



Technical Foams manufactured by Armacell

TECHNICAL SELECTOR GUIDE ELASTOMERIC FOAMS

Ensolite[®]

OleCell

Monarch

ArmaSound

ArmaFORM



Product			ARMAFLEX			ENSOLITE			ENSOLITE			ENSOLITE				ENSOLITE	ENSOLITE	ARMASOUND		ENSOLITE	
Polymer/Elastomer			AF	NH	HT	IV1	IV2	IV3	NG1-130	NG6-090	NG-120	EG2-075	EG4-100	EG5-130	EG7-175	SC-500	FC0	120	240	ET7-175	ET7-300
Property			CLOSED-CELL NBR BLEND	CLOSED-CELL NBR	CLOSED-CELL EPDM FOAM	PVC/NBR/CR			CLOSED-CELL NBR BLEND			CLOSED-CELL EPDM FOAM				SEMI-CLOSED-CELL EPDM FOAM	SEMI-CLOSED-CELL PVC/NBR	NBR-BLEND (RE-ENGINEERED) OPEN-CELL		ELASTOMERIC TUBES	
Property	Test Method	Unit																			
Thickness range				3, 6, 9, 13, 16	10, 13, 19, 25															min. 2.5mm Wall Thickness	min. 2.8mm Wall Thickness
		mm	7-25	19, 25, 32	32, 50	up to 25	up to 26	up to 27	3-12, 25	3-12	3-12	3-12 up to 25	3-12 up to 22	3-12 up to 20	3-12 up to 15	3-25	up to 40	6-50	6-50	min. 4.0mm Inner Diameter	min. 4.0mm Inner Diameter
Density	ISO 845	kg/m³	40-70	40-80	55-85	43-88	88-120	112-152	70-110	70-110	100-140	65-90	85-115	110-150	150-200	80-110	55-90	120	240	150-220	260-340
Temperature Range																					
High	ASTM D 1056	°C	+105*	+105*	+150*	+93	+93	+93	+80	+80	+80	+120	+120	+120	+120	+140	+90	+105*	+105*	+120	+120
Low		°C	-50*	-40*	-50*	-40	-40	-40	-20	-20	-20	-40	-40	-40	-40	-40	-40	-20	-20	-55	-55
Classification	ASTM D 1056-00					2C1	2B2	2B3	2B1/2B2	2B1/2B2	2B2/2B3	2A1	2A2	2A2	2A3		1A0				
	ASTM D 1056-78								RE 41/42 E2	RE 41/42 E2	RE 42/43 E2	RE 41	RE 42	RE 42	RE 43						
	NFR 99-211								5 C 08	5 C 08	5 C 08	2 C 04/08	2 C 08	2 C 08	2 C 08/16						
Compression Deflection 25%	ISO 6916-1	kPa	5-20	15-30	10-25				20-50	25-55	40-70	20-35	35-50	46-65	65-90		≤ 2.75	9-10	36	20	70-120
	ASTM D 1056	kPa				14-34	34-62	62-90													
Compression Deflection 50%	ISO 6916-1	kPa	35-65	60-80	50-70				80-130	75-115	110-150	60-90	80-120	110-150	140-200	2-6		20-30	102	70-130	180-260
	ASTM D 1056	kPa																			
Compression Set 50%	ISO 1856																				
	23°C/22h/50%	%	≤ 25	≤ 40	≤ 45				≤ 15	≤ 20	≤ 20	≤ 40	≤ 30	≤ 25	≤ 25	≤ 5		9.3-9.7	3	≤ 25	≤ 25
	ISO 1856																				
	40°C/22h/50%	%	≤ 40	≤ 60	≤ 60				≤ 40	≤ 40	≤ 40	≤ 80	≤ 70	≤ 60	≤ 50	≤ 40					
ASTM D 1056	%				≤ 40	≤ 35	≤ 35									≤ 5					
SHORE 00			10-20			20-35	35-65	65-80	40-60	35-55	40-70									40-60	50-70
Tensile Strength	ISO 1798-97	kPa	≥ 100	≥ 150	≥ 100				≥ 400	≥ 300	≥ 500	≥ 250	≥ 350	≥ 500	≥ 600	≥ 100		68-92	190	≥ 450	≥ 750
	ASTM D-412	kPa				≥ 345	≥ 517	≥ 690									≥ 172				
Elongation	ISO 1798-97	%	≥ 80	≥ 50	≥ 80				≥ 120	≥ 100	≥ 90	≥ 150	≥ 150	≥ 175	≥ 175	≥ 150		36-40	54	≥ 100	≥ 125
	ASTM D D-412	%				≥ 100	≥ 100	≥ 100									≥ 125				
Tear Resistance	ISO 34-1	kN/m	≥ 0.2	≥ 0.2	≥ 0.4				≥ 0.8	≥ 0.8	≥ 1.5	≥ 0.5	≥ 0.7	≥ 1	≥ 1.2	≥ 0.6				≥ 1	≥ 1.5
Dimensional Stability	ISO 2796																				
	3h/80°C	%	≤ 5	≤ 5	≤ 6				≤ 5	≤ 5	≤ 5	≤ 7	≤ 6	≤ 5	≤ 5					≤ 5	≤ 5
Linear Shrinkage	ISO 2796																				
	24h/70°C	%	≤ 5	≤ 5	≤ 5				≤ 5	≤ 5	≤ 5	≤ 7	≤ 6	≤ 5	≤ 5					≤ 5	≤ 5
	ASTM C 534																				
	7 days/70°C	%				≤ 7	≤ 7	≤ 7													
Fire Performance	DIN 4102-16		B1	B2	B2													B2	B2		
	NF P 92507		M1																		
	UNI 845 and UNI 9174		Classe 1 (Uno)	Classe 1 (Uno)	Classe 1 (Uno)													Classe 1 (Uno)	Classe 1 (Uno)		
	UNE 23 7290		M1																		
	DIN 5510-2		S4 SR 2 ST 2	S4 SR 2 ST 2																	
	FMVSS 302		Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	tested in accordance to FMVSS 302	tested in accordance to FMVSS 302	Passed	Passed
	UL 94		V-0	HF-1	HF-1	HF-1 @ 0.2cm	HF-1 @ 0.2cm	HF-1 @ 0.2cm	HF-1 @ 0.2cm	HF-1 @ 1.3cm	HF-1 @ 1.3cm	HF-1 @ 1.3cm	HF-1	HF-1				tested in accordance to UL94: V-0	tested in accordance to UL94: V-0		
	UL 50					Passed															
BS 476 Part 7			Class 1	Class 1																Class 1	
BS 476 Part 6																					
DIN EN 13501-1		Bs3D0**																			
Thermal Conductivity	DIN EN 12667	W/(m*K)	0°C = 0.033	0°C = 0.040	40°C = 0.042													0.043 @ 20°C**	0.0512 @ 20°C**		
Water vapour resistance index	DIN EN 12086	μ	≥ 10000	≥ 2000	≥ 3000																
Ozone Resistance	ISO 1431-1																				
	20% strain/40°C 200 pphm	Rating										Excellent	Excellent	Excellent	Excellent						
	ASZM D 1171																				
	72h @ 50 pphm		0	0	0																
Vacuum Water Absorption	ISO 6916-1	%							≤ 5	≤ 10	≤ 10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5 (compressed)					
	ASTM D 1056	%	≤ 5	≤ 6	≤ 5	0.5	0.5	0.5								≤ 15 (non-compressed)				≤ 5	≤ 5
Water Seal Properties	Hella N 67077																				
	30% compression																				
	Armacell Test 013																				
	75% compression	Hours																			
UV Resistance				Excellent								Excellent	Excellent	Excellent	Excellent						
Sound Absorption																		Excellent	Excellent		
Colour			Black	Dark-grey	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black				
Notes			* Values not tested according to ASTM D 1056, only valid for insulation purpose without additional mechanical forces. For usage down to -200°C pls. contact the Technical Department. ** up to 32mm Bs3d0; > 32mm B2																		

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Engineered Foams from Armacell – Partnership, consistent Quality and reliable Service

Armacell is the global leader in engineered foams, the application of advanced technologies and expertise to create innovative, value-added products for technical insulation and technical foam markets worldwide.

It is the same innovative organization that introduced Armaflex in 1953 to a world just starting to focus on environmental issues and energy costs. With globally integrated R&D and 20 manufacturing facilities worldwide, Armacell has the ability to service global markets through continuous innovation and unmatched production capacity to meet demand anywhere.

Advantages of doing business with Armacell:

- Global Capabilities – 20 manufacturing facilities worldwide.
- Easy Access – Always available to service your needs or answer your questions with a single contact.
- Trusted Brands – Ensolite, Monarch, ArmaSound, OleCell, and Armaflex for reliability and fast service.
- Commitment to Quality – Made to the strictest quality control standards, designed to meet applicable codes and test standards.
- Plus: The New Resource for Innovation! – Globally integrated R&D to accelerate the pace of innovations that give a competitive edge to our business partners.

Armacell GmbH is certified according to DIN EN ISO 9001 and DIN EN ISO 14001.

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