME 60-251	2A2U, pass, grade 0	Ozone test
Hyundai	Hyundai MS260-13	Classification ER	Additional (optional) suffixes can be added
ISO	ISO 6916	2A1	No exceptions
Military	ASTM D 6576-07	Type II, Grades B and C, Condition Soft	Formerly MILR6130-C
SAE	SAE J18 APR2002	2A1	Additional (optional) suffixes can be added
SAE	SAE J369	Meets at thicknesses of 0.125" (1/8") (3.1mm) and higher	Flame resistance (horizontal burn rate)
SAE	SAE J 1351	Rating 2	Odor specification
Toyota	TSM 1501G	2A1	No exceptions
Toyota	TSM 0500G	Meets at thicknesses of 0.125" (1/8") (3.1mm) and 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.



Polymer Base: **Pure EPDM**

F-08001 (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	45 ± 5
Compression Deflection (25%)	kPa	ASTM D 1056	24 ± 10
	psi	ASTM D 1056	3.5 ± 1.5
Compression Set (Room temp)	%	ASTM D 1056	≤ 25%
Tensile Strength	kPa	ASTM D 412 (Die A)	380
	psi	ASTM D 412 (Die A)	55
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	55%
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	275°F (135°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: 2A1
 SAE J 18 APR2002 designation: 2A1
 ASTM D 6576: Type II, Grades B & C, Condition Soft
 EPDM = (ethylene-propylene-diene-methylene)

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