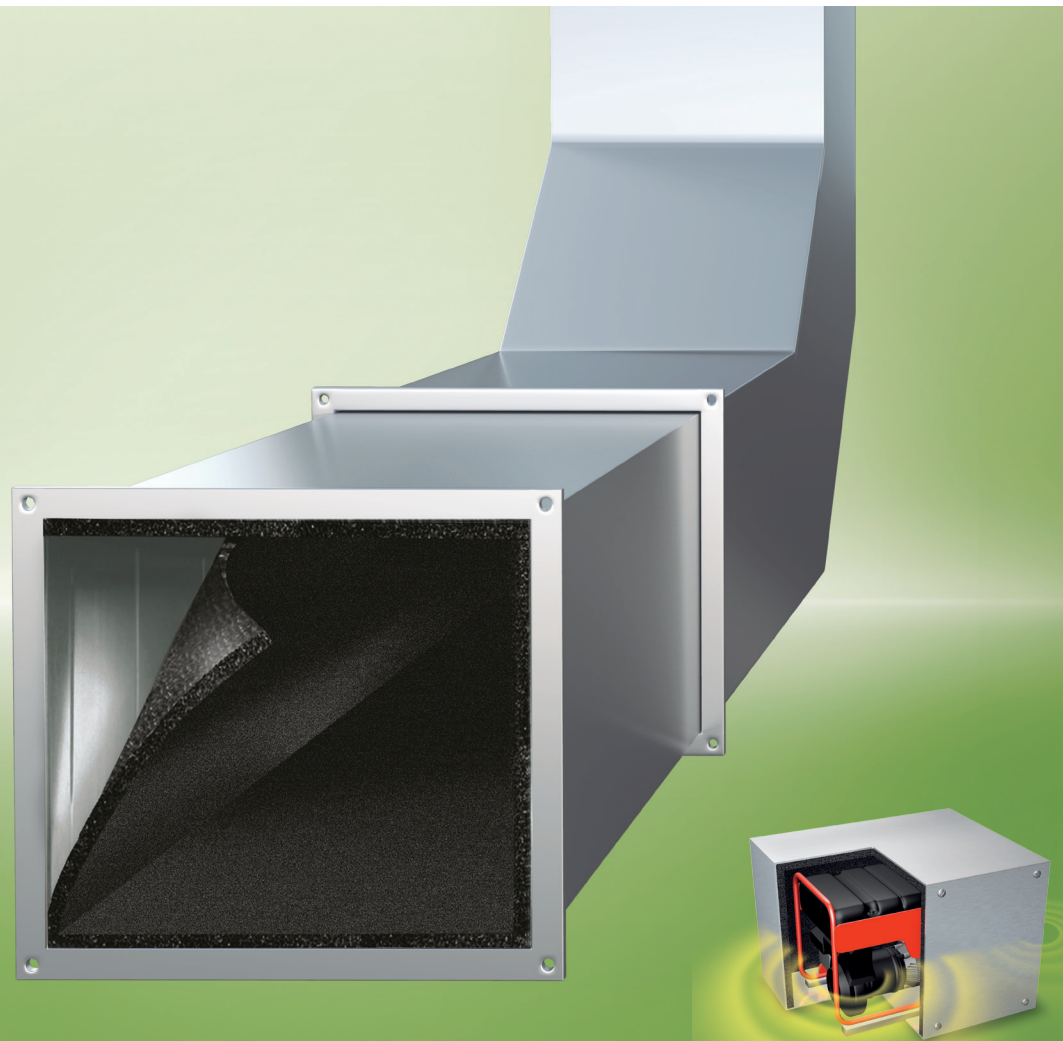


ArmaPhonic

HIGH PERFORMANCE, FIBRE-FREE
ACOUSTIC ABSORBER

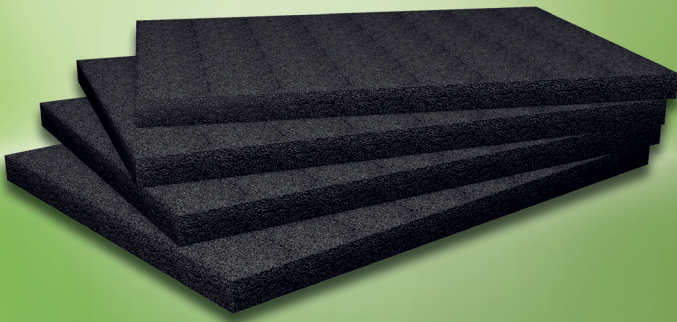


- Effective air-borne sound absorption across a broad frequency range
- High density and high flow resistance
- Optimal performance at lower thickness
- Fibre-free
- Additional barrier performance, vibration damping and de-coupling (isolation) properties

HIGH-PERFORMANCE ACOUSTIC ABSORBER

ArmaPhonic is a unique open-cell sound absorber that offers additional barrier (transmission loss) performance and both vibration damping and de-coupling (isolation) properties.

Delivering optimal performance at lower thickness than traditional materials, ArmaPhonic is the trusted acoustic absorption material for HVAC applications, industrial and heavy automotive purposes, enclosures as well as in oil and gas facilities.



SOUND ABSORPTION

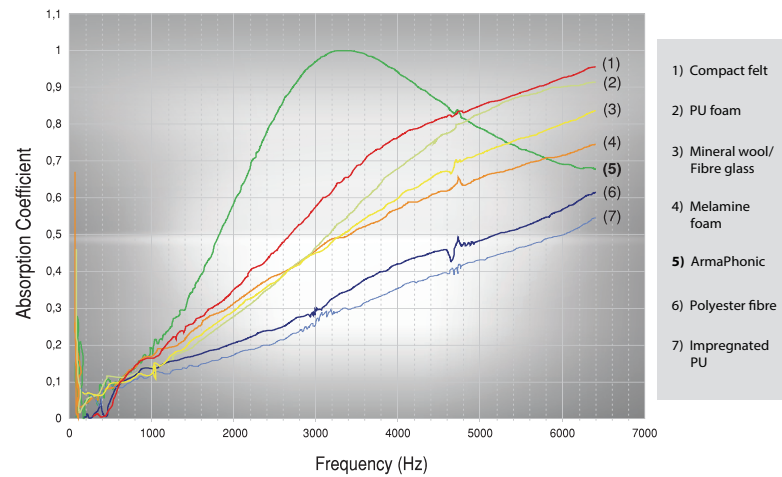
- Open-cell structure with complex pore geometry allows for effective absorption of air-borne sound across a broad frequency range.
- Unique combination of physical properties allows absorption to be maximised at key “nuisance” frequencies.

SOUND BARRIER (TRANSMISSION LOSS)

- High density and flow resistance offers an effective barrier to sound.
- Potential alternative to complex “foam barrier” multi-layers.

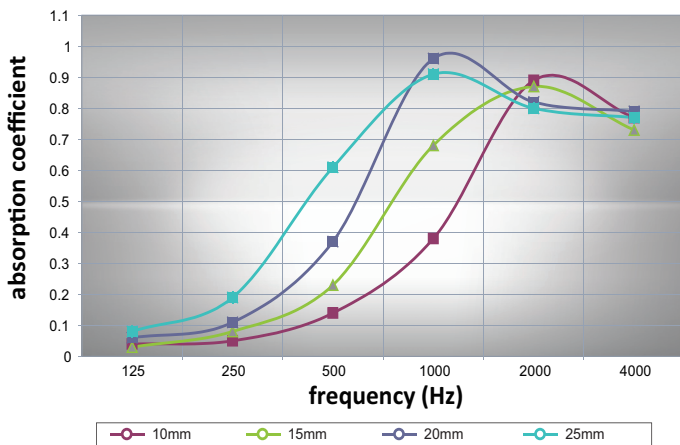
VIBRATION DAMPING AND DECOUPLING (ISOLATION)

- Visco-elastic properties help to dampen or deaden resonance effects in metal panel work (e.g. enclosures or ducting) thereby helping to reduce associated “re-radiation” effects.
- Reduces structure-borne noise transmission when used as isolation pads.



FIBRE-FREE ARMAPHONIC PRODUCT RANGE

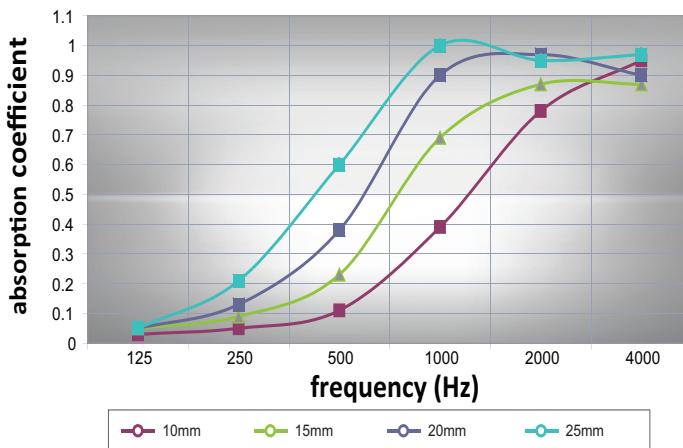
Acoustic Performance of ArmaPhonic S



Octave band centre frequency (Hz)		125	250	500	1000	2000	4000
Thickness (mm)	Octave band absorption coefficient acc. to EN ISO 354						
	10	0.04	0.05	0.14	0.39	0.89	0.77
15	0.03	0.08	0.23	0.69	0.87	0.73	
20	0.06	0.11	0.37	0.96	0.82	0.79	
25	0.08	0.19	0.61	0.91	0.80	0.71	

Noise Reduction Coefficient (NRC) acc. to ASTM C423				
Thickness (mm)	10	15	20	25
NRC	0.35	0.45	0.55	0.65

Acoustic Performance of ArmaPhonic H



Octave band centre frequency (Hz)		125	250	500	1000	2000	4000
Thickness (mm)	Octave band absorption coefficient acc. to EN ISO 354						
	10	0.03	0.05	0.11	0.40	0.78	0.95
15	0.05	0.09	0.23	0.69	0.87	0.87	
20	0.05	0.13	0.38	0.90	0.97	0.90	
25	0.05	0.21	0.60	1.00	0.95	0.97	

Noise Reduction Coefficient (NRC) acc. to ASTM C423				
Thickness (mm)	10	15	20	25
NRC	0.35	0.45	0.60	0.70

Technical Data

Property	ArmaPhonic S		ArmaPhonic H	
	Value / Assessment	Remarks	Value / Assessment	Remarks
Temperature range Max. service temperature Min. service temperature	+85°C -20°C	Please kindly contact Armacell for applications with service temperatures above +85°C and below -20°C	+85°C -20°C	Please kindly contact Armacell for applications with service temperatures above +85°C and below -20°C
Thermal conductivity λ_d	0.047 W/(m·K)	Refer to EN ISO 12667	0.052 W/(m·K)	Refer to EN ISO 12667
Flammability Rating	V-0	UL94	V-0	UL94
LOI	≥ 32	GB/T 2406.2 / ISO 4589-2	≥ 32	GB/T 2406.2 / ISO 4589-2
Density	≥ 140 kg/m³	-	≥ 220 kg/m³	-
Tensile strength	60 - 90 kPa	Refer. to ISO 1798	90 - 150 kPa	Refer. to ISO 1798
Elongation	40 - 50%	Refer. to ISO 1798	60 - 80%	Refer. to ISO 1798
Resistance to chemicals	Good	Please consult Armacell for details	Good	Please consult Armacell for details
Environmental aspects	Fibre-free	-	Fibre-free	-

ENGINEERED FOR A BETTER QUALITY OF LIFE

Uniquely combining the physical properties such as material thickness and material density to influence the peak absorption frequency, ArmaPhonic can be engineered to target specific problem frequencies, to offer both noise protection and better indoor air quality.

APPLICATION AREAS

- HVAC: Fan-coil units, duct and cabinet linings, chiller systems
- General Mechanical / Industrial: Enclosures, cabinet linings, reverberation control
- Oil & Gas Facilities: Engine room and pipe insulation
- Heavy Automotive: Engine component lining and under-bonnet insulation
- Enclosures

ArmaPhonic Product Range

Thickness mm	Length mm	Width mm	Sheets/ carton	Product Reference	
				Fibre-free ArmaPhonic S	High-Performance ArmaPhonic H
6	1000	1000	8	IAP06100SMB	IAP06100SHD
10	1000	1000	5	IAP10100SMB	IAP10100SHD
15	1000	1000	3	IAP15100SMB	IAP15100SHD
20	1000	1000	2	IAP20100SMB	IAP20100SHD
25	1000	1000	2	IAP25100SMB	IAP25100SHD
50	1000	1000	1	IAP50100SMB	IAP50100SHD

Effectiveness of ArmaPhonic

Application	Average Noise Levels	Thickness of ArmaPhonic Acoustic Insulation Material	Applicable Standards
Industrial Pipe Systems	Up to 55 dB	Used together with Arma-Chek® system	ISO 15665 Shell DEP Spec. No. 31
Sewage Pipe Systems	Up to 20 dB	Used together with Arma-Chek® system	-
Washing Machines	8 dB	10 mm	-
Vacuum Cleaners	10 dB (peak)	6 mm	-
Regular Acoustic Enclosures	Up to 25 dB	10 - 25 mm	-
Generators	Up to 20 dB	15 mm	European Noise Directive
Telecommunication Equipment	Up to 20 dB	15 mm	ETSI 300
Air Duct Lining	10 - 15 dB	15 - 25 mm	-

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