

kaisound[®]

The most flexible approach to soundproofing

- Triple noise reduction effect: absorber / reduction / damper
- Broadband sound absorption
- Flexible and easy to handle
- Fibre free: For high hygiene requirements





Insulation material with extraordinary design

Kaisound has extraordinary properties. It's a flexible insulation material whose originally closed-cell components are rearranged by a specific manufacturing process and thus form an open-pore unit. The resulting network has an extremely versatile structure with unique physical properties. The various pore dimensions absorb the problematic frequencies

found in building acoustics. Together with the high flow resistance and the viscoelastic properties, excellent sound reduction and damping results are achieved.

Kaisound is largely made from recycled materials and thus helps to avoid wasting valuable resources.



kaisound®

Open porous, hydrophobic and flexible acoustic insulation material based on synthetic rubber

Sound insulation for various requirements

Kaisound insulation materials absorb sound, both structure-born and air-born. The sound waves enter the cell structure to be absorbed by friction and dissipation. This leaves the sound waves less powerful (reduces the amplitudes) as they pass through the absorbing material. Depending on the frequencies to be absorbed and the damping factor various cell structures with densities between 100 and 300 kg per cubic metre are used. The relatively high density also provides sound barrier properties, and the elastic character of Kaisound will lead to vibration damping as another contribution to protect the structural integrity of an installation as well as the environment.

The combination of Kaisound and heavy-duty foil offers an effective level of structure-borne sound damping and insulation, however a perfect performance is achieved with the following additions:

- Kaiflex insulation material/
- Outer covering with Protect (R) HD elastomeric cladding

Applications

- General sound insulation and damping
- Industrial soundproofing
- Protecting structures against vibrations

Kaisound is particularly suitable for soundproofing

- media-containing installations (air, water, ammonia, cryogenic fluids), e.g.
 - ducts
 - pipes and tanks
 - pumps and valves
- equipment and machinery, e.g.
 - switch boxes
 - compressors
 - engines



Kaisound 240 Technical Data

Material		Open porous, hydrophobic and flexible acoustic insulation material based on synthetic rubber	
Cell structure		Open cell, with broad variation of cavity geometries for multi-frequency absorption	
Colour		Black	
Upper temperature limit		+85 °C (+250 °C)	See remark (1)
Lower temperature limit		−20 °C (−200 °C)	See remark (2)
Thermal conductivity	λ_{10} at −10 °C at 0 °C at +10 °C	$0,062 + 8,0 \cdot 10^{-5} \vartheta + 7,0 \cdot 10^{-7} \vartheta^2$ $\leq 0,061 \text{ W/(m·K)}$ $\leq 0,062 \text{ W/(m·K)}$ $\leq 0,063 \text{ W/(m·K)}$	In acc. with DIN EN 12667
Euroclass [◊]		C-s3, d0	In acc. with EN 13823 EN ISO 11925-2 See remark (3)
Practical fire behaviour		Self-extinguishing, no drips, does not support flame spread	
Density		220 to 280 kg/m ³ (average: 240 kg/m ³)	In acc. with ISO 845 ASTM D1622
Acoustic insertion loss		Complies to ISO 15665 – Classes A to C – and Shell DEP 31.46.00.31-Gen – Class D when used as part of an insulation system	In acc. with ISO 3741 (equivalent method ASTM E1222) Classification acc. to ISO 15665
Other certificates / approvals		Satisfies classes 6, 7 and 8 of NORSOK R-004 when used as part of a "Kaimann Industrial Solutions" insulation system	In acc. with ISO 3741 Classification acc. to ISO 15665
Tensile strength		50 to 200 kPa	In acc. with ISO 1798
Tear strength		0,5 to 1,5 kN/m	In acc. with ISO 34-1
Elongation at break		50 to 90 %	In acc. with ISO 1798
Health aspects		Fibre free: For high hygiene requirements No bacterial or fungal growth	In acc. with ISO 846 ASTM G-21 ASTM G-22
Water absorption		<5 % by volume	In acc. with AGI Q 136 See remark (4)
Application and handling conditions	Ambient temperature Max. relative humidity	+5 °C to +35 °C 80 %	
Shelf life		Material has to be mounted within two years after supply and proper storage. Self-adhesive material within one year.	Store in a dry room away from UV and sunlight at a typical relative humidity (between 50 % and 70 %) and room temperature (between +5 °C and +35 °C)
Outdoor applications		Coverings – such as Protect (R) HD, metal cladding or GRP – must be applied when Kaisound would be directly exposed to the outdoor environment	See remark (5)

For industrial applications it is recommended to consult the Kaimann Industrial Systems Application Manual and other relevant Kaimann installation instructions and application manuals.

Remark (1) For temperatures above +85 °C please contact our Technical Support Team for advice.

Remark (2) For temperatures below −20 °C please contact our Technical Support Team for advice.

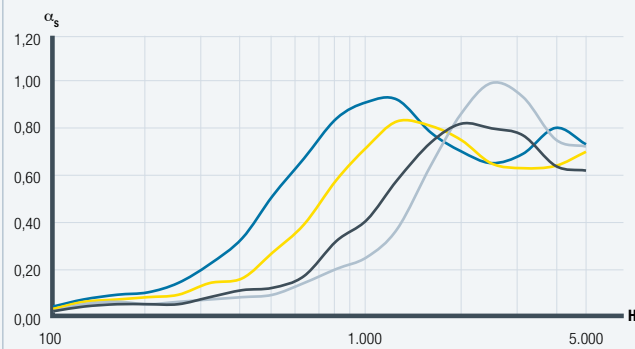
Remark (3) In-house production control.

Remark (4) Based on single test results which are not monitored in regular frequency. Can be used for information / reference only.

Remark (5) Please contact our Technical Support Team for advice.

[◊] The Euroclass rating applies to metallic or solid mineral substrates.

Kaisound 240 Technical Data

Sound absorption (Typical values) *	Octave band sound absorption coefficients α_s (Measurements in impedance tube)							
	Thickness (mm)	Frequency (Hz)						
		125	250	500	1.000	2.000	2.500	4.000
	10	0,04	0,05	0,11	0,39	0,82	0,80	0,64
	15	0,03	0,04	0,09	0,25	0,86	0,99	0,75
	20	0,04	0,08	0,27	0,72	0,75	0,58	0,62
	25	0,05	0,14	0,51	0,91	0,65	0,56	0,80
								
	In acc. with ISO 10534-1:1996							
	Octave band sound absorption coefficients α_s (Measurements in reverberation room)							
Thickness (mm)	Frequency (Hz)							
	125	250	500	1.000	2.000	4.000		
6	0,00	0,02	0,06	0,14	0,32	0,30		
10	0,00	0,05	0,12	0,33	0,72	0,88		
15	0,02	0,08	0,24	0,65	0,98	0,91		
20	0,05	0,14	0,45	0,89	0,91	0,93		
25	0,05	0,18	0,55	1,01	0,92	0,96		
50	0,24	0,66	0,88	0,86	0,93	0,94		
								
In acc. with ISO 354:2003								
Weighted sound absorption coefficients α_w								
	Thickness (mm)							
	6	10	15	20	25	50		
α_w	0,15 (H)	0,20 (H)	0,30 (MH)	0,45 (MH)	0,50 (MH)	0,90 (MH)		
Class	E	E	D	D	D	A		
Noise reduction coefficients (NRC)								
	Thickness (mm)							
	6	10	15	20	25	50		
NRC	0,15	0,30	0,50	0,60	0,65	0,85		

Rated acc. to EN ISO 11654		Thickness (mm)						
		6	10	15	20	25	50	
	α_w	0,15 (H)	0,20 (H)	0,30 (MH)	0,45 (MH)	0,50 (MH)	0,90 (MH)	
	Class	E	E	D	D	D	A	

Calculated acc. to ASTM C423-01		Thickness (mm)						
		6	10	15	20	25	50	
	NRC	0,15	0,30	0,50	0,60	0,65	0,85	

* The octave band and 1/3rd octave band sound absorption coefficients shown in the table and chart respectively, are provided as examples which are based on single test results. The values presented can be used for information / reference only.



Kaisound 240 Sheet · flat





Colour: Black								
Insulation thickness mm	Sheet · flat 1,20 x 0,84 m (= 1,00 m²)				Sheet · flat · self-adhesive 1,20 x 0,84 m (= 1,00 m²)			
	Reference	Order No.	pcs / carton	m² / carton	Reference	Order No.	pcs / carton	m² / carton
6	KS240-06-PL-M	4010596 *	16	16	KS240-06-PL-SK-M	4010608 *	16	16
10	KS240-10-PL-M	4010597 *	10	10	KS240-10-PL-SK-M	4010609 *	10	10
15	KS240-15-PL-M	4010598 *	6	6	KS240-15-PL-SK-M	4010610 *	6	6
20	KS240-20-PL-M	4010599 *	5	5	KS240-20-PL-SK-M	4010611 *	5	5
25	KS240-25-PL-M	4010600 *	4	4	KS240-25-PL-SK-M	4010612 *	4	4
50	KS240-50-PL-M	4010601 *	2	2	KS240-50-PL-SK-M	4010613 *	2	2

* No stock item, delivery time on request.


Adhesive · Cleaner

	Description	Order No.	Can content	pcs./ carton
	Adhesive			
	Adhesive 414 · toluene free · can	4004706	220 g	24
	Adhesive 414 · toluene free	4004708	660 g	20
	Adhesive 414 · toluene free	4004710	2.200 g	6
	Cleaner			
	Cleaner	4004732	1,0 l	12

Tools

	Description	Order No.	content/ PU
	Glue pump		
	Glue pump · long spout · Brush 17 mm	4004718	1
	Glue pump · short spout · Brush 17 mm	4004715	1
	Brush 11 mm	4004716	1
	Brush 17 mm	4004717	1
	Knives		
	Ceramic knife · knife with ceramic blade (15 cm) and plastic handle (14 cm)	4004737	1
	Sheet knife	4004735	1
	Kaiflex set of knives · 3 knives, 1 whetstone	4004736	1

Tape

	Description	Order No.	Width mm	Rolls/ carton
	Tape · self-adhesive			
	Protect BLACK Butyl-Tape · 25 m Length	4004685	50	1
		4004686	100	1

