

kaiflex® ST

Designed to prevent condensation and energy losses.

Flexible insulation with closed cell structure to save energy and stop condensation.

- Fire rating Class 0
- Highly flame retardant B-s3,d0
- Water vapour resistance factor μ ≥10.000
- Thermal conductivity $\lambda_{0°C}$ ≤0,034 W/(m·K)
- UL- and FM-approved

KAIMANN

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Kaiflex ST flexible closed cell rubber insulation reliably prevents condensation and reduces energy loss. By incorporating a water vapour barrier into the insulation cell structure Kaiflex ST can effectively eliminate water vapour migration and retain outstanding performance over the entire system life.

Available in tube, coils and sheets for use on air-conditioning, refrigeration, chilled water, heating and hot water pipes and air-distribution ductwork, Kaiflex ST is versatile insulation with consistent and reliable technical values.

In addition to exceptional condensation preventing performance, Kaiflex ST also performs an acoustic function, absorbing sound and dampening duct wall vibration. With inherent antimicrobial resistance as standard and a closed cell rubber structure that is completely dust and fibre free, Kaiflex ST can be used in any kind of building without impacting on health or the quality of air.

Kaiflex ST has been designed to meet European fire regulations and is a self-extinguishing foam that will not drip or support flame spread. With a European Class B_L-s3, d0 or Class B-s3, d0 fire classification, Kaiflex ST can be safely used with confidence in public, commercial and industrial buildings.



Closed cell structure with in-built water vapour barrier

Formed from thousands of independently water resistant cells, Kaiflex insulation is naturally resistant to moisture ingress and requires no additional water vapour barrier.



Inherently resistant to corrosion

With an inherent resistance to moisture ingress Kaiflex insulation keeps pipes dry and helps to prevent corrosion under insulation.



Excellent thermal values minimise energy loss

Kaiflex features a low thermal conductivity that prevents the loss of energy from pipework making Kaiflex an excellent insulating material.



Flexible, dust and fibre free nature

Dust & fibres can aggravate respiratory conditions and create an additional site hazard. Kaiflex is dust and fibre free making installation easier and healthier.



Inherent resistance to microbial growth

By effectively preventing moisture ingress, Kaiflex is inherently resistant to microbial and mould growth that otherwise compromise indoor air quality.

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Kaiflex ST Technical Data

Material		Elastomeric foam based on synthetic rubber. Flexible Elastomeric Foam (FEF) in acc. with EN 14304	
Cell structure		Closed cell	
Colour		Black	
Upper temperature limit	Pipe Flat surfaces	+110 °C +85 °C	
Lower temperature limit		–50 °C (–200 °C)	See remark (1)
Thermal conductivity	at –30 °C at –20 °C at 0 °C at +10 °C at +20 °C at +40 °C	≤0,031 W/(m·K) ≤0,032 W/(m·K) ≤0,034 W/(m·K) ≤0,035 W/(m·K) ≤0,036 W/(m·K) ≤0,038 W/(m·K)	Test acc. to DIN EN ISO 8497 DIN EN 12667
Water vapour permeability	Moisture resistance factor μ	≥10.000 No separate vapour barrier required	Test acc. to DIN EN 13469 DIN EN 12086
EuroClass ◊	Tubes Sheets	B_L-s3, d0 B-s3, d0	Test acc. to DIN EN 13501-1
Practical fire behaviour		Self-extinguishing, no drips, does not support flame spread	
Fire performance		Class 0	In acc. with UK building regulations
Surface spread of Flame		Class 1	Test acc. to BS 476-7
Fire propagation	Total index of performance Sub Index 1	<12 <6	Test acc. to BS 476-6
Corrosion resistance		Satisfies requirements	Test acc. to DIN 1988
Health aspects		Dust & fibre free Formaldehyde free Cadmium free	
Resistance to	Mould and bacteria	no growth	In acc. with VDI 6022
Other attributes	pH-Value	CE marked Neutral	
Other certificates / approvals		UL-approved (UL94) FM-approved DNV, Lloyd's Register, See BG	In acc. with UL94 V-0,HF-1
Lifespan	Self-adhesive products	1 year	Store in a dry room at a typical relative humidity (between 50 % and 70 %) and room temperature (between 0 °C and +35 °C)
Tolerances		Consult table “Tolerances”	In acc. with DIN EN 14304:2013-04
Outdoor applications		Needs protection against UV-radiation	See remark (2)

Remark (1) For temperatures below –50 °C please contact our Technical Support Team for advice.

Remark (2) To protect against UV-induced deterioration Kaiflex should be either painted using Kaifinish paint or covered with a suitable UV resistant cladding system within 3 days of being installed outdoors.

◊ The Euroclass rating applies to metalic or solid mineral substrates.

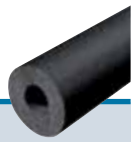
Quality assurance in accordance with VDI 2055 Quality assurance institute

c US UL94 V-0, HF-1

FM APPROVED

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Kaiflex ST Tube



Colour: Black · Length: 2 m

Copper pipe **Cu**		Iron & steel pipe **Fe**			**6 mm** Insulation thickness			**9 mm** Insulation thickness		
OD mm	**Nom width DN**	**Inch**	**OD mm**	**Nom width DN**	**Reference**	**Order No.**	**m/ carton**	**Reference**	**Order No.**	**m/ carton**
6,0	4				**ST-06x006**	17006006	600	**ST-09x006**	17009006	360
10,0	8	1/8	10,2	6	**ST-06x010**	17006010	430	**ST-09x010**	17009010	320
12,0	10		12,5		**ST-06x012**	17006012	350	**ST-09x012**	17009012	280
15,0	10	1/4	13,5	8	**ST-06x015**	17006015	300	**ST-09x015**	17009015	240
					ST-06x020	17006020	250	**ST-09x020**	17009020	160
22,0	20	1/2	21,3	15	**ST-06x022**	17006022	216	**ST-09x022**	17009022	156
28,0	25	3/4	26,9	20	**ST-06x028**	17006028	150	**ST-09x028**	17009028	124
35,0	32	1	33,7	25	**ST-06x035**	17006035	120	**ST-09x035**	17009035	92
42,0	40	1 1/4	42,4	32				**ST-09x042**	17009042	70
		1 1/2	48,3	40				**ST-09x048**	17009048	60
54,0	50		54,0					**ST-09x054**	17009054	60
		2	60,3	50				**ST-09x060**	17009060	60

Copper pipe **Cu**		Iron & steel pipe **Fe**			**13 mm** Insulation thickness			**19 mm** Insulation thickness		
OD mm	**Nom width DN**	**Inch**	**OD mm**	**Nom width DN**	**Reference**	**Order No.**	**m/ carton**	**Reference**	**Order No.**	**m/ carton**
6,0	4				**ST-13x006**	17013006	240	**ST-19x006**	17019006	126
10,0	8	1/8	10,2	6	**ST-13x010**	17013010	190	**ST-19x010**	17019010	106
12,0	10		12,5		**ST-13x012**	17013012	172	**ST-19x012**	17019012	100
15,0	10	1/4	13,5	8	**ST-13x015**	17013015	154	**ST-19x015**	17019015	86
					ST-13x020	17013020	120	**ST-19x020**	17019020	76
22,0	20	1/2	21,3	15	**ST-13x022**	17013022	110	**ST-19x022**	17019022	74
28,0	25	3/4	26,9	20	**ST-13x028**	17013028	86	**ST-19x028**	17019028	58
35,0	32	1	33,7	25	**ST-13x035**	17013035	76	**ST-19x035**	17019035	48
42,0	40	1 1/4	42,4	32	**ST-13x042**	17013042	56	**ST-19x042**	17019042	40
		1 1/2	48,3	40	**ST-13x048**	17013048	48	**ST-19x048**	17019048	30
54,0	50		54,0		**ST-13x054**	17013054	46	**ST-19x054**	17019054	30
		2	60,3	50	**ST-13x060**	17013060	40	**ST-19x060**	17019060	28
67,0					**ST-13x067**	17013067	40	**ST-19x067**	17019067	28
76,1	65	2 1/2	76,1	65	**ST-13x076**	17013076	34	**ST-19x076**	17019076	28
80,0					**ST-13x080**	17013080	30	**ST-19x080**	17019080	26
88,9	80	3	88,9	80	**ST-13x089**	17013089	30	**ST-19x089**	17019089	22
108,0	100		108,0		**ST-13x108**	17013108	28	**ST-19x108**	17019108	20
114,0	100	4	114,3	100	**ST-13x114**	17013114	28	**ST-19x114**	17019114	18

9 mm tubes are available upon request for the pipe dimensions: 9 x 64, 9 x 70, 9 x 76, 9 x 80, 9 x 89, 9 x 102, 9 x 108, 9 x 114, 9 x 125, 9 x 133, 9 x 140 and 9 x 160.

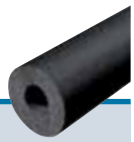
13 mm tubes are available upon request for the pipe dimensions: 13 x 125, 13 x 133, 13 x 140 and 13 x 160.

19 mm tubes are available upon request for the pipe dimensions: 19 x 125, 19 x 133, 19 x 140 and 19 x 160.

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Kaiflex ST Tube



Colour: Black · Length: 2 m

Copper pipe **Cu**		Iron & steel pipe **Fe**			**25 mm** Insulation thickness			**32 mm** Insulation thickness		
OD mm	**Nom width DN**	**Inch**	**OD mm**	**Nom width DN**	**Reference**	**Order No.**	**m/ carton**	**Reference**	**Order No.**	**m/ carton**
6,0	4				**ST-25x006**	17025006	80			
10,0	8	1/8	10,2	6	**ST-25x010**	17025010	72			
12,0	10		12,5		**ST-25x012**	17025012	60	**ST-32x012**	17032012	36
15,0	10	1/4	13,5	8	**ST-25x015**	17025015	60	**ST-32x015**	17032015	32
					ST-25x020	17025020	50			
22,0	20	1/2	21,3	15	**ST-25x022**	17025022	42	**ST-32x022**	17032022	32
28,0	25	3/4	26,9	20	**ST-25x028**	17025028	40	**ST-32x028**	17032028	24
35,0	32	1	33,7	25	**ST-25x035**	17025035	32	**ST-32x035**	17032035	24
42,0	40	1 1/4	42,4	32	**ST-25x042**	17025042	24	**ST-32x042**	17032042	24
		1 1/2	48,3	40	**ST-25x048**	17025048	24	**ST-32x048**	17032048	18
54,0	50		54,0		**ST-25x054**	17025054	22	**ST-32x054**	17032054	18
		2	60,3	50	**ST-25x060**	17025060	22	**ST-32x060**	17032060	16
67,0					**ST-25x067**	17025067	18	**ST-32x067**	17032067	14
76,1	65	2 1/2	76,1	65	**ST-25x076**	17025076	18	**ST-32x076**	17032076	12
80,0					**ST-25x080**	17025080	14	**ST-32x080**	17032080	12
88,9	80	3	88,9	80	**ST-25x089**	17025089	14	**ST-32x089**	17032089	10
108,0	100		108,0		**ST-25x108**	17025108	10	**ST-32x108**	17032108	8
114,0	100	4	114,3	100	**ST-25x114**	17025114	10	**ST-32x114**	17032114	8
133,0	125		133,0					**ST-32x133**	17032133	6
		5	139,7	125	**ST-25x140**	17025140	6	**ST-32x140**	17032140	6
159,0	150		160,0		**ST-25x160**	17025160	6	**ST-32x160**	17032160	4

Copper pipe **Cu**		Iron & steel pipe **Fe**			**40 mm** Insulation thickness			**50 mm** Insulation thickness		
OD mm	**Nom width DN**	**Inch**	**OD mm**	**Nom width DN**	**Reference**	**Order No.**	**m/ carton**	**Reference**	**Order No.**	**m/ carton**
22,0	20	1/2	21,3	15	**ST-40x022**	17040022	22	**ST-50x022**	17050022	14
28,0	25	3/4	26,9	20	**ST-40x028**	17040028	16	**ST-50x028**	17050028	10
35,0	32	1	33,7	25	**ST-40x035**	17040035	16	**ST-50x035**	17050035	8
42,0	40	1 1/4	42,4	32	**ST-40x042**	17040042	16	**ST-50x042**	17050042	8
		1 1/2	48,3	40	**ST-40x048**	17040048	16	**ST-50x048**	17050048	8
54,0	50		54,0		**ST-40x054**	17040054	10	**ST-50x054**	17050054	8
		2	60,3	50	**ST-40x060**	17040060	10	**ST-50x060**	17050060	8
76,1	65	2 1/2	76,1	65	**ST-40x076**	17040076	10	**ST-50x076**	17050076	6
88,9	80	3	88,9	80	**ST-40x089**	17040089	10	**ST-50x089**	17050089	6
108,0	100		108,0		**ST-40x108**	17040108	6	**ST-50x108**	17050108	4
114,0	100	4	114,3	100	**ST-40x114**	17040114	6	**ST-50x114**	17050114	4

40 mm and 50 mm tubes are available upon request for the pipe dimensions: 40 x 140, 40 x 160, 40 x 168, 50 x 140, 50 x 160 and 50 x 168.

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Kaiflex ST Sheet · continuous



Colour: Black

Insulation thickness mm	Sheet · continuous 1 m width			Sheet · continuous · self-adhesive 1 m width		
	Reference	Order No.	m²/ carton	Reference	Order No.	m²/ carton
3	**ST-03-RL**	18003000	30	**ST-03-RL-SK**	18203000	30
6	**ST-06-RL**	18006000	30	**ST-06-RL-SK**	18206000	30
10	**ST-10-RL**	18010000	20	**ST-10-RL-SK**	18210000	20
13	**ST-13-RL**	18013000	14	**ST-13-RL-SK**	18213000	14
16	**ST-16-RL**	18016000	12	**ST-16-RL-SK**	18216000	12
19	**ST-19-RL**	18019000	10	**ST-19-RL-SK**	18219000	10
25	**ST-25-RL**	18025000	8	**ST-25-RL-SK**	18225000	8
32	**ST-32-RL**	18032000	6	**ST-32-RL-SK**	18232000	6
40	**ST-40-RL**	18040000	8	**ST-40-RL-SK**	18740000	8
50	**ST-50-RL**	18650000	6	**ST-50-RL-SK**	18750000	6

Tolerances DIN EN 14304:2010-03 · Flexible Elastomeric Foam (FEF)

Supplied as	Length	Width	Thickness		Perpendicularity	Inner diameter	
			Stated	Limits		$D_i \leq 100$	$D_i > 100$
Tubes	±1,5 %		$d_D \leq 8$ $8 < d_D \leq 18$ $18 < d_D \leq 31$ $d_D > 31$	±1,0 ±1,5 ±2,5 ±3,0	3,0 mm	$D_{i,D} + 1 \leq D_i \leq D_{i,D} + 4$	$D_{i,D} + 1 \leq D_i \leq D_{i,D} + 6$
Flat sheets	±1,5 %	±2,0 %	$d_D \leq 6$ $6 < d_D \leq 19$ $d_D > 19$	±1,0 ±1,5 ±2,0	3,0 mm/m (length/width) – 3,0 mm (Thickness)	–	–
Continous sheets	+5,0 % –1,5 %	±2,0 %	$d_D \leq 6$ $6 < d_D \leq 19$ $d_D > 19$	±1,0 ±1,5 ±2,0	3,0 mm/m (length/width) – 3,0 mm (Thickness)	–	–
Tapes	+5,0 % –1,5 %	±2,0 %	$d_D = 3$	–0,1 +1,5	–	–	–

Measurements in mm · D_i = inner diameter · d_D = Nominal thickness of product · $D_{i,D}$ = Nominal thickness of a tube

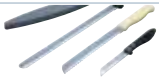
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ACCESSORIES

Adhesive · Cleaner · Protective Coating

	Description	Order No.	Can content	Carton content
	**Adhesive**			
	Adhesive 414 · toluene free · can	299-0.20	220 g	24
	Adhesive 414 · toluene free	299-0.75	660 g	20
	Adhesive 414 · toluene free	299-2.50	2.200 g	6
	Adhesive 494 · LEED-compliant	299-2300	2.300 g	6
	**Cleaner**			
	Cleaner	299REINI	1,0 l	12
	**Protective Coating**			
	Kaifinish Protective Coating · pure white RAL 9010	299KAFI1	0,75 l	12
	Kaifinish Protective Coating · grey RAL 7035	299KAFI5	0,75 l	12

Tools

	Description	Order No.	Content /PU
	**Glue pump**		
	Glue pump · short spout · Brush 17 mm	299KABI4	1
	Glue pump · long spout · Brush 17 mm	299KABI1	1
	Brush 11 mm	299KABI2	1
	Brush 17 mm	299KABI3	1
	**Knives**		
	Ceramic knife · knife with ceramic blade (12 cm) and plastic handle (12 cm)	299SMES6	1
	Sheet knife	299SMES3	1
	Kaiflex set of knives · 3 knives, 1 whetstone	299SMES5	1
	V-Cutter	299SMES2	1
	Spare blades for V-Cutter	299KLIFU	5

Tape

	Description	Order No.	Length m	Width mm	Thick-ness	Rolls/ carton
	**Tape · self-adhesive**					
	ST Tape · self-adhesive	1891BAND	15	50	3 mm	12









Kaimann technology. engineering. solutions.

For over 50 years Kaimann has looked to build for the future without ever forgetting the lessons of the past. The success of our company has always been based on a reputation for quality and a commitment to establishing fair, long-term business partnerships with all of our customers.

Since Kaimann was founded in 1959 the company has constantly sought to improve the quality of products and services we are able to offer to the market. This long and continuous programme of development has led to our manufacturing plant in Hövelhof being recognised as a centre for the production and development of flexible elastomeric and polyethylene insulation.

Kaiflex, our Europe-wide established insulation brand, has grown to become known as very reliable and trusted brand of flexible insulation for air-conditioning, refrigeration, heating, hot water and solar hot water applications. Today Kaiflex continues to set the standard for elastomeric foam insulation with a series of sophisticated product innovations.

technology.

Over 50 years Kaimann has developed an intimate understanding of the physical and chemical processes that make flexible elastomeric foams such a uniquely versatile material. Through an unrivalled mastery of this technology, Kaimann's team of leading research chemists has taken Kaiflex into new spheres of performance without making any compromise.

engineering.

Absolute dedication to quality manufacturing has seen Kaimann establish itself as an expert on engineering plant equipment for the production of flexible elastomeric insulation materials. Through a continually ongoing programme of improvement and optimisation of all manufacturing components Kaimann is able to realise the full benefits of superior engineering to deliver the highest quality products.

solutions.

With an already diverse range of solutions that combine exceptionally high quality foam technology together with the insights offered by an in-depth understanding of the challenges technical insulation must overcome, Kaimann is constantly working with partners worldwide to realise the cutting edge insulation solutions of tomorrow.

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