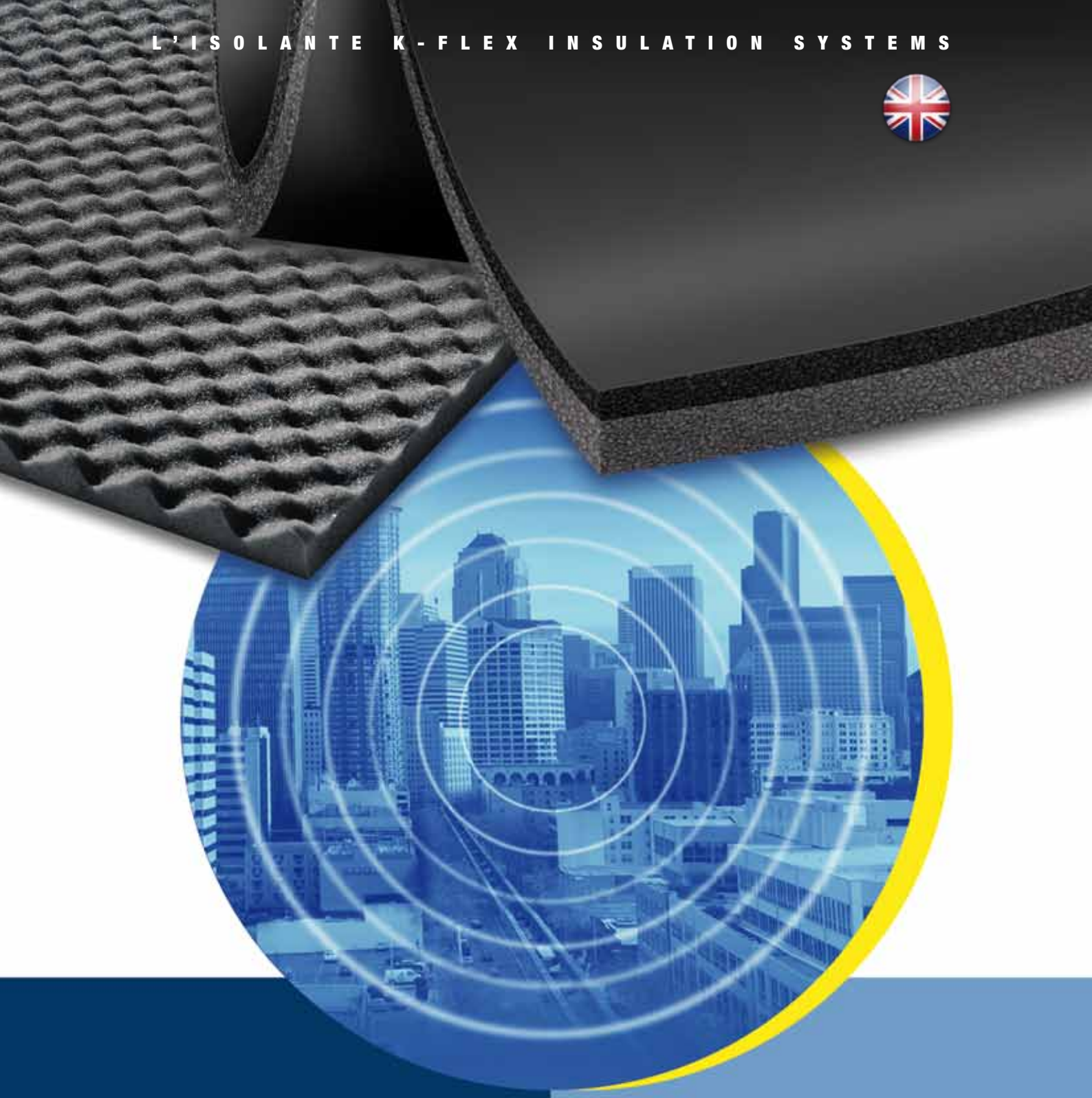
L'ISOLANTE K-FLEX INSULATION SYSTEMS



ACOUSTIC INSULATION

L'ISOLANTE K-FLEX

www.kflex.com

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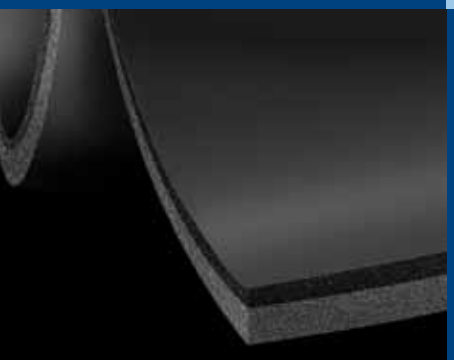
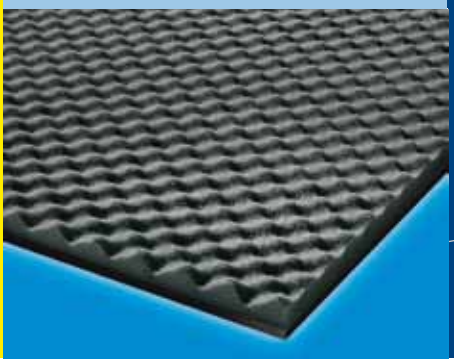


sound insulation



COMPANY PROFILE

L'ISOLANTE K-FLEX

Worldwide Leader in the production of Elastomeric Insulation for Energy Saving.

L'ISOLANTE K-FLEX, headquartered in Milan, Italy, is one of the world's largest manufacturers of elastomeric products for thermal and acoustic insulation. The IK group has been diligently serving its international customer base since its foundation in 1989.

L'ISOLANTE K-FLEX Products are designed for the following markets:

- HVAC
- Refrigeration
- O.E.M
- Industrial applications
- Oil & Gas
- Shipbuilding and Public Transportation
- Food & Beverage
- Solar Energy
- Acoustic insulation
- Fire Stopping

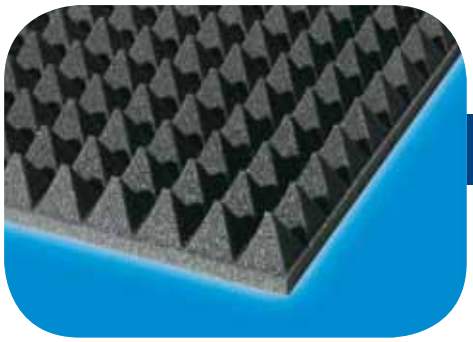
Due to its globalization strategy, ***L'ISOLANTE K-FLEX*** has a strong position in a rapidly changing global marketplace. Maintaining efficiency and flexibility in production and distribution has allowed the group to adapt in this competitive environment.

L'ISOLANTE K-FLEX is a multinational company based in Italy with global operations and subsidiary networks in Europe, USA and Asia Pacific.

Over **1500 employees** worldwide
Presence in over **43 countries**
11 production plants for insulation material
Distribution centres in 5 continents

www.kflex.com

Application groups

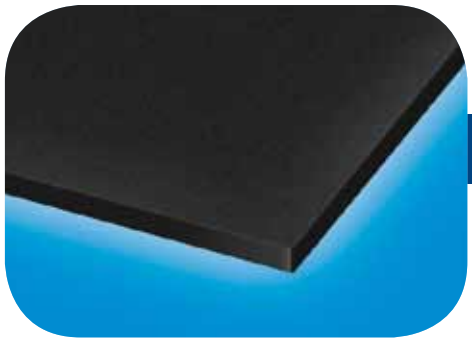


Sound Absorption Materials

To Absorb and dissipate the sound energy reducing its reflection to the source.
K-FONIK P, K-FONIK ST B GK, K-FONIK 120-240, K-FONIK B...

Sound Insulation Materials

To isolate the airborne noise and prevent its migration.
K-FONIK GK, K-FONIK ST GK, K-FLEX GV, K-FLEX GV101, K-FLEX ST PB...



Damping Materials

To damp the noise produced by vibrations induced by sheets, panels and covers.
K-FONIK GK, K-FONIK GV...

Markets Niches

Guide to products & applications

WORK SECTOR	APPLICATIONS	SOUND INSULATION						SOUND ABSORPTION						DUM-PING	SYSTEM	
		K-FLEX K-FONIK ST GK	K-FLEX K-FONIK GK -GV*	K-FLEX K-FONIK PB	K-FLEX ST**	K-FLEX ECO/GV*	K-FLEX K-FONIK ST PB	K-FLEX K-FONIK 120	K-FLEX K-FONIK 240	K-FLEX K-FONIK B	K-FLEX K-FONIK P	K-FLEX K-FONIK PU	K-FLEX K-FONIK FIBER P	K-FLEX K-FONIK GK - GV*	K-FLEX K-FONIK ST GK 072 - S	K-FLEX INDUSTRIAL
BUILDING	Perimeter walls, Dividing walls, Floor and Ceiling, Plumbing and draining system	●	●	●	●		●	●		●	●	●	●		●	
HVAC	Ventilation channels and industrial pipes	●	●					●		●	●	●		●		
INDUSTRIAL and OIL & GAS	Piping, equipments and plants		●						●					●		●
O.E.M.	Machinery covers, Engine compartment, Household Appliances	●	●	●				●	●	●	●	●	●	●		
TRAIN & SHIPBUILDING	Engine and frames, Partitions, Technical installations		●			●							●	●		
AUTOMOTIVE	Engine noise insulation and frames,Sound absorption for the roof frame, Driver cabins.	●	●										●	●		

* **K-FLEX K-FONIK GV** special viscoelastic mass with certifications for train & shipbuilding industry.
** **K-FLEX ST** elastic suspension for floors sound insulation or in combination with K-FONIK GK. Excellent thermal insulation characteristics.

Sound Insulation

AIRBORNE SOUND INSULATION

The sound reduction index R versus frequency is used to describe the airborne sound insulation of building elements. It is also called transmission loss (TL). From the sound reduction index versus frequency, the single number quantity, the weighted sound reduction index Rw is calculated by comparing the values with a reference curve according to ISO 717-1.

Two supplementary spectrum adaptation terms have been introduced in a new edition of ISO 717-1, C for pink noise (equal levels over the whole frequency range which represents activities like talking, music, TV and medium and high speed railway traffic) and Ctr for noise with mainly low frequencies (representing city traffic, factories, disco music etc.. With the sum of Rw and the relevant spectrum adaptation term (according to the relevant spectrum) the difference of A-weighted levels can be calculated. The spectrum adaptation terms may be stated for the frequency range 100-3150 Hz (used for decades) as well as for the enlarged frequency ranges of 50-3150 Hz or 100-5000 Hz; the relevant frequency range has then to be stated as an index, e.g. C50-5000 or Ctr,50-5000.

Different countries have different units to describe the airborne sound insulation between two rooms. If one considers that sound is transmitted in buildings only through separating structures, the sound reduction index is also used to describe the sound insulation between two rooms; to take into account the fact that the sound is generally transmitted in a building via the separating element and the flanking elements, the sound reduction index in the building is called the apparent sound reduction index R'1. The single number quantities, weighted apparent sound reduction index R'w, and C and Ctr, are calculated and stated as described above.

[1] pronounced R-dash; the dash represents the fact that that the given sound reduction index is measured in the building.

The sound level difference D between two rooms is stated to differentiate between the sound insulation of building elements and the sound insulation between two different rooms in a building. Since sound levels in receiving rooms are also determined by the sound absorption in the room, this means that the higher the sound absorption, the lower the sound level, this sound level difference has to be referred to as standardized absorption; two units are standardized: the normalized sound level difference Dn, referred to 10 m^2 of sound absorption area in the receiving room and the standardized sound level difference DnT, referred to 0.5 seconds of reverberation time in the receiving room. Numerous measurements have shown that the reverberation time in living rooms is independent of the volume over 0.5 seconds and therefore the standardized sound level difference is better in practice at representing the acoustic conditions in rooms 2.

Supplementing apparent sound reduction index, normalized sound level difference and standardized sound level difference, the spectrum adaptation terms are stated.

As far as building acoustics are concerned, one may draw a clear differentiation to describe acoustic quality:
The sound insulation of a building element is characterized by the sound reduction index; this can only be measured in a normalized test facility; the single number stated is the weighted sound reduction index Rw, and additionally the spectrum adaptation terms C and Ctr.

In a building, the sound insulation between two rooms, whether adjacent or one on top of the other or not directly connected to each other, is characterized by the standardized sound level difference; the single number stated is the weighted standardized sound level difference DnT,w, and additionally the spectrum adaptation terms C and Ctr.

[2] The sound absorption area A results from the volume V and the reverberation time T by A = 0.16.V/T; evidently the sound absorption area grows with rising volume while the reverberation time remains constant independent of volume.

IMPACT SOUND INSULATION

The impact sound insulation of floors is described by the normalized impact sound level, i.e. the sound level which is measured in a test environment in the room beneath the floor (receiving room), which is excited by a tapping machine. This sound level refers to a 10 m^2 sound absorption area in the receiving room. From the sound level measured in third-octave or octave bands, a single number is calculated according to ISO 717-2, the weighted normalized impact sound level Ln,w.

In a new edition of ISO717-2 a supplementary spectrum adaptation term CI was defined. This spectrum adaptation term may be determined for the frequency range of 100-3150 Hz, which has been used for decades, and also for the enlarged frequency range of 50-3150 Hz or 50- 2500 Hz; the frequency range has to be specified as an index, e.g. CI,50-2500. The sum of Ln,w and CI characterizes the linear impact sound level and corresponds better to the A-weighted sound level, produced by walking on the floor.

In residential buildings nearly all floors mainly consist of a bare floor with a floor covering. However, a single bare floor does not guarantee an effective impact sound insulation. An additional floor covering needs to be added to ensure the required impact sound insulation. Therefore the planner must know the impact sound level of the bare floor and the reduction in impact sound pressure level from the floor covering to be able to calculate the impact sound level of the entire floor. Single number quantities have been defined for the bare floor and the floor covering for this purpose: the equivalent weighted normalized impact sound pressure level Ln,eq,0,w of bare massive floors and the weighted reduction in impact sound pressure level ΔLw for the floor covering. The weighted impact sound pressure level of a floor with covering is the equivalent weighted normalized impact sound pressure level Ln,eq,0,w of the bare massive floor less the weighted reduction in impact sound pressure level ΔLw for the floor covering.

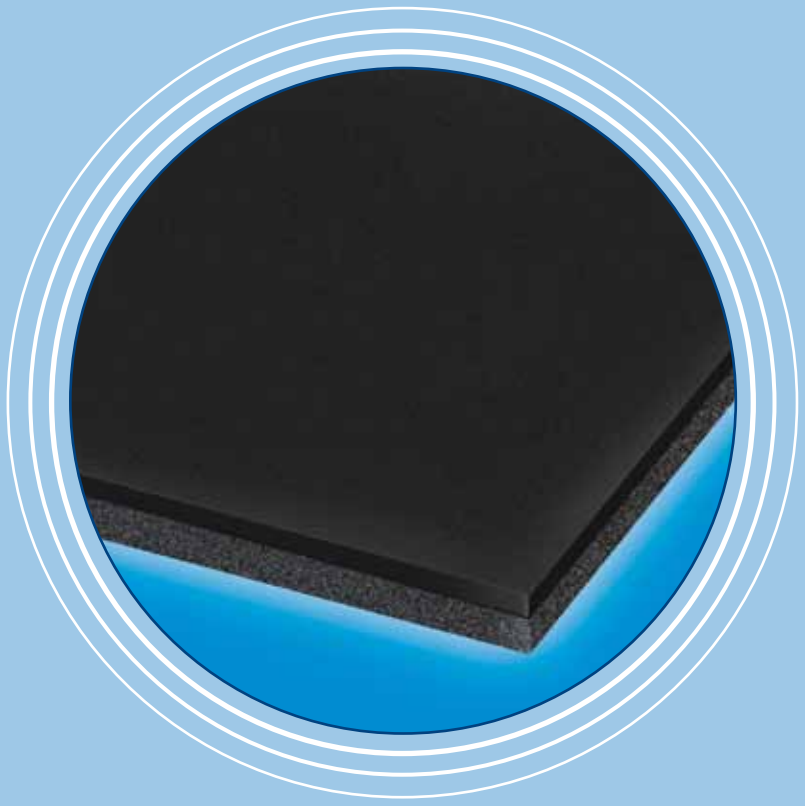
For wooden floors it is not possible to use the weighted reduction in impact sound pressure level ΔLw. However, a special quantity for the reduction in impact sound pressure level by floor coverings on wooden floors has been defined in a new edition of ISO 717-2; this has to be determined separately by measurement on a normalized timber joist floor and stated with the single number ΔLt,w for the impact sound pressure level on timber joist floors and ΔLtv,w for the impact sound pressure level on vertically laminated wooden floors 5. In an investigation the basis for the determination of these quantities and ΔLt,w und ΔLtv,w for a great number of usual types of floor covering on wooden floors was measured (Lang, 2004). The airborne and impact sound insulation of a series of timber joist floors with different floor coverings was also measured in this investigation; furthermore, a connection between impact sound insulation measured by the tapping machine and given for walking was determined by comparison with the noise of persons walking on the floors.
The impact sound insulation of floors in a building is measured with the tapping machine in the same way as in test facilities. However, the sound level does not refer to 10 m^2 sound absorption area but to the reverberation time of 0.5 seconds (which is usual in living rooms in practice regardless of their volume) and the result is called the standardized impact sound level.

L'nT and the single number weighted standardized impact sound level L'nT,w .
However, in the standards in several countries, requirements for the impact sound insulation inbuildings are laid down based on the weighted normalized impact sound level L'n,w or on the weighted standardized impact sound level L'nT,w6, in some countries with the additional adaptation term C_I.

K-FLEX K-FONIK ST GK

SOUND INSULATION/SOUND ABSORPTION

NEW



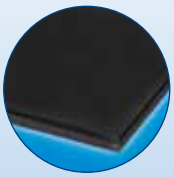
SMOOTH ELASTOMERIC SOUND INSULATION PANEL IN VARIOUS THICKNESSES, COUPLED WITH A HIGH DENSITY ELASTOMERIC SHEET.

N.B.: THE PRODUCT IS LEAD-FREE WITH CLASS 0 REACTION TO FIRE AND AS A RESULT DOES NOT REPRESENT A HEALTH RISK.

DESCRIPTION

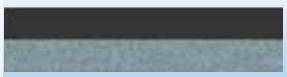
K-FONIK ST GK is a viscoelastic acoustic insulation product made with partially reticulated polymers and fire-proof mineral fillers.

Its special sound insulation characteristics make this an excellent product for traditional applications in the construction sector, eg. acoustic insulation of floors, brick walls and plasterboards.



PRODUCT **RANGE**

K-FONIK ST GK 074

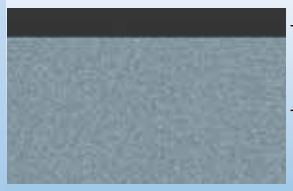


→ 4 Kg/m² high-density elastomeric material
→ 3 mm ST/ECO

K-FONIK ST GK 072

→ 4 Kg/m² high-density elastomeric material
→ 10 mm ST/ECO

K-FONIK ST GK 070



→ 4 Kg/m² high-density elastomeric material
→ 16 mm ST/ECO

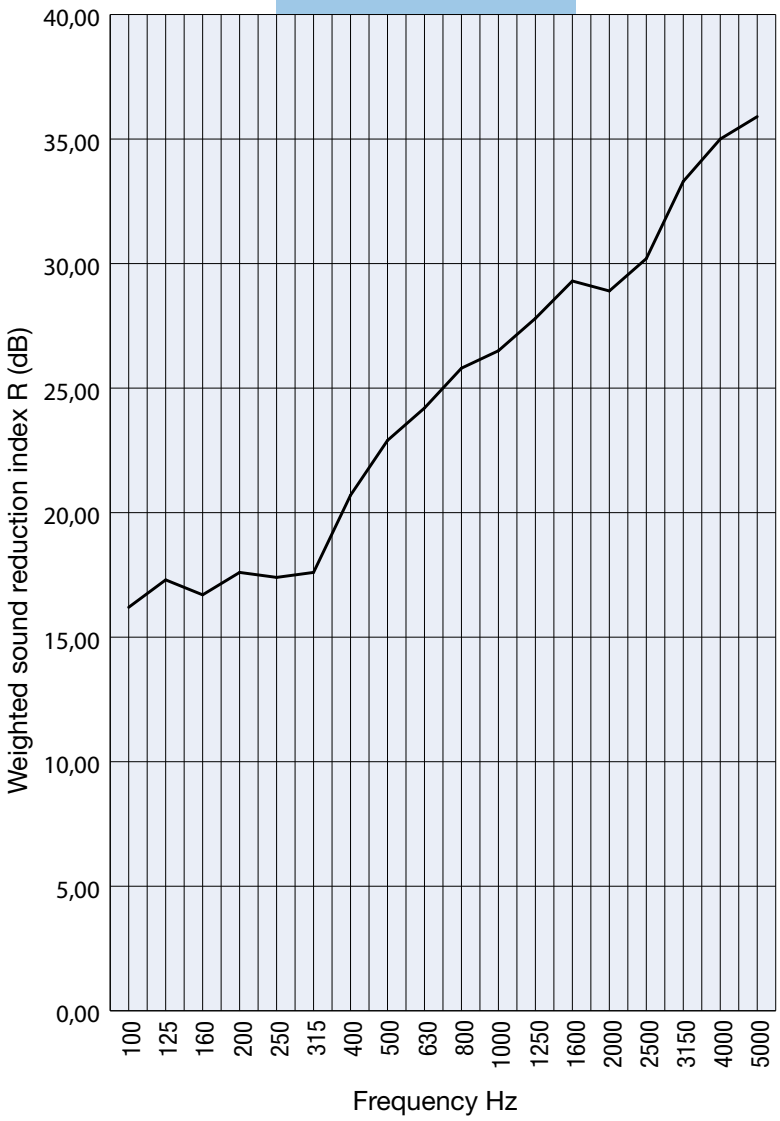
APPLICATIONS

K-FLEX K-FONIK ST GK,
is ideal for sound insulation of fixed and false walls, ceilings and false ceilings, garages and acoustic cabins, drainage systems, theatres etc., and all types of sound insulation applications.

ACOUSTIC PERFORMANCE

ST GK 072	
FREQ. Hz	R dB
100	16,2
125	17,3
160	16,7
200	17,6
250	17,4
315	17,6
400	20,7
500	22,9
630	24,2
800	25,8
1000	26,5
1250	27,8
1600	29,3
2000	28,9
2500	30,2
3150	33,3
4000	35,0
5000	35,9

R_W (C;C_{tr}) = 26 (-1;-3) dB



K-FLEX ST GK 072

TECHNICAL CHARACTERISTICS

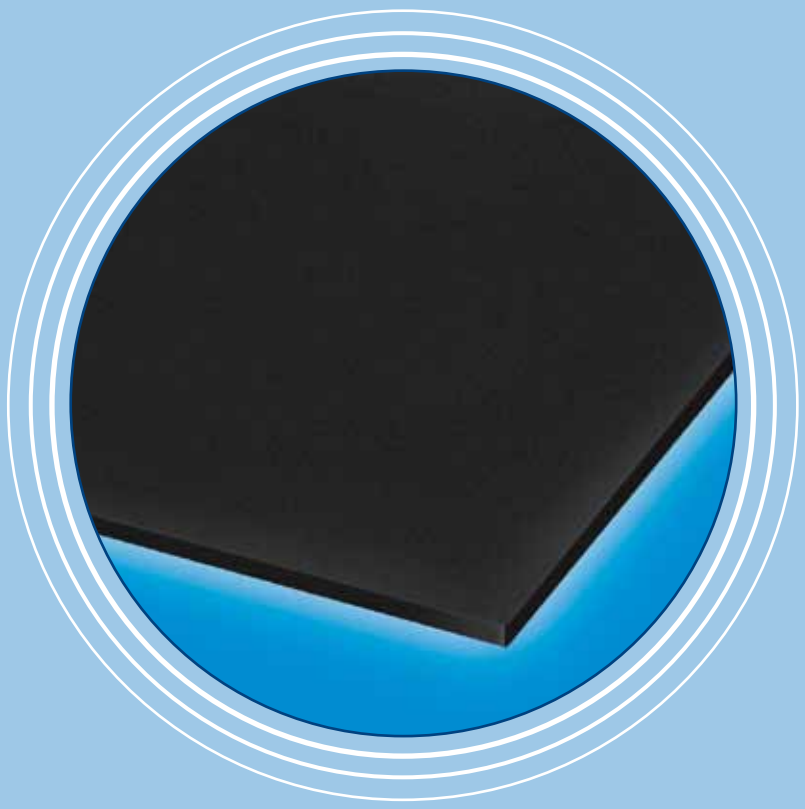
Material type	flexible elastomeric foam with high-density elastomeric material
Density	1,450 Kg/m^3
Thermal conductivity	0,036 W/(m•k)
Fire classification	Class 0, BS 476 PART 6/7
Temperature resistancy	-40 °C +70 °C
Panel dimensions	2000 x 1000 or 3000 x 1000 mm in sheets or rolls
Surface in-view	smooth
Thicknesses	from 6 mm to 19 mm
Base colour	black

K-FLEX K-FONIK ST GK

K-FLEX K-FONIK GK

SOUND INSULATION/SOUND ABSORPTION

NEW

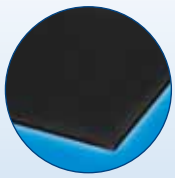


HIGH-DENSITY ELASTOMERIC ACOUSTIC INSULATING PANEL, AVAILABLE PRE-CUT TO SIZE FOR OEM AND INDUSTRIAL APPLICATIONS.

N.B.: THE PRODUCT IS LEAD-FREE WITH CLASS 0 REACTION TO FIRE AND AS A RESULT DOES NOT REPRESENT A HEALTH RISK.

DESCRIPTION

K-FONIK GK is a viscoelastic acoustic insulation product made with partially reticulated polymers and fire-proof mineral fillers.
Its special sound insulation characteristics make this an excellent product for traditional applications in the construction sector, eg. acoustic insulation of brick walls and plasterboards and for O. E. M. application.



PRODUCT **RANGE**

K-FONIK GK 4 Kg/m²

→ 4 Kg/m² high-density elastomeric material

Complete product range from 2 mm to 6 mm.

APPLICATIONS

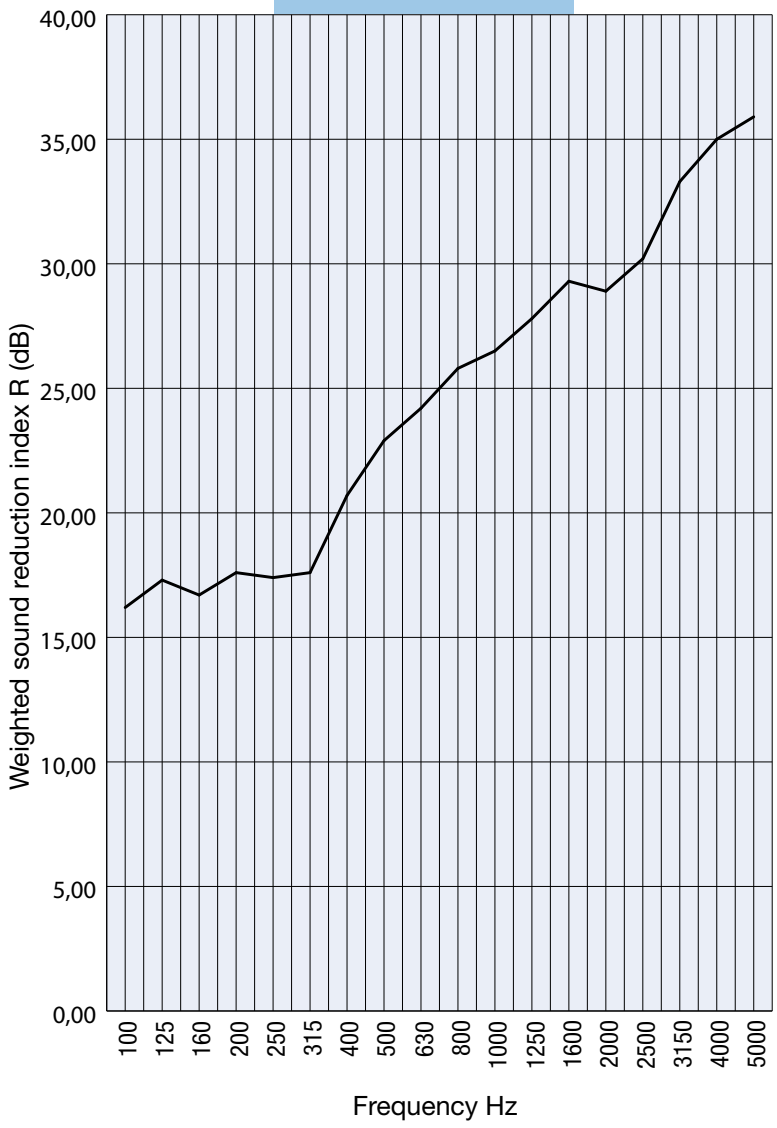
K-FLEX K-FONIK GK, *is ideal for sound insulation of fixed and false walls, ceilings and false ceilings, garages and acoustic cabins, machinery and equipment manufacturers and all types of sound insulating applications.*

K-FLEX K-FONIK GK

ACOUSTIC PERFORMANCE

GK	
FREQ. Hz	R dB
100	16,2
125	17,3
160	16,7
200	17,6
250	17,4
315	17,6
400	20,7
500	22,9
630	24,2
800	25,8
1000	26,5
1250	27,8
1600	29,3
2000	28,9
2500	30,2
3150	33,3
4000	35,0
5000	35,9

R_W (C;C_{tr}) = 26 (-1;-3) dB



K-FLEX GK Wheight 4 Kg/m²

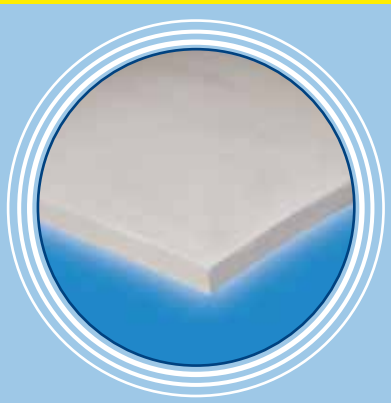
TECHNICAL CHARACTERISTICS

Material type	high density elastomeric material
Density	2000 Kg/m³
Fire classification	Class 0 BS 476
Temperature resistancy	-40 °C +70 °C
Panel dimensions	1000 x 2000 e 1000 x 1200 mm and 2000 x 1200 in sheets or rolls
Surface in-view	smooth
Wheight	From 4 Kg/m² to 8 Kg/m²
Base colour	black

NEW

K-FLEX K-FONIK GV

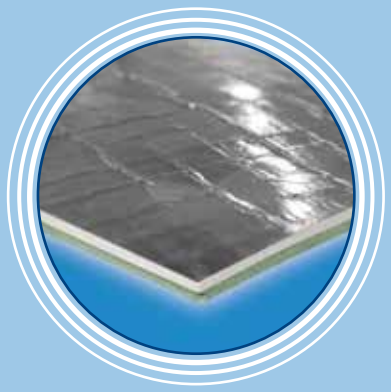
SOUND INSULATION/SOUND ABSORPTION



HIGH-DENSITY ELASTOMERIC ACOUSTIC INSULATION AVAILABLE PRE-CUTTED FORMATS FOR OEM AND INDUSTRIAL APPLICATIONS.

N.B.: THE PRODUCT IS LEAD-FREE WITH FIRE CLASSIFICATION IMO A653 (CE MARINE)

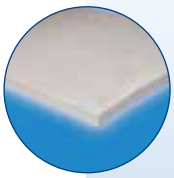
K-FLEX K-FONIK GV 101



DESCRIPTION

K-FONIK GV is a viscoelastic acoustic insulation product made with partially reticulated polymers and fire-proof mineral fillers.
Its special sound insulation characteristics make this product an excellent solution for shipbuilding and railways sector.

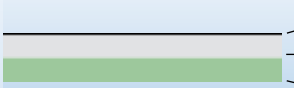
PRODUCT **RANGE**

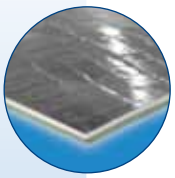


K-FONIK GV 4 Kg/m²

Complete product range from 2 mm to 6 mm.

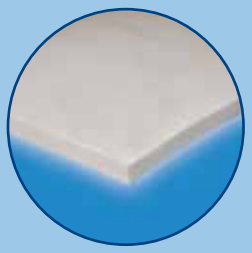
K-FONIK GV101





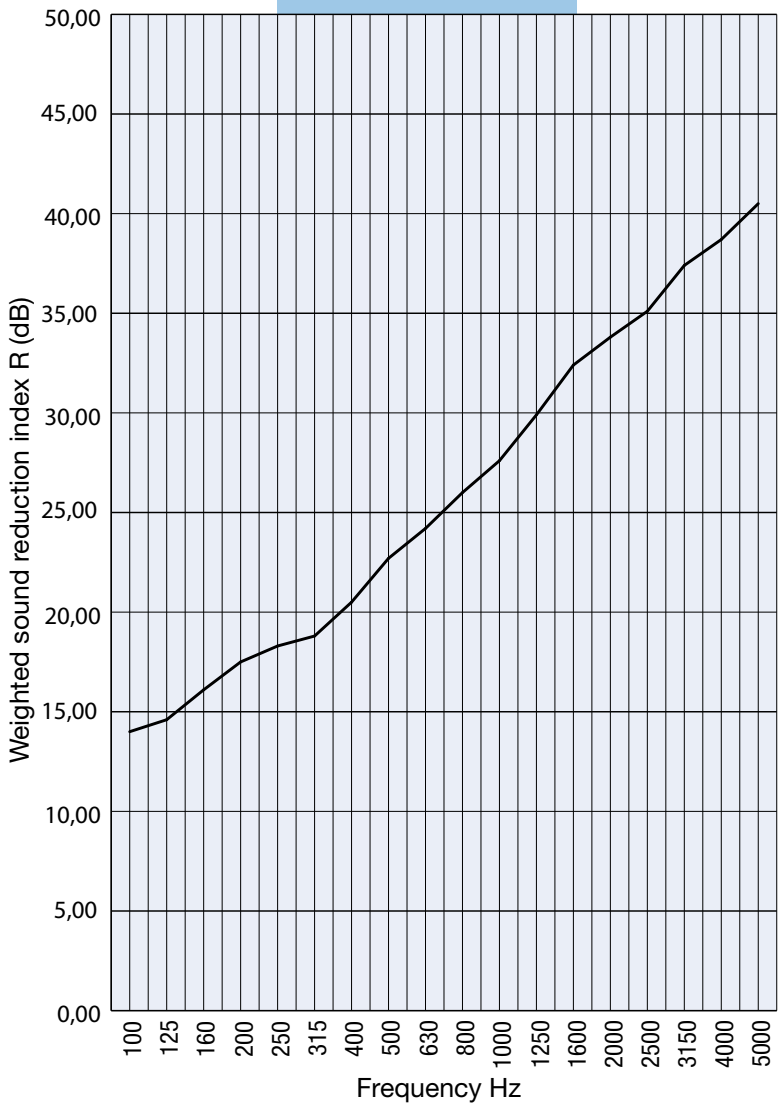
K-FLEX K-FONIK GV
K-FLEX K-FONIK GV 101

ACOUSTIC PERFORMANCE



GV	
FREQ. Hz	R dB
100	14,0
125	14,6
160	16,1
200	17,5
250	18,3
315	18,8
400	20,5
500	22,7
630	24,2
800	26,0
1000	27,6
1250	29,9
1600	32,4
2000	33,8
2500	35,1
3150	37,4
4000	38,7
5000	40,5

RW (C;Ctr) = 27 (-1 ; -4) dB



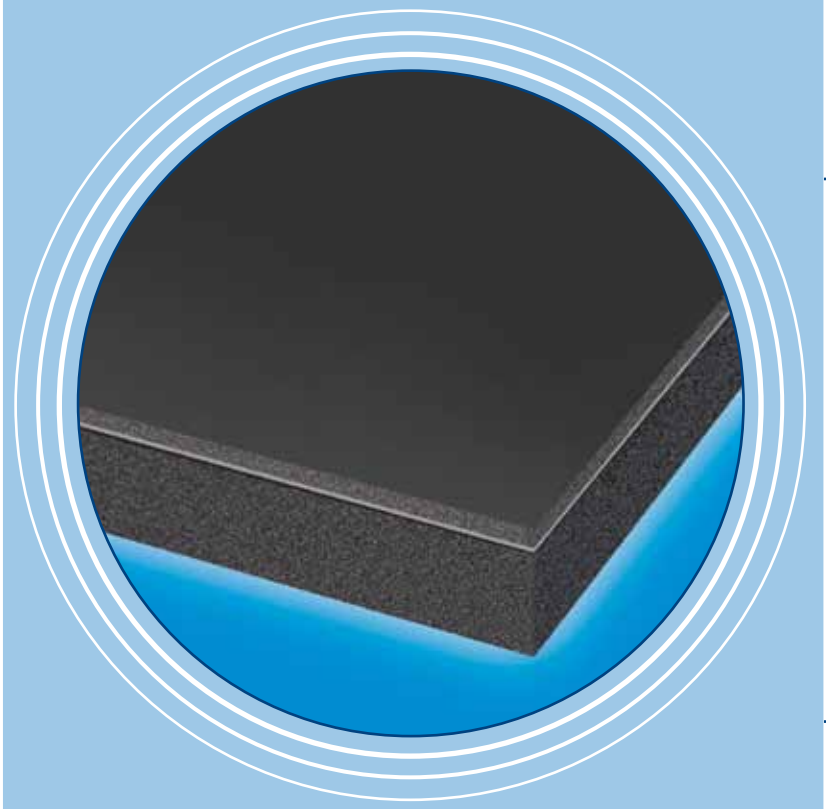
K-FLEX GV Wheight 4 Kg/m²

TECHNICAL CHARACTERISTICS

Material type	high density elastomeric material
Density	2000 Kg/m³
Fire classification	IMO A653 (CE MARINE)
Wheight	4 Kg/m²
Temperature resistancy	-40 °C +70 °C

K-FLEX K-FONIK ST PB

SOUND INSULATION/SOUND ABSORPTION



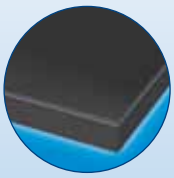
FOAM RUBBER ACOUSTIC INSULATION PANEL WITH INTERSECTING LEAD SHEET.

N.B.: CLASS 1 REACTION TO ***FIRE.***

DESCRIPTION

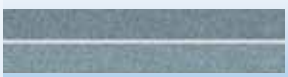
L'ISOLANTE K-FLEX acoustic insulation containing lead is produced tenendo conto delle effettive esigenze di impiego.

K-FONIK ST PB: a complete range with specific requisites, is able to meet all types of acoustic needs. The lead sheet has a thickneses of 0,35 mm.



PRODUCT **RANGE**

K-FONIK ST PB 074



→ FEF* 3 mm
→ PB
→ FEF* 3 mm

K-FONIK ST PB 072

→ FEF* 3 mm
→ PB
→ FEF* 10 mm

K-FONIK ST PB 070

→ FEF* 10 mm
→ PB
→ FEF* 10 mm

K-FONIK ST PB 019

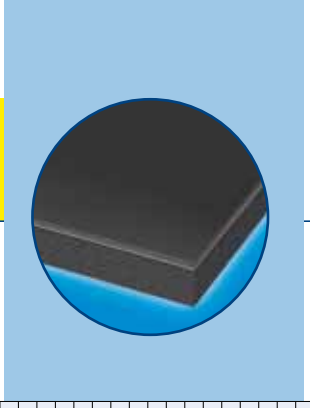
→ FEF* 40 mm B
→ PB
→ FEF* 10 mm

*FEF = flexible elastomeric foam

APPLICATIONS

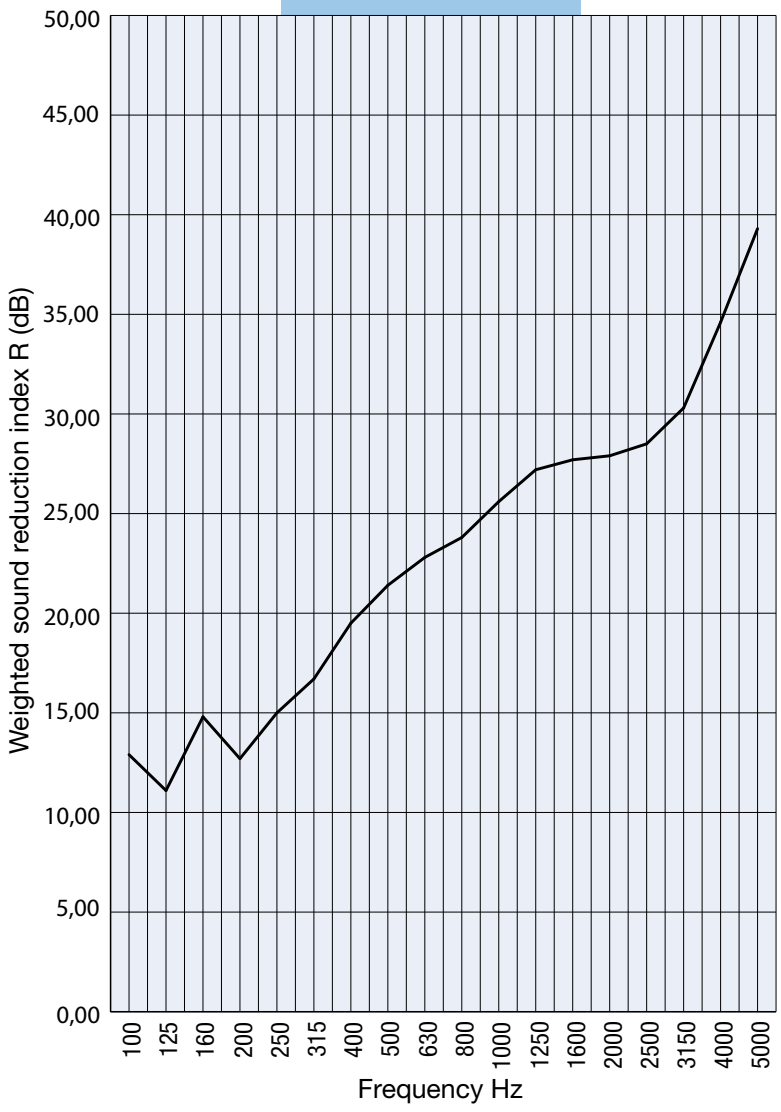
K-FLEX K-FONIK ST PB *sound insulation of both fixed and false walls, garages and acoustic cabins, drainage systems, X-Ray theaters etc. It is suitable for all types of sound insulation applications.*

ACOUSTIC PERFORMANCE



ST PB 072	
FREQ. Hz	R dB
100	12,9
125	11,1
160	14,8
200	12,7
250	15,0
315	16,7
400	19,5
500	21,4
630	22,8
800	23,8
1000	25,6
1250	27,2
1600	27,7
2000	27,9
2500	28,5
3150	30,3
4000	34,6
5000	39,3

R_W (C;C_{tr}) = 25 (-1;-4) dB



K-FLEX ST PB 072 Total thickness of layers: 13 mm

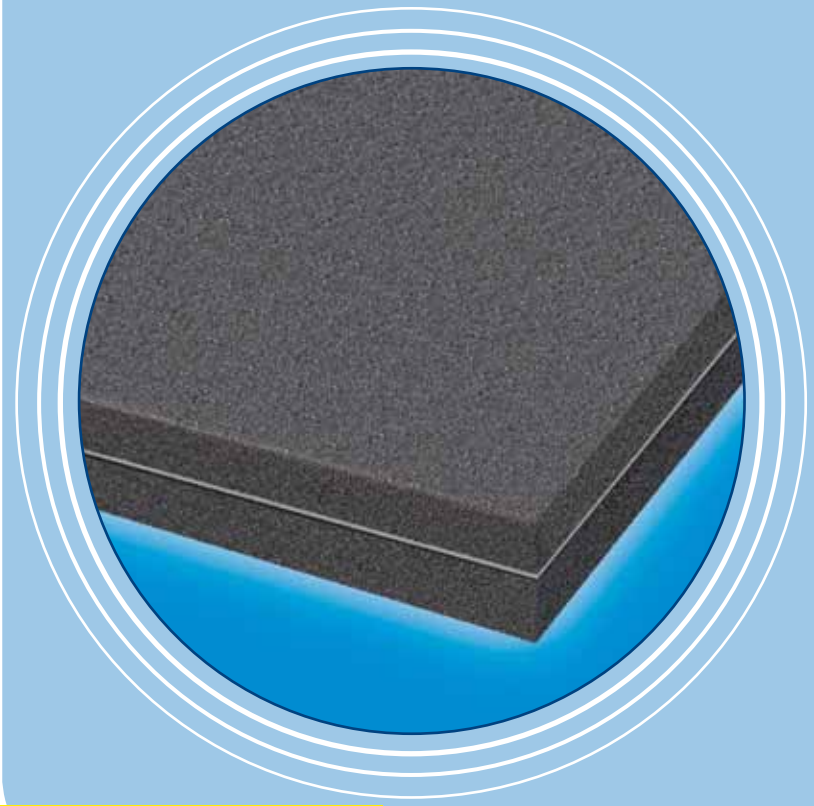
TECHNICAL CHARACTERISTICS

Material type	rubber foam + lead
Thermal conductivity	0,036 W/(m•k)
Fire classification	Class 0 (BS 476 PART 6/7)
Temperature resistancy	-50 °C +116 °C
Panel dimensions	2000 x 1000 or 3000 x 1000
Surface in-view	smooth
Thicknesses	from 6 to 50 mm
Base colour	black

K-FLEX K-FONIK ST PB

K-FLEX K-FONIK PB

SOUND INSULATION/SOUND ABSORPTION

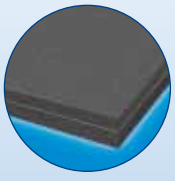


ACOUSTIC INSULATION PANEL WITH AN INTERSECTING LEAD SHEET.

DESCRIPTION

K-FONIK PB: a complete range with specific characteristics to resolve every type of acoustic requirement.
The combination of different types of polymers with 0,35 mm sheets of lead ensures excellant sound insulation qualities.

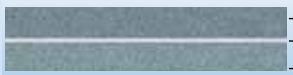
PRODUCT **RANGE**



K-FONIK PB 074

K-FONIK PB 076

K-FONIK PB 072



K-FONIK PB 003

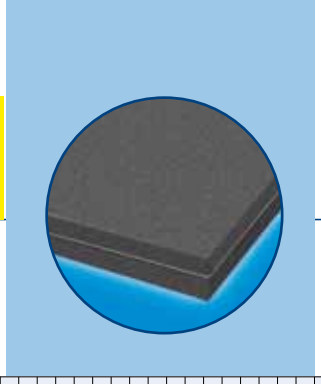
K-FONIK PB 019

*FEF = flexible elastomeric foam

APPLICATIONS

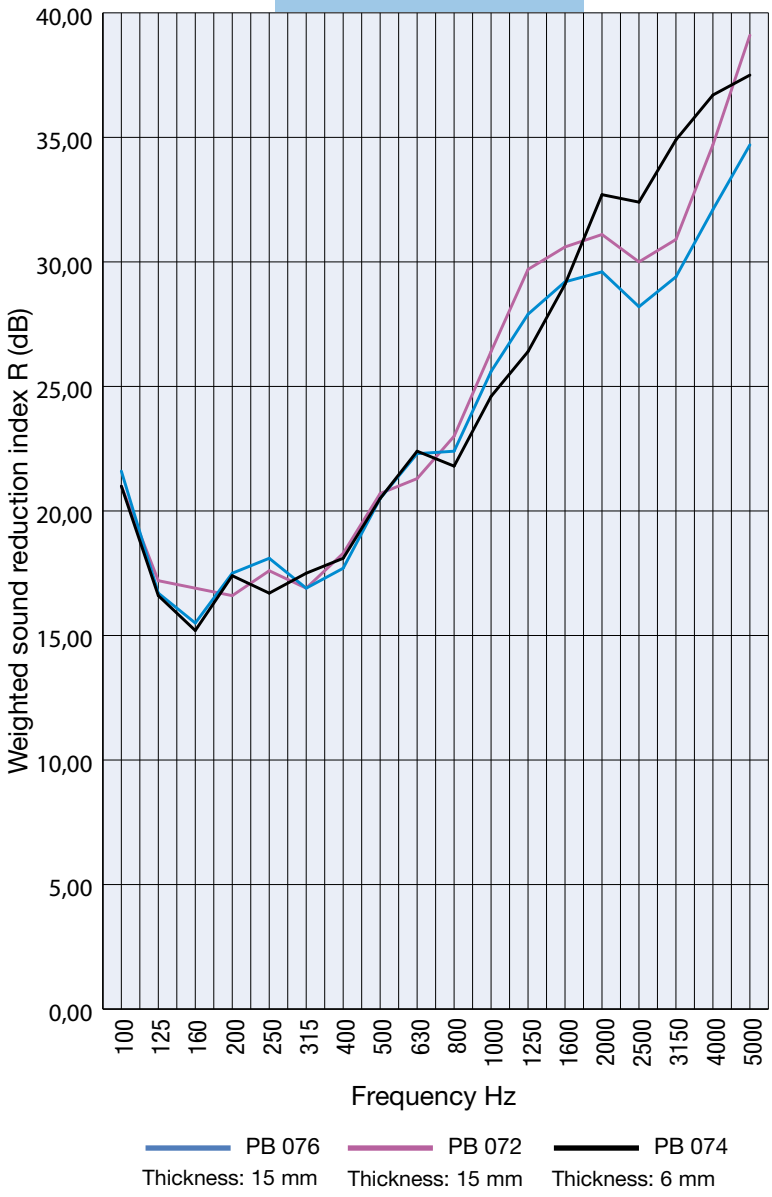
K-FLEX K-FONIK PB *is ideal for the sound insulation of fixed or false walls, ceilings and false ceilings, garages and acoustic cabins, drainage systems, X-Ray theatres, and all types of sound insulation applications.*

ACOUSTIC PERFORMANCE



	PB 072	PB 074	PB 076
FREQ. Hz	R dB	R dB	R dB
100	21,0	21,0	21,6
125	17,2	16,6	16,7
160	16,9	15,2	15,5
200	16,6	17,4	17,5
250	17,6	16,7	18,1
315	16,9	17,5	16,9
400	18,3	18,1	17,7
500	20,7	20,5	20,5
630	21,3	22,4	22,3
800	23,0	21,8	22,4
1000	26,4	24,6	25,6
1250	29,7	26,4	27,9
1600	30,6	29,1	29,2
2000	31,1	32,7	29,6
2500	30,0	32,4	28,2
3150	30,9	34,9	29,4
4000	34,7	36,7	32,1
5000	39,1	37,5	34,7

PB 072 - RW = 26,5 dB
PB 074 - RW = 25,5 dB
PB 076 - RW = 25,5 dB



TECHNICAL CHARACTERISTICS

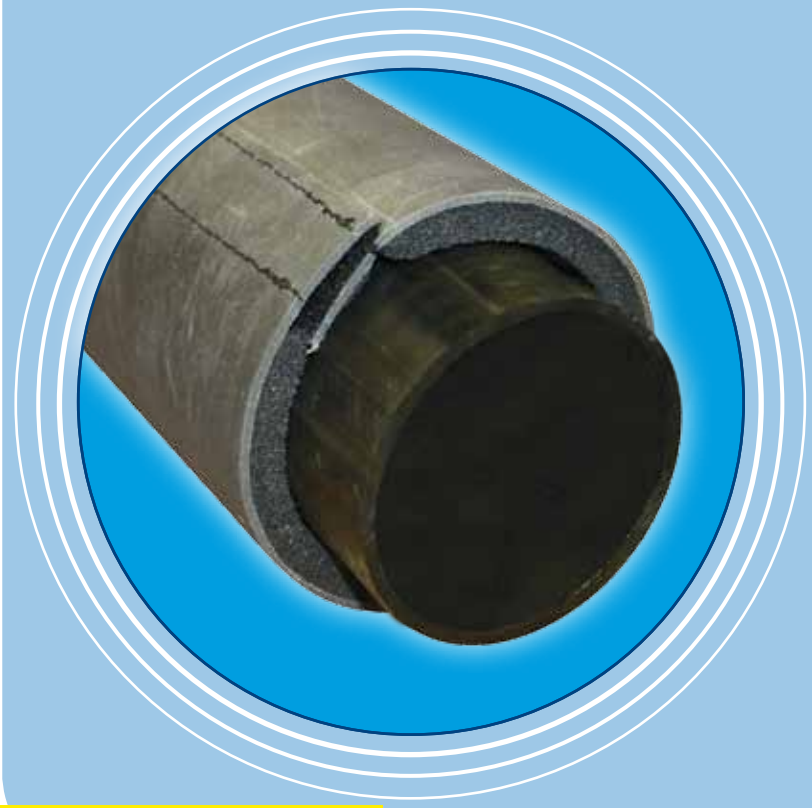
Material type	different materials (polyurathane, polyethylene, elastomeric foam)
Density	from 30 to 60 Kg/m^3
Thermal conductivity	N. A.
Fire classification	Self-extinguishing
Temperature resistancy	-50 °C +110 °C
Panel dimensions	1000 x 2000 mm or in different roll sizes
Surface in-view	smooth
Thicknesses	from 6 mm to 50 mmn
Base colour	black

K-FLEX K-FONIK PB

NEW

K-FLEX K-FONIK ST GK 072-S

SOUND INSULATION



EXTREMELY FLEXIBLE MULTILAYER ACOUSTICAL INSULATION FOR PLUMBING AND DRAINING SYSTEMS.

DESCRIPTION

K-FONIK ST GK 072 - S is an easy to apply multilayer insulation for drainage and plumbing systems.

APPLICATIONS

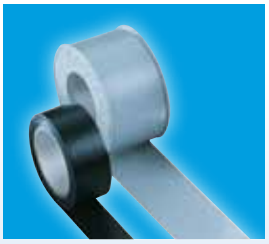
The product is supplied in a range of pre-cut insulation kits with velcro closure for wastewater pipes of drainage systems (∅ 75, 90 and 110 mm). Extremely fast installation of the shaped parts guarantees maximum efficiency in performance.

RANGE OF PRODUCTS

K-FONIK ST GK 072 - S

→ K-FLEX ST 10 mm
→ GK 2 mm

In pre-cut sections for piping ∅ 75, 90 and 110 mm



PVC tape for sealing and overlapping

STANDARD DIMENSION PRE-CUT INSULATION **KITS**

For installation instructions consult the brochure ***K-FLEX K-FONIK ST GK 072 - S***
available on our website **www.kflex.com**

ACOUSTICAL PERFORMANCE

TECHNICAL DATA

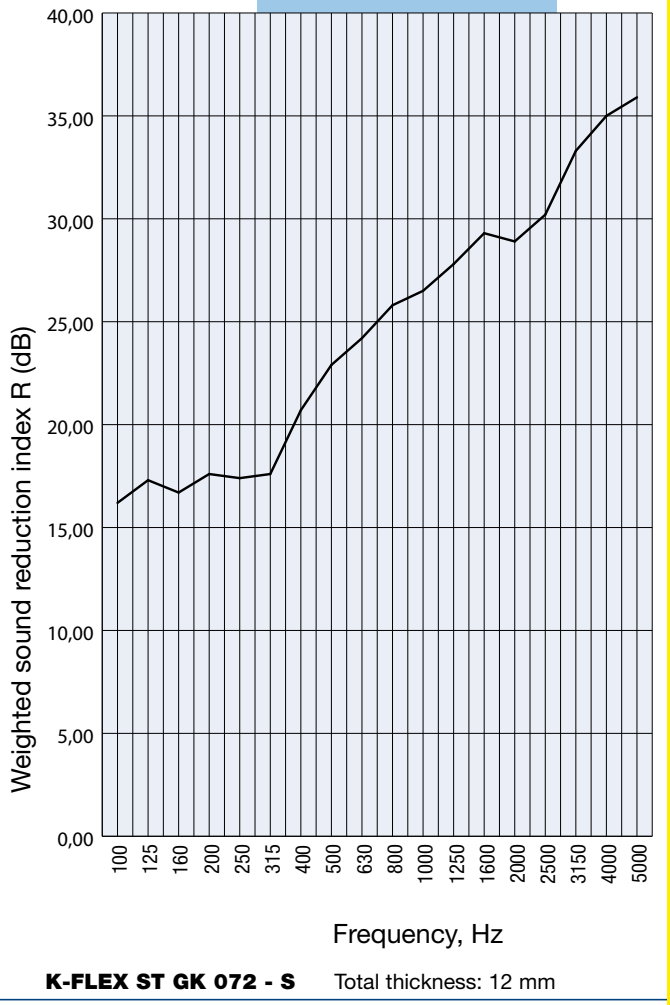
Material	Flexible elastomeric foam, GK
Weight	4,4 Kg/m²
Fire classification	CL 1; BS 476 CL0
Temperature	-40 °C +70 °C
Dimension	Preformed pieces, Pipes 1 m length
Thickness	12 mm (± 5 %)
Color (base)	Black anthracite

K-FLEX K-FONIK ST GK 072 - S

R_W (C;C_{tr}) = 26 (-1;-3) dB

ST GK 072 - S

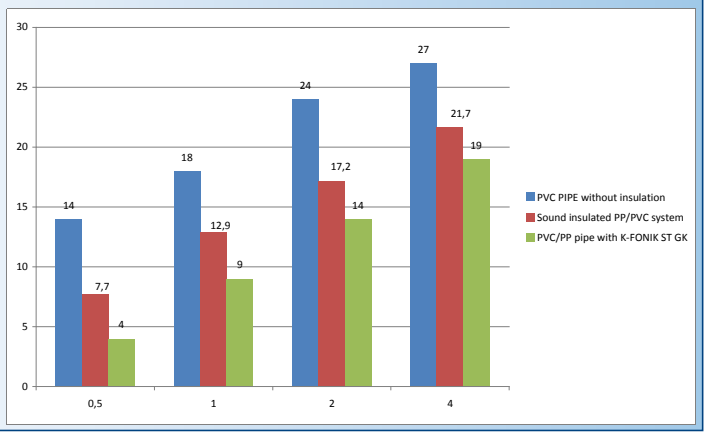
FREQ. Hz	R dB
100	16,2
125	17,3
160	16,7
200	17,6
250	17,4
315	17,6
400	20,7
500	22,9
630	24,2
800	25,8
1000	26,5
1250	27,8
1600	29,3
2000	28,9
2500	30,2
3150	33,3
4000	35,0
5000	35,9



K-FLEX ST GK 072 - S Total thickness: 12 mm

Product Comparison

Volumen L/s	0,5	1	2	4	
PVC PIPE without insulation	14	18	24	27	dB
Sound insulated PP/PVC system	7,7	12,9	17,2	21,7	dB
PVC/PP pipe with K-FONIK ST GK	4	9	14	19	dB

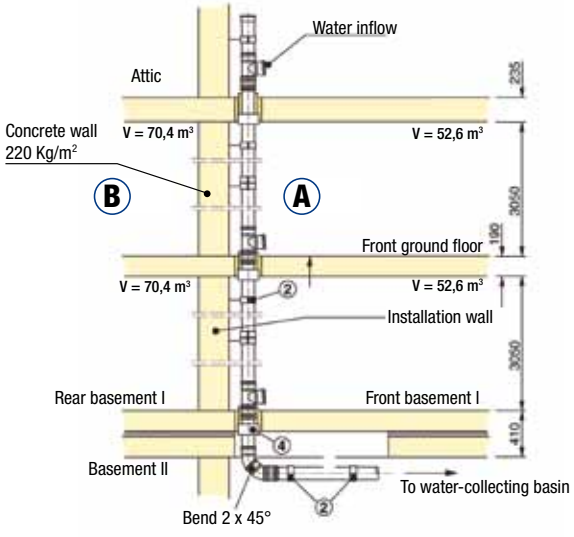


PART OF THE CERTIFICATE **FRAUNHOFER INSTITUTE** NO. P-BA 247/2006

The test meets the requirements of the DIN 4109 (Germany)
DIN 4109/A1: 2001-01 for residential buildings and **DIN 4109** for non residential buildings

The test, shown on the right, is performed by simulating a real installation in a several floors building with rooms volumes is equal to 70.4 m³ and 52.6 m³ (per floor).

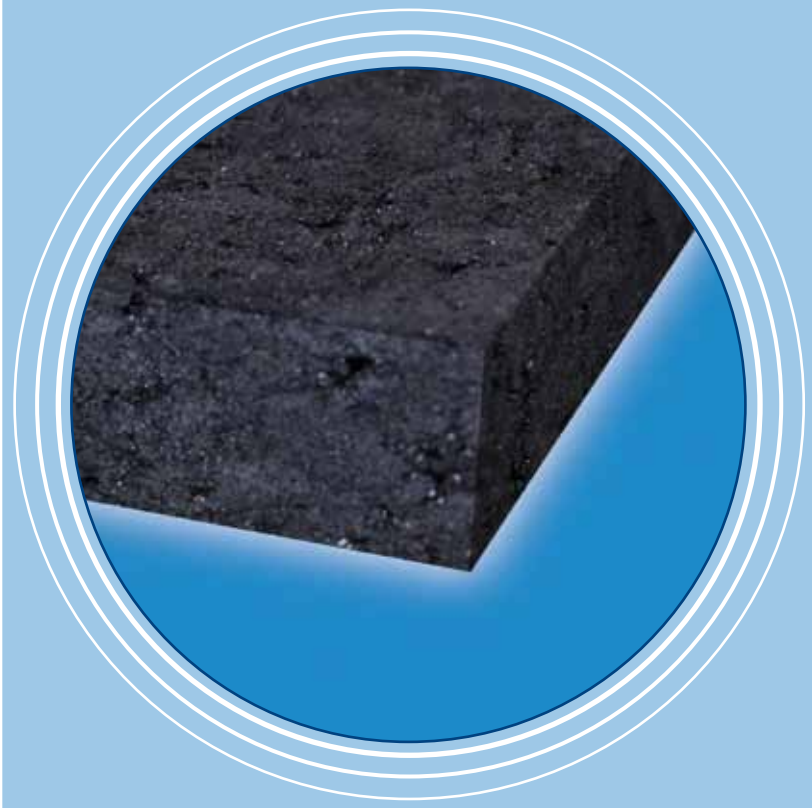
Sound Pressure Level L_{in} [dB(A)]				
Water capacity [l/s]	*0,5*	*1,0*	*2,0*	*4,0*
Area:	*First floor - Area A*			
without K-FONIK GK 072-S	*48*	*52*	*55*	*57*
with K-FONIK GK 072-S	*35*	*39*	*42*	*45*
Area:	*First floor - Area B*			
without K-FONIK GK 072-S	*14*	*18*	*24*	*27*
with K-FONIK GK 072-S	*4*	*9*	*14*	*19*



ACOUSTIC AND THERMAL INSULATION

K-FLEX K-FONIK OPEN CELLS

SOUND ABSORPTION



OPEN CELLS MATERIAL FOR SOUND ABSORPTION. IDEAL FOR ACOUSTIC INSULATION OF INDUSTRIAL PIPES.

DESCRIPTION

K-FLEX K-FONIK OPEN CELLS is a thermal - acoustic insulation material, ideal for sound absorption applications. It combines excellent acoustic performance and insulation characteristics. Supplied in different formats and thicknesses, based on customer' requirements.

PRODUCT **RANGE**

K-FLEX K-FONIK 120-240

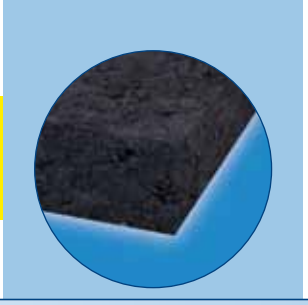
The product range is available from 10 mm to 350 mm

APPLICATIONS

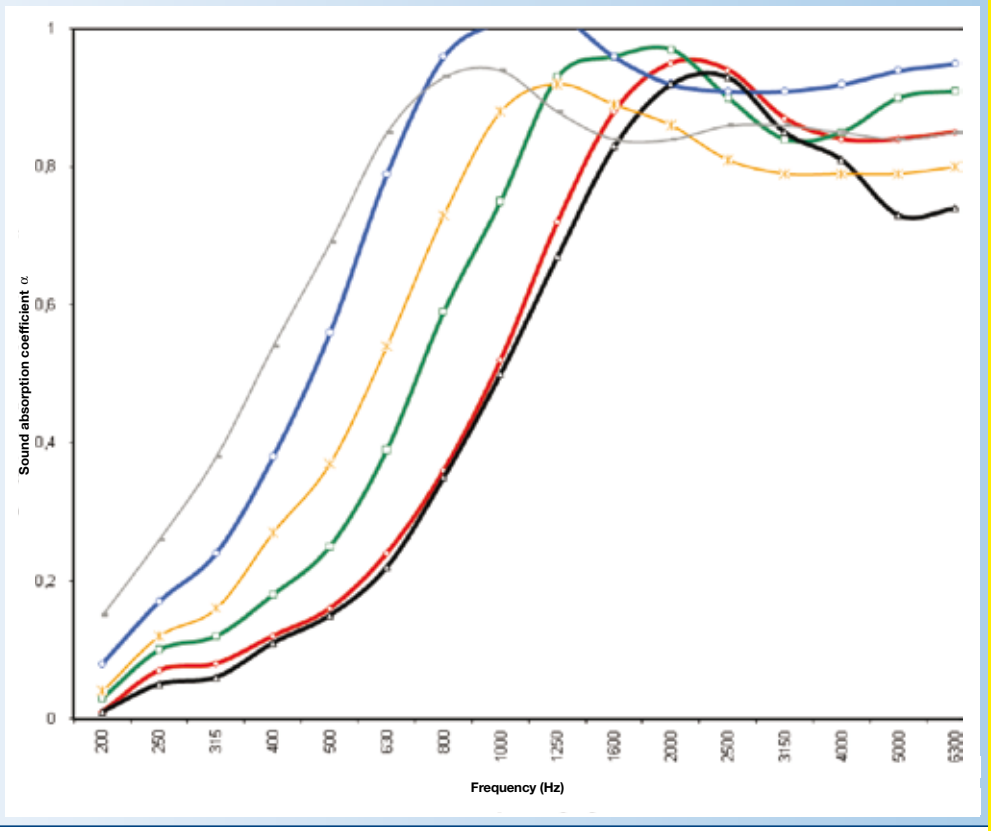
K-FLEX K-FONIK OPEN CELLS
Sound Absorption; Industrial pipes.

K-FLEX K-FONIK OPEN CELLS

ACOUSTIC PERFORMANCE



Sound absorption coefficient α
UNI EN ISO 354:2003 UNI EN ISO 11654:1998



- K-FONIK OPEN CELL 120, 10 mm αW= 0,25
- K-FONIK OPEN CELL 120, 15 mm αW= 0,30
- K-FONIK OPEN CELL 120, 25 mm αW= 0,45
- K-FONIK OPEN CELL 240, 10 mm αW= 0,25
- K-FONIK OPEN CELL 240, 15 mm αW= 0,40
- K-FONIK OPEN CELL 240, 25 mm αW= 0,55

TECHNICAL CHARACTERISTICS

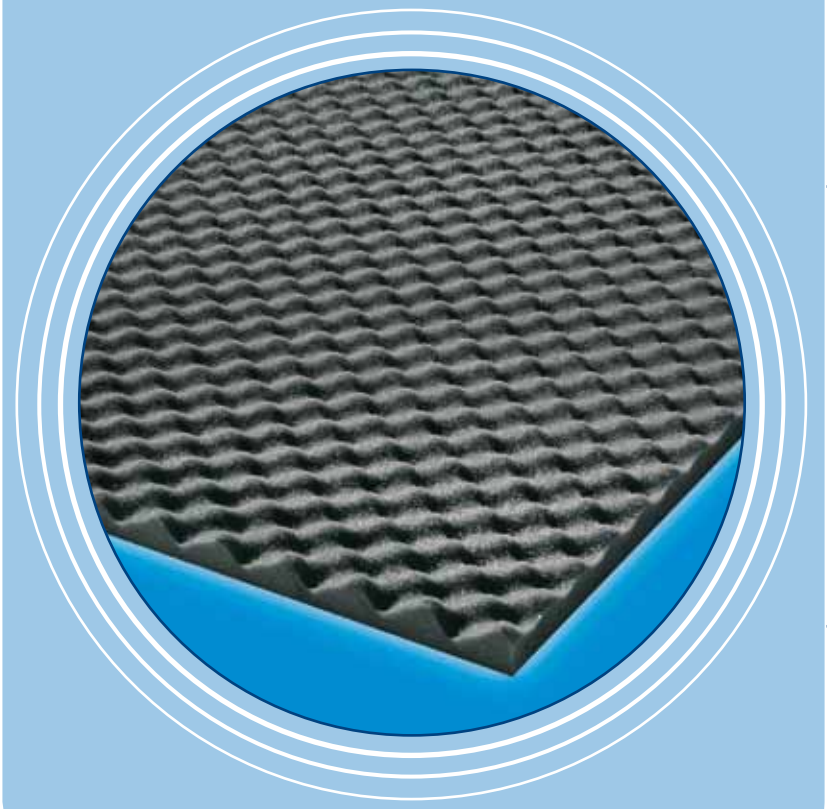
Material type	flexible elastomeric foam
Density	120-240 Kg/m³
Thermal conductivity	0,0431 W/(m•k)
Fire	FMVSS 302
Dimensions	1 x 1 m
Thickness	from 10 to 350 mm
Base colour	black
Modulus (mpa)	22 ± 3.7 (**120**) - 57.7 ± 8.0 (**240**)
Elongation to break (%)	114 ± 33 (**120**) - 140 ± 47 (**240**)

Insertion Loss:

K-FONIK 120 15mm Rw=5 dB
K-FONIK 120 25mm Rw=6 dB
K-FONIK 240 10mm Rw=8 dB
K-FONIK 240 15mm Rw=10 dB
K-FONIK 240 25mm Rw=14 dB

K-FLEX K-FONIK B

EMBOSSED SOUND ABSORPTION



EMBOSSED SURFACE POLYURETHANE FOAM SHEET IDEAL FOR ACOUSTIC ABSORPTION.

DESCRIPTION

K-FONIK B material is specifically designed for situations where sound absorption is the priority.

It is made of open cell flexible polyurathane foam with a density of 30/35 kg/m^3. It is also available in the ***K-FONIK ST B*** version made with rubber foam which has Class 0 reaction to fire characeristics.

PRODUCT **RANGE**

K-FONIK B20

PU 10 mm
PU 10 mm

K-FONIK B30

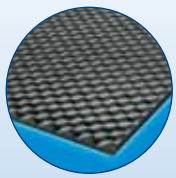
PU 20 mm
PU 10 mm

K-FONIK B40

PU 27 mm
PU 14 mm

K-FONIK B50

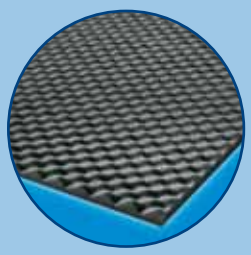
PU 30 mm
PU 20 mm



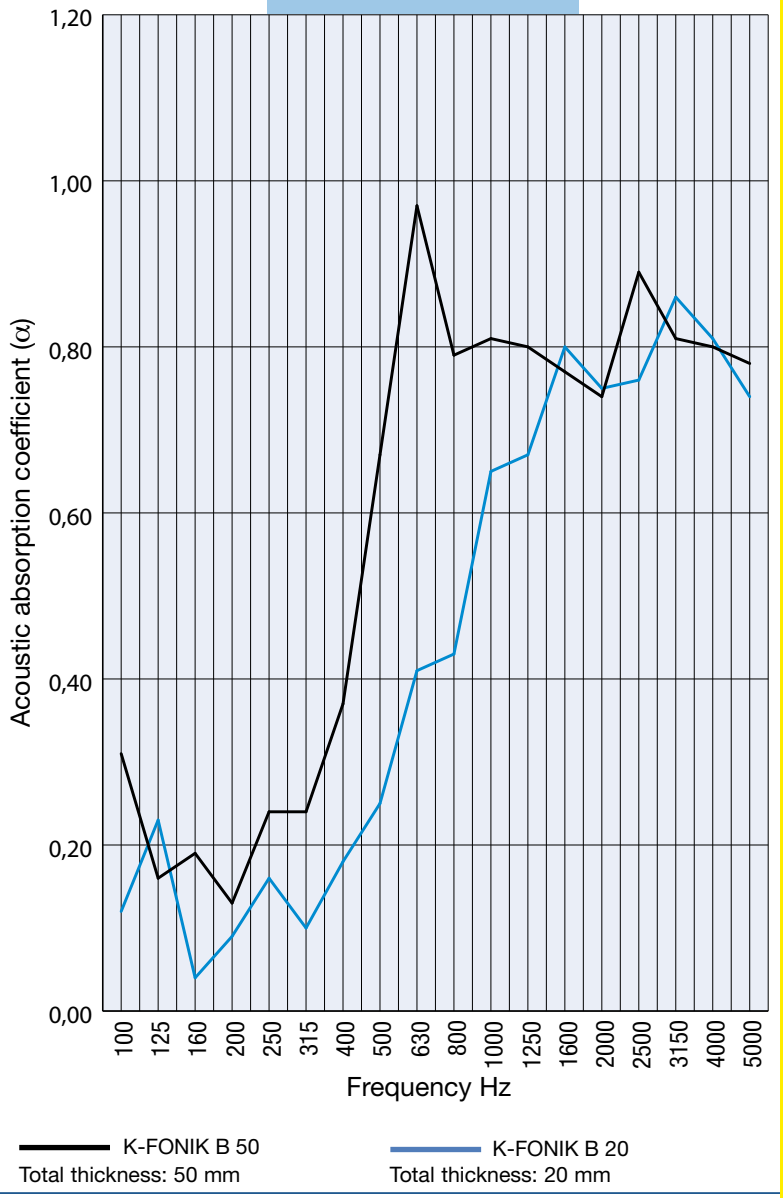
APPLICATIONS

is widely used in gymns, conference rooms, rifle ranges, recording studios, radio/ television registration studios, moveable acoustic panels, engine rooms, etc.

ACOUSTIC PERFORMANCE



FREQ. Hz	B 20 α	B 50 α
100	0,12	0,31
125	0,23	0,16
160	0,04	0,19
200	0,09	0,13
250	0,16	0,24
315	0,10	0,24
400	0,18	0,37
500	0,25	0,67
630	0,41	0,97
800	0,43	0,79
1000	0,65	0,81
1250	0,67	0,80
1600	0,80	0,77
2000	0,75	0,74
2500	0,76	0,89
3150	0,86	0,81
4000	0,81	0,80
5000	0,74	0,78
Scale (α)	0,28	0,62



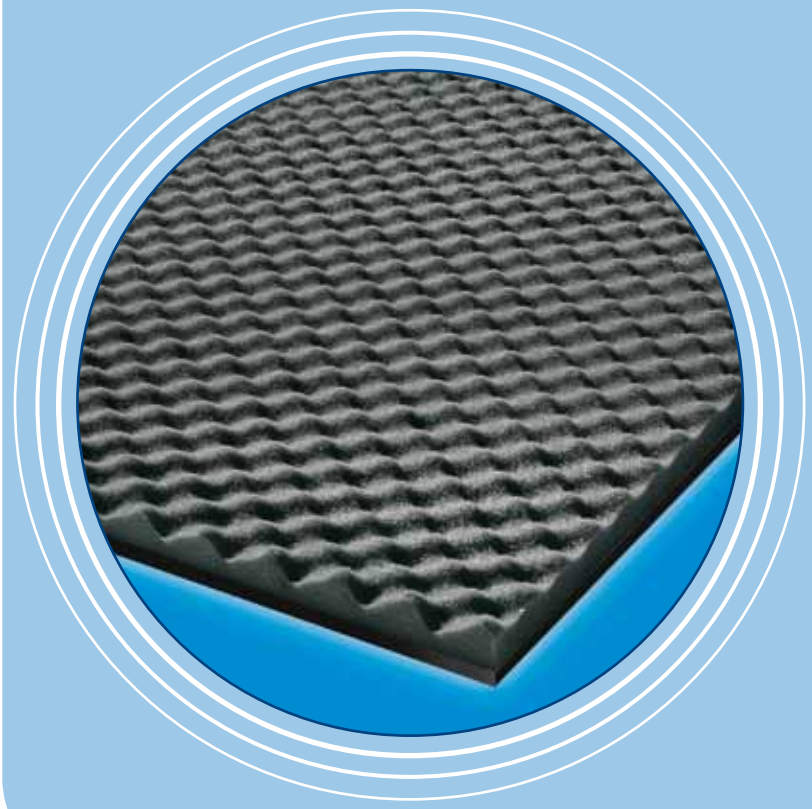
TECHNICAL CHARACTERISTICS

Material type	polyurathane foam
Density	30 Kg/m³
Thermal conductivity	0,029 W/(m•k)
Fire classification	Class 0 (BS 476 PART 6/7) only ST B version with rubber foam
Temperature resistancy	-50 °C +110 °C
Panel dimensions	1000 x 2000 mm - also available in rolls of different sizes
Surface in-view	embossed
Thicknesses	from 20 to 50 mm
Base colour	dark grey

K-FLEX K-FONIK B

K-FLEX K-FONIK ST B GK

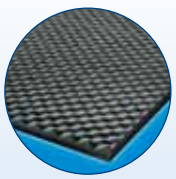
SOUND INSULATION/SOUND ABSORPTION



EMBOSSED ACOUSTIC INSULATION COUPLED WITH HIGH DENSITY ELASTOMERIC MATERIAL.

DESCRIPTION

K-FONIK ST B GK is a viscoelastic acoustic insulation product made with partially reticulated polymers and fire-proof mineral fillers, coupled to a flexible elastomeric foam sheet with an embossed surface, which combines excellent acoustic insulation and absorption qualities.



PRODUCT **RANGE**

K-FONIK ST B GK

→ FEF* 30 mm

→ 4 Kg/m² high density elastomeric material

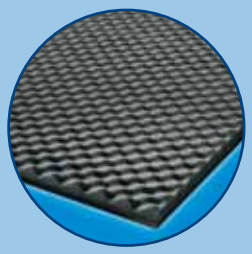
*FEF = flexible elastomeric foam

APPLICATIONS

K-FLEX K-FONIK ST B GK *combines both sound insulation and absorption qualities in all situations where it is necessary to work both on mass and absorption.*

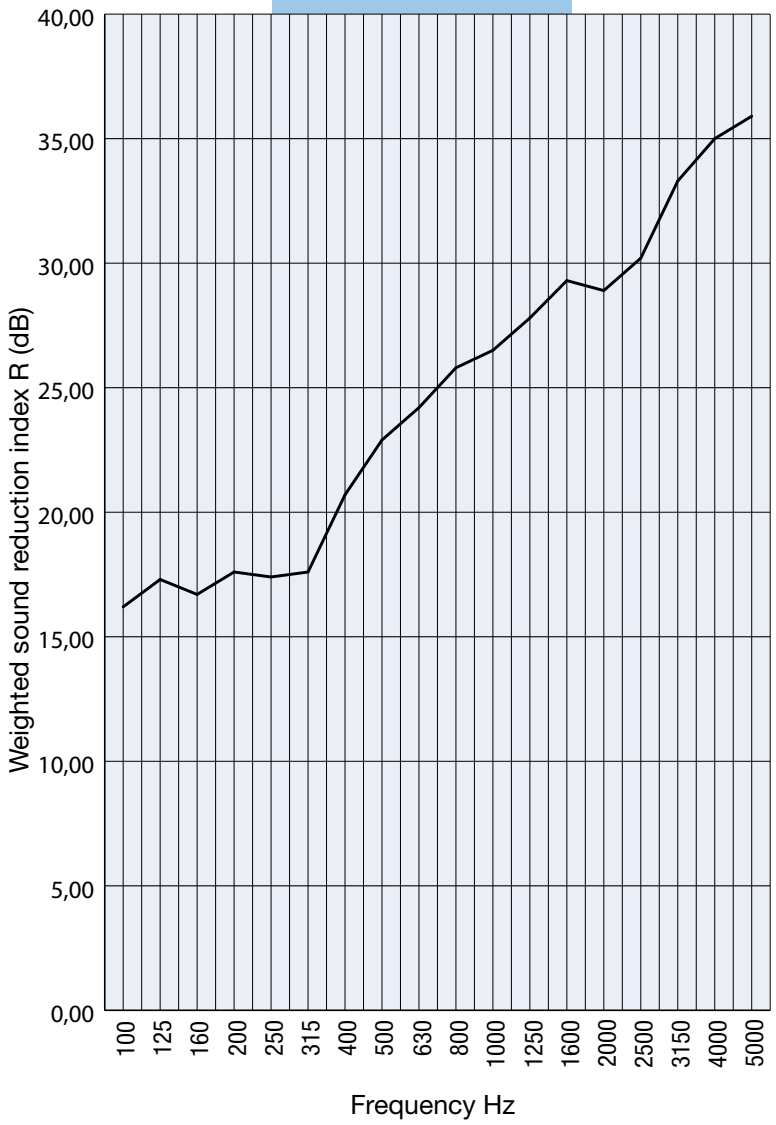
K-FLEX K-FONIK ST B GK

ACOUSTIC PERFORMANCE



ST B GK	
FREQ. Hz	R dB
100	16,2
125	17,3
160	16,7
200	17,6
250	17,4
315	17,6
400	20,7
500	22,9
630	24,2
800	25,8
1000	26,5
1250	27,8
1600	29,3
2000	28,9
2500	30,2
3150	33,3
4000	35,0
5000	35,9

R_W (C;C_{tr}) = 26 (-1;-3) dB



K-FLEX ST B GK

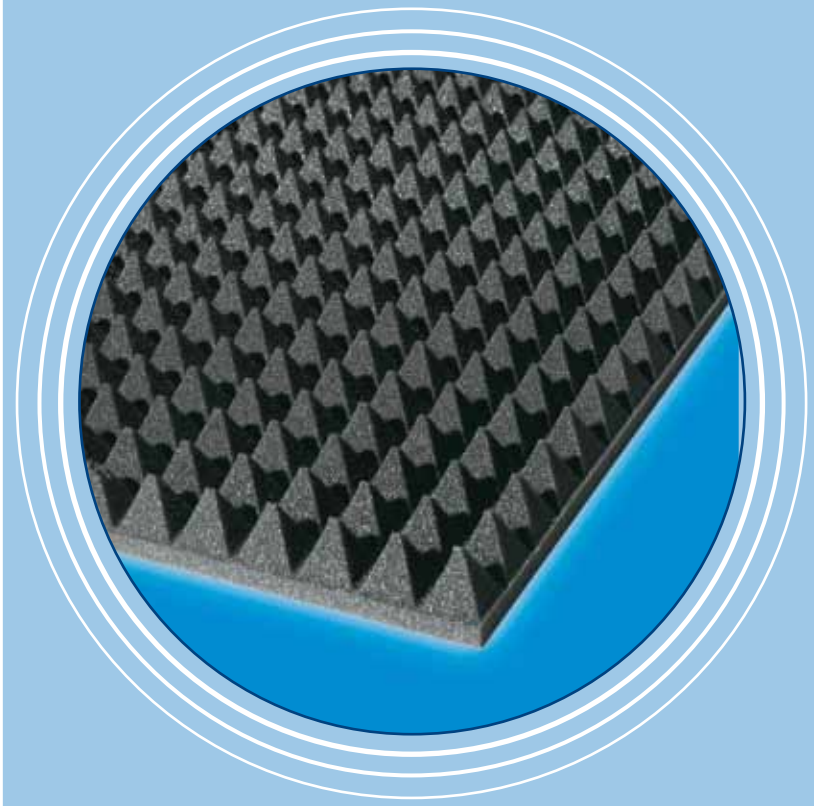
TECHNICAL CHARACTERISTICS

Material type	flexible elastomeric foam with high-density elastomeric material
Thermal conductivity	0,036 W/(m•k)
Fire classification	self-extinguishing
Temperature resistancy	-40 °C +70 °C
Panel dimensions	1500 x 1000 o 2000 x 1000
Surface in-view	embossed
Thickness	33 mm
Base colour	black

K-FLEX K-FONIK ST B GK

K-FLEX K-FONIK P

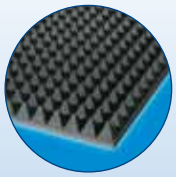
PYRAMIDAL STRUCTURE SOUND ABSORPTION



POLYURATHANE FOAM PANEL WITH AN EMBOSSED PYRAMIDAL STRUCTURE, IDEAL FOR ACOUSTIC ABSORPTION.

DESCRIPTION

This pyramidal surface, sound absorption material is the ideal acoustic insulation and correction solution for rooms etc. Excellent results can be obtained at medium and high frequencies (500 ÷ 2000 Hz).
The material is made of flexible polyurathane open cell foam with a density of 30/35 kg/m^3.
It can also be applied in combination with acoustic insulation material. It is also available with adhesive on one side.



PRODUCT **RANGE**

K-FONIK P50

PU 30 mm
PU 20 mm

K-FONIK P70

PU 50 mm
PU 20 mm

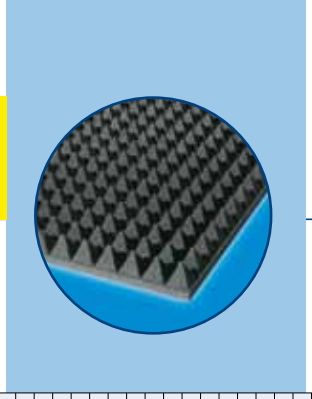
K-FONIK P100

PU 70 mm
PU 30 mm

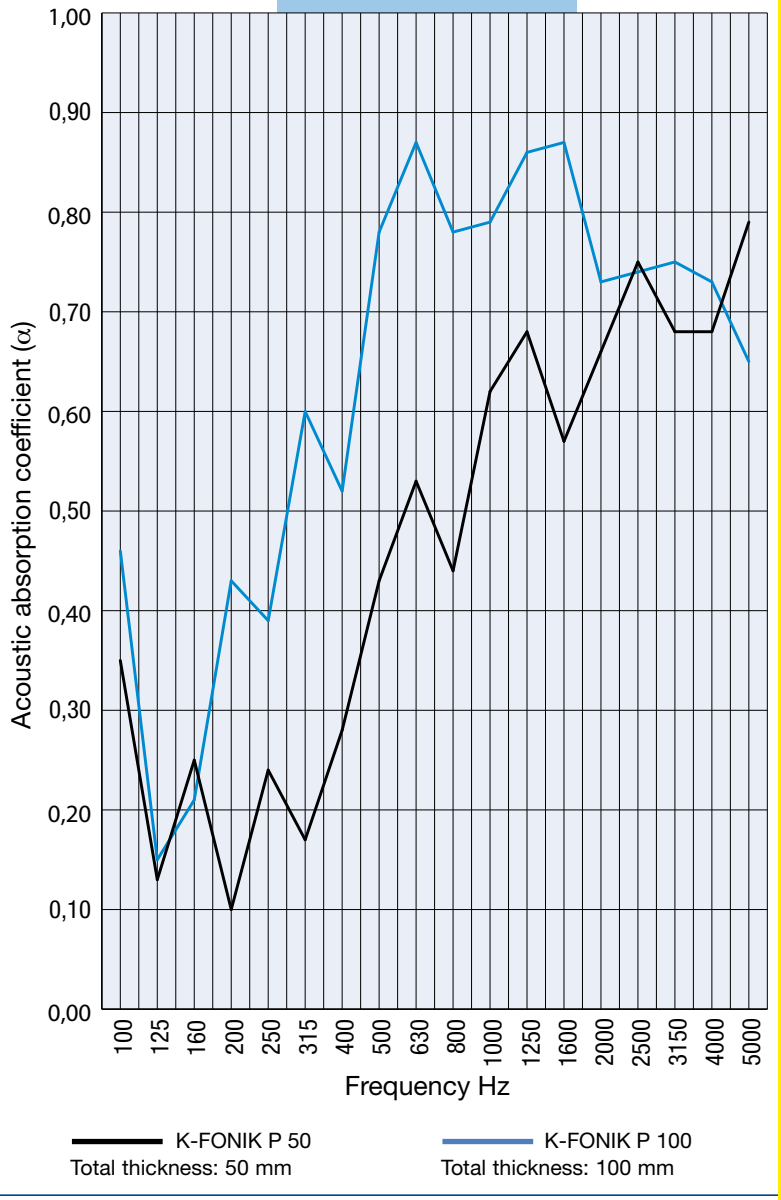
APPLICATIONS

K-FLEX K-FONIK P
is widely used in gyms, conference rooms, firing ranges, recording studios,radio/ television registration studios, false walls, engine rooms, etc.

ACOUSTIC PERFORMANCE



FREQ. Hz	P 50 α	P 100 α
100	0,35	0,46
125	0,13	0,15
160	0,25	0,21
200	0,10	0,43
250	0,24	0,39
315	0,17	0,60
400	0,28	0,52
500	0,43	0,78
630	0,53	0,87
800	0,44	0,78
1000	0,62	0,79
1250	0,68	0,86
1600	0,57	0,87
2000	0,66	0,73
2500	0,75	0,74
3150	0,68	0,75
4000	0,68	0,73
5000	0,79	0,65
Scale (α)	0,34	0,82



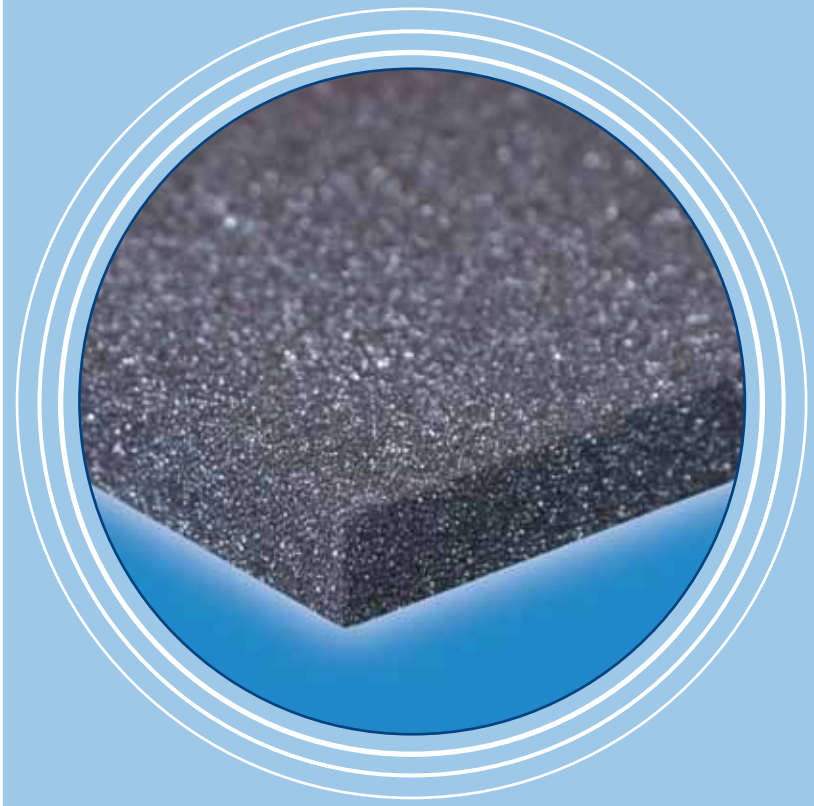
TECHNICAL CHARACTERISTICS

Material type	polyurathane foam
Density	35 Kg/m^3
Thermal conductivity	0,029 W/(m•k)
Fire classification	Self-extinguishing
Temperature resistancy	-50 °C +110 °C
Panel dimensions	1000 x 1000 mm
Surface in-view	pyramid structure
Thicknesses	50 - 70 - 100 mm
Base colour	dark grey

K-FLEX K-FONIK P

K-FLEX K-FONIK PU

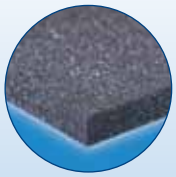
SOUND ABSORPTION



POLYESTER BASED OPEN CELL POLYURETHANE FOAM FOR SOUND ABSORBTION

DESCRIPTION

K-FONIK PU is a polyester based open cell Polyurethane foam for sound absorbtion. It can be supplied in sheets, rolls and self-adhesive. Available with plastic masses and lead. Can be cladded wih non-wovens, Al, PVC, glasswool, etc.



PRODUCT **RANGE**

K-FONIK PU 20

→ PU 20 mm

K-FONIK PU 30

→ PU 30 mm

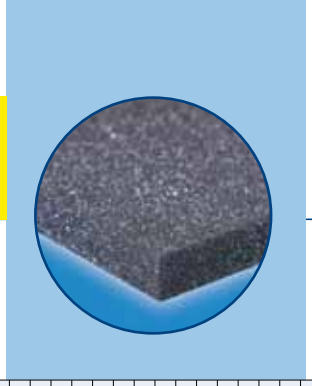
K-FONIK PU 50

→ PU 50 mm

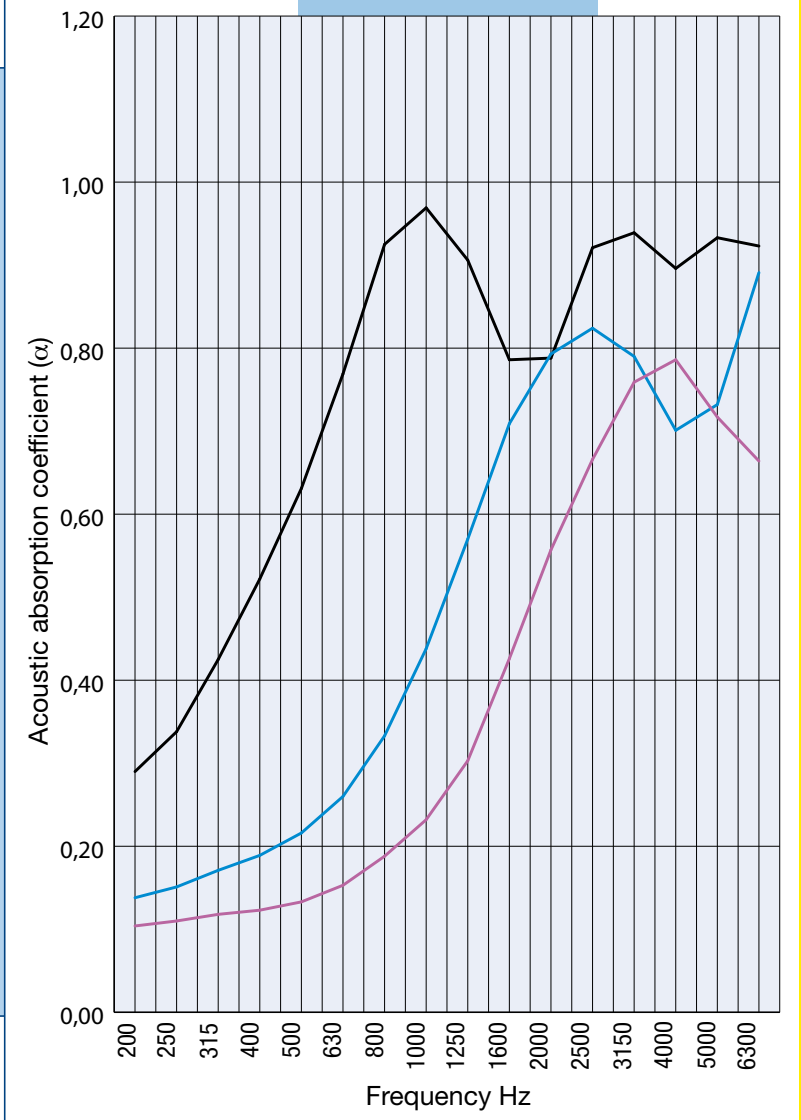
APPLICATIONS

Conditioning and ventilation systems, equipments and household electronics.

ACOUSTIC PERFORMANCE



FREQ. Hz	PU 20 α	PU 30 α	PU 50 α
200	0,104	0,138	0,290
250	0,111	0,151	0,338
315	0,118	0,171	0,425
400	0,123	0,189	0,522
500	0,133	0,216	0,631
630	0,153	0,260	0,769
800	0,188	0,333	0,925
1000	0,232	0,438	0,969
1250	0,303	0,570	0,906
1600	0,426	0,709	0,786
2000	0,557	0,793	0,788
2500	0,666	0,824	0,921
3150	0,759	0,790	0,939
4000	0,786	0,701	0,896
5000	0,717	0,732	0,933
6300	0,664	0,891	0,923



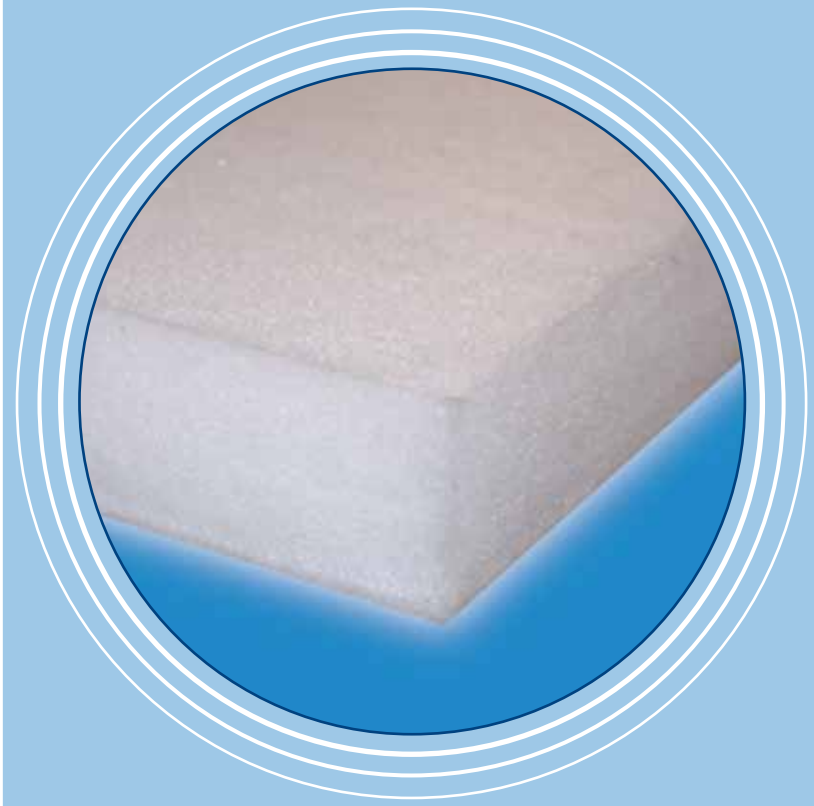
TECHNICAL CHARACTERISTICS

Thickness	from 4 mm to 50 mm (+ 0 ,-2)
Dimensions	Rolls, h: 1020, 1420 , 1520 mm
Bulk density (UNI 6349)	25 and 30 (± 5%) Kg/m³
Colour	Anthracite grey
Elongation to break (ISO 3386)	140 %
Cells number (fine cells)	20 cm²
Tensile strength (ISO R 1798)	For 25 kgm³, 120 kPa For 30 kgm³, 130 kPa
Temperature Resistance	from -30 °C to 100 °C
Self extinguish (UL 94)	HF1
Thermal conductivity λ	0.040 W /m°K

K-FLEX K-FONIK PU

K-FLEX K-FONIK FIBER-P

SOUND ABSORPTION



THERMO-BONDED POLYESTER TEXTILE FIBERS FOR SOUND ABSORPTION.

DESCRIPTION

K-FONIK FIBER-P is a sound absorber made of polyester fibers. Very good mechanical and fire resistance, non-toxic and low smoke emission.
Available with plastic masses and self-adhesive. It can be cladded with non-woven, Al, PVC, glasswool, etc.

PRODUCT **RANGE**

K-FONIK FIBER-P 20

→ 20 mm

K-FONIK FIBER-P 30

→ 30 mm

K-FONIK FIBER-P 50

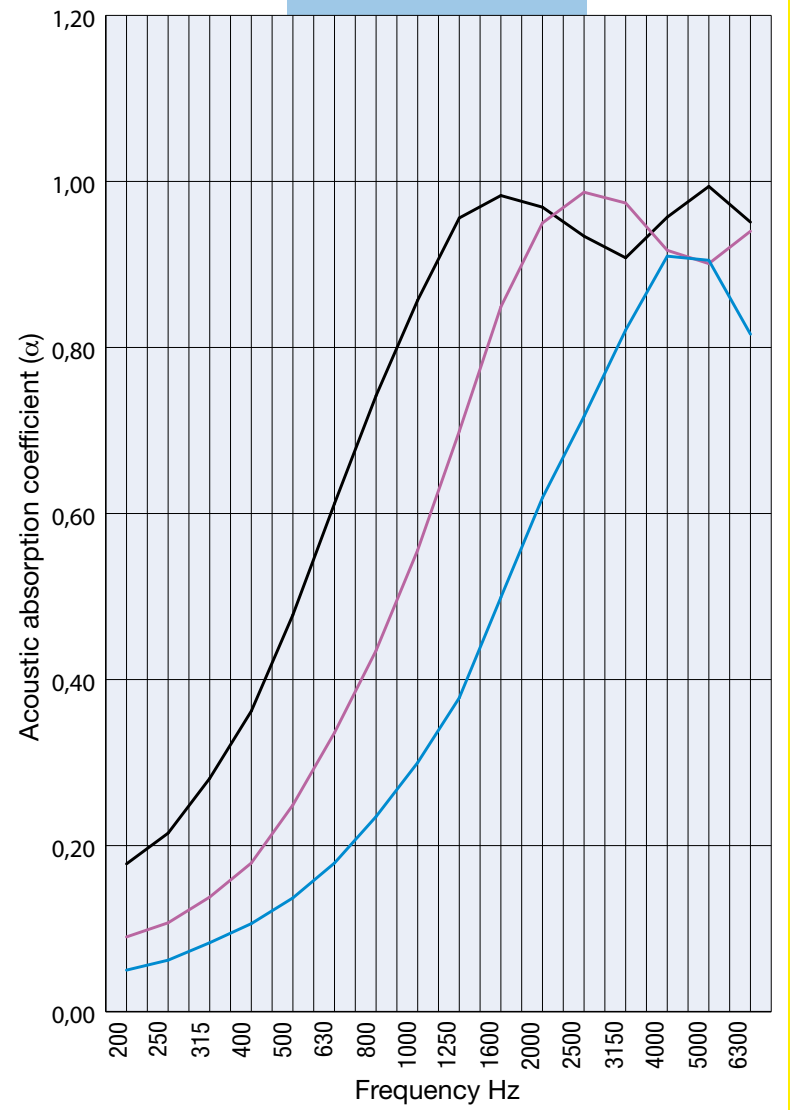
→ 50 mm

APPLICATIONS

Bus, tramway, trains
Panels
Ventilation systems
Engine Rooms, etc.

ACOUSTIC PERFORMANCE

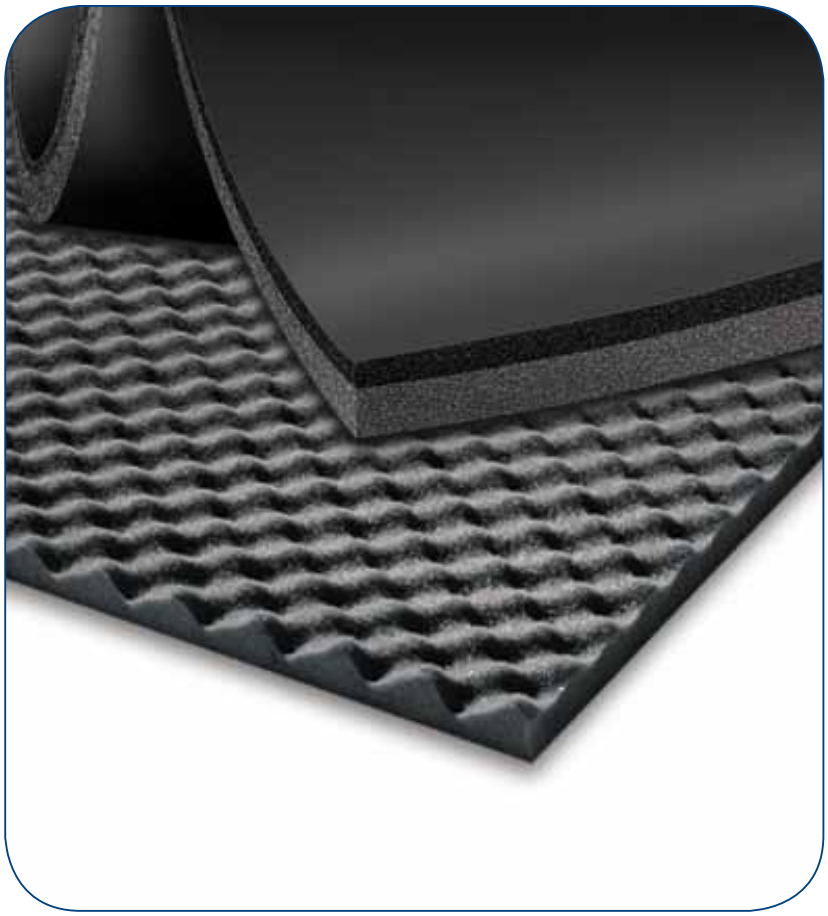
FREQ. Hz	FIBER P 20 α	FIBER P 30 α	FIBER P 50 α
200	0,050	0,090	0,178
250	0,062	0,107	0,215
315	0,083	0,138	0,281
400	0,106	0,179	0,362
500	0,137	0,249	0,478
630	0,179	0,336	0,612
800	0,235	0,435	0,742
1000	0,300	0,556	0,857
1250	0,378	0,699	0,946
1600	0,499	0,849	0,983
2000	0,619	0,950	0,969
2500	0,717	0,987	0,934
3150	0,821	0,974	0,908
4000	0,910	0,917	0,957
5000	0,905	0,901	0,994
6300	0,816	0,940	0,951



TECHNICAL CHARACTERISTICS

Composition	100 % Polyester Fibers
Colour	White, Black
Standard dimensions	1200 x 2000 or 1000 x 1500 mm
Standard Thicknesses	from 10 mm to 50 mm
Standard Weight	from 400 to 3500 gr/mq
Flammability temperature	380 °C
Oxygen Index (ISO4589)	≥ 21 (LOI)
Standard density	40 ± 10% kg/m³
Fire resistance UNI 8457; UNI 9174;UNI 9176	Euroclass B, S2, d0 - EN 13501
Toxicity and smoke emission AFNOR NF F 16101	F1
Performance Temperature	from -50 °C to + 90 °C (continuos)

K-FLEX K-FONIK FIBER-P



ACOUSTIC INSULATION

L'ISOLANTE K-FLEX

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