

GAME CHANGING *kairopak* SYSTEM

Proven Kaiflex technology,  
new beneficial length: 1,20 m

NEW: KaiCene®-Technology

Sheets uncoated

PATENT  
pending

## *kaiflex* **KK** plus s2

Reliable fire protection, energy efficiency  
and corrosion protection for additional safety

- Ideal choice for busy public and commercial buildings, as well as refrigeration systems
- Combines fire protection, energy efficiency and corrosion protection
- Classified as s2, it complies with demanding European smoke specifications
- Minimum 90 minutes fire resistance according to DIN 4102-11
- Easy to use, thanks to KaiCene-Technology (sheets uncoated)
- Coordinated components ensure outstanding reliability



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## Kaiflex KKplus s2 Technical Data

<b>Material</b>		Elastomeric foam based on synthetic rubber. Flexible Elastomeric Foam (FEF) in acc. to EN 14304	
<b>Cell structure</b>		Closed cell	
<b>Colour</b>		Tubes: Black Sheets: Black/Anthracite	
<b>Upper temperature limit</b>	Pipe Flat surfaces	+110 °C +85 °C	
<b>Lower temperature limit</b>		-50 °C (-200 °C)	See remark (1)
<b>Thermal conductivity</b>	at -20 °C at 0 °C at +20 °C at +40 °C	Tubes: ≤0,031 W/(m·K) Sheets: ≤0,036 W/(m·K)  Tubes: ≤0,033 W/(m·K) Sheets: ≤0,038 W/(m·K)  Tubes: ≤0,035 W/(m·K) Sheets: ≤0,040 W/(m·K)  Tubes: ≤0,037 W/(m·K) Sheets: ≤0,042 W/(m·K)	Test acc. to DIN EN ISO 8497 DIN EN 12667
<b>Water vapour permeability</b>	Moisture resistance factor $\mu$	Tubes: ≥10.000 Sheets: ≥7.000	Test acc. to DIN EN 13469 DIN EN 12086
<b>Euroclass <sup>o</sup></b>	Tubes Sheets	B <sub>1</sub> -s2, d0 B-s2, d0	Test acc. to DIN EN 13501-1
<b>Practical fire behaviour</b>		Self-extinguishing, no drips, does not support flame spread	
<b>Fire performance</b>		Class 0	Test acc. to BS 476-6
<b>Fire resistance classification (DIN 4102-11) with rubber</b>		R 90	(ABP) Nr.: P-MPA-E-14-001
<b>Corrosion resistance</b>		Satisfies requirements	In acc. with DIN 1988
<b>Insulation material index number acc. to AGI</b>	Tubes Sheets	36.12.01.05.01 36.07.01.06.01	
<b>Health aspects</b>		Dust & fibre free Heavy metal (e.g. cadmium, lead) and formaldehyde free	
<b>Resistance to</b>	Mould and bacteria	No growth	In acc. with VDI 6022
<b>Other attributes</b>	pH-Value	CE marked Neutral	
<b>Other certificates / approvals</b>	Valid for all tubes	FIW-audited FM-approved DNV, Lloyd's Register, See BG	In acc. with VDI 2055
<b>Shelf life</b>	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)
<b>Tolerances</b>		In acc. with DIN EN 14304:2013-04	
<b>Outdoor applications</b>		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.

<sup>o</sup> The Euroclass rating applies to metallic or solid mineral substrates.

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## Kaiflex KK<sub>plus</sub> s2 Tube · uncoated



Colour: Black · Length: 1,2 m

Copper pipe Cu		Iron & steel pipe Fe			KK <sub>plus</sub> 2 Insulation thickness 9,5 - 16,0 mm				KK <sub>plus</sub> 4 Insulation thickness 15,5 - 25,0 mm			
OD mm	Nom width DN	Inch	OD mm	Nom width DN	avg. IT mm	Reference	Order No.	m/ carton	avg. IT mm	Reference	Order No.	m/ carton
18,0	15	3/8	17,2	10	11,5	KK+s2-2/018-1,2	67002018	116,4	17,5	KK+s2-4/018-1,2	67004018	51,6
22,0	20	1/2	21,3	15	12,0	KK+s2-2/022-1,2	67002022	86,4	18,0	KK+s2-4/022-1,2	67004022	51,6
28,0	25	3/4	26,9	20	12,5	KK+s2-2/028-1,2	67002028	58,8	19,0	KK+s2-4/028-1,2	67004028	36,0
35,0	32	1	33,7	25	13,0	KK+s2-2/035-1,2	67002035	50,4	19,5	KK+s2-4/035-1,2	67004035	32,4
42,0	40	1 1/4	42,4	32	13,5	KK+s2-2/042-1,2	67002042	42,0	20,0	KK+s2-4/042-1,2	67004042	28,8
		1 1/2	48,3	40	13,5	KK+s2-2/048-1,2	67002048 *	38,4	20,5	KK+s2-4/048-1,2	67004048	21,6
54,0	50		54,0		13,5	KK+s2-2/054-1,2	67002054	36,0	21,0	KK+s2-4/054-1,2	67004054	19,2
		2	60,3	50	14,0	KK+s2-2/060-1,2	67002060	28,8	21,5	KK+s2-4/060-1,2	67004060	19,2
76,1	65	2 1/2	76,1	65	14,0	KK+s2-2/076-1,2	67002076	27,6	22,0	KK+s2-4/076-1,2	67004076	14,4
88,9	80	3	88,9	80	14,5	KK+s2-2/089-1,2	67002089 *	21,6	22,5	KK+s2-4/089-1,2	67004089	12,0

\* No stock item, delivery time on request.

For further dimensions please contact our customer service.

## Kaiflex KK<sub>plus</sub> s2 SK Tube · uncoated · self-adhesive · with tangential cut



Colour: Black · Length: 1,2 m

Copper pipe Cu		Iron & steel pipe Fe			KK <sub>plus</sub> 2 Insulation thickness 11,5 - 14,5 mm				KK <sub>plus</sub> 4 Insulation thickness 17,5 - 22,5 mm			
OD mm	Nom width DN	Inch	OD mm	Nom width DN	avg. IT mm	Reference	Order No.	m/ carton	avg. IT mm	Reference	Order No.	m/ carton
18,0	15	3/8	17,2	10	11,5	KK+s2-2/018-1,2-SK	67102018 *	116,4	17,5	KK+s2-4/018-1,2-SK	67104018 *	51,6
22,0	20	1/2	21,3	15	12,0	KK+s2-2/022-1,2-SK	67102022 *	86,4	18,0	KK+s2-4/022-1,2-SK	67104022 *	51,6
28,0	25	3/4	26,9	20	12,5	KK+s2-2/028-1,2-SK	67102028 *	58,8	19,0	KK+s2-4/028-1,2-SK	67104028 *	36,0
35,0	32	1	33,7	25	13,0	KK+s2-2/035-1,2-SK	67102035 *	50,4	19,5	KK+s2-4/035-1,2-SK	67104035 *	32,4
42,0	40	1 1/4	42,4	32	13,5	KK+s2-2/042-1,2-SK	67102042 *	42,0	20,0	KK+s2-4/042-1,2-SK	67104042 *	27,6
		1 1/2	48,3	40	13,5	KK+s2-2/048-1,2-SK	67102048 *	38,4	20,5	KK+s2-4/048-1,2-SK	67104048 *	19,2
54,0	50		54,0		13,5	KK+s2-2/054-1,2-SK	67102054 *	36,0	21,0	KK+s2-4/054-1,2-SK	67104054 *	19,2
		2	60,3	50	14,0	KK+s2-2/060-1,2-SK	67102060 *	28,8	21,5	KK+s2-4/060-1,2-SK	67104060 *	19,2
76,1	65	2 1/2	76,1	65	14,0	KK+s2-2/076-1,2-SK	67102076 *	27,6	22,0	KK+s2-4/076-1,2-SK	67104076 *	12,0
88,9	80	3	88,9	80	14,5	KK+s2-2/089-1,2-SK	67102089 *	21,6	22,5	KK+s2-4/089-1,2-SK	67104089 *	12,0

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## Kaiflex KK<sub>plus</sub> s2 Tube · uncoated



Colour: Black · Length: 1,2 m

Copper pipe Cu		Iron & steel pipe Fe			KK <sub>plus</sub> 2 Insulation thickness 9,5 - 16,0 mm				KK <sub>plus</sub> 4 Insulation thickness 15,5 - 25,0 mm			
OD mm	Nom width DN	Inch	OD mm	Nom width DN	avg. IT mm	Reference	Order No.	m/ carton	avg. IT mm	Reference	Order No.	m/ carton
18,0	15	3/8	17,2	10	11,5	KK+s2-2/018-1,2	67002018	116,4	17,5	KK+s2-4/018-1,2	67004018	51,6
22,0	20	1/2	21,3	15	12,0	KK+s2-2/022-1,2	67002022	86,4	18,0	KK+s2-4/022-1,2	67004022	51,6
28,0	25	3/4	26,9	20	12,5	KK+s2-2/028-1,2	67002028	58,8	19,0	KK+s2-4/028-1,2	67004028	36,0
35,0	32	1	33,7	25	13,0	KK+s2-2/035-1,2	67002035	50,4	19,5	KK+s2-4/035-1,2	67004035	32,4
42,0	40	1 1/4	42,4	32	13,5	KK+s2-2/042-1,2	67002042	42,0	20,0	KK+s2-4/042-1,2	67004042	28,8
		1 1/2	48,3	40	13,5	KK+s2-2/048-1,2	67002048 *	38,4	20,5	KK+s2-4/048-1,2	67004048	21,6
54,0	50		54,0		13,5	KK+s2-2/054-1,2	67002054	36,0	21,0	KK+s2-4/054-1,2	67004054	19,2
		2	60,3	50	14,0	KK+s2-2/060-1,2	67002060	28,8	21,5	KK+s2-4/060-1,2	67004060	19,2
76,1	65	2 1/2	76,1	65	14,0	KK+s2-2/076-1,2	67002076	27,6	22,0	KK+s2-4/076-1,2	67004076	14,4
88,9	80	3	88,9	80	14,5	KK+s2-2/089-1,2	67002089 *	21,6	22,5	KK+s2-4/089-1,2	67004089	12,0

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## Kaiflex KK<sub>plus</sub> s2 SK Tube · uncoated · self-adhesive · with tangential cut



Colour: Black · Length: 1,2 m

Copper pipe Cu		Iron & steel pipe Fe			KK <sub>plus</sub> 2 Insulation thickness 11,5 - 14,5 mm				KK <sub>plus</sub> 4 Insulation thickness 17,5 - 22,5 mm			
OD mm	Nom width DN	Inch	OD mm	Nom width DN	avg. IT mm	Reference	Order No.	m/ carton	avg. IT mm	Reference	Order No.	m/ carton
18,0	15	3/8	17,2	10	11,5	KK+s2-2/018-1,2-SK	67102018 *	116,4	17,5	KK+s2-4/018-1,2-SK	67104018 *	51,6
22,0	20	1/2	21,3	15	12,0	KK+s2-2/022-1,2-SK	67102022 *	86,4	18,0	KK+s2-4/022-1,2-SK	67104022 *	51,6
28,0	25	3/4	26,9	20	12,5	KK+s2-2/028-1,2-SK	67102028 *	58,8	19,0	KK+s2-4/028-1,2-SK	67104028 *	36,0
35,0	32	1	33,7	25	13,0	KK+s2-2/035-1,2-SK	67102035 *	50,4	19,5	KK+s2-4/035-1,2-SK	67104035 *	32,4
42,0	40	1 1/4	42,4	32	13,5	KK+s2-2/042-1,2-SK	67102042 *	42,0	20,0	KK+s2-4/042-1,2-SK	67104042 *	27,6
		1 1/2	48,3	40	13,5	KK+s2-2/048-1,2-SK	67102048 *	38,4	20,5	KK+s2-4/048-1,2-SK	67104048 *	19,2
54,0	50		54,0		13,5	KK+s2-2/054-1,2-SK	67102054 *	36,0	21,0	KK+s2-4/054-1,2-SK	67104054 *	19,2
		2	60,3	50	14,0	KK+s2-2/060-1,2-SK	67102060 *	28,8	21,5	KK+s2-4/060-1,2-SK	67104060 *	19,2
76,1	65	2 1/2	76,1	65	14,0	KK+s2-2/076-1,2-SK	67102076 *	27,6	22,0	KK+s2-4/076-1,2-SK	67104076 *	12,0
88,9	80	3	88,9	80	14,5	KK+s2-2/089-1,2-SK	67102089 *	21,6	22,5	KK+s2-4/089-1,2-SK	67104089 *	12,0

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## Kaiflex KKplus s2 SK-T Tube · uncoated · self-adhesive · with elastomeric tape overlap



Colour: Black · Length: 1,2 m

Copper pipe Cu		Iron & steel pipe Fe			KKplus 2 Insulation thickness 11,5 - 14,5 mm				KKplus 4 Insulation thickness 17,5 - 22,5 mm			
OD mm	Nom width DN	Inch	OD mm	Nom width DN	avg. IT mm	Reference	Order No.	m/ carton	avg. IT mm	Reference	Order No.	m/ carton
18,0	15	3/8	17,2	10	11,5	KK+s2-2/018-1,2-SK-T	67202018 *	90,0	17,5	KK+s2-4/018-1,2-SK-T	67204018 *	51,6
22,0	20	1/2	21,3	15	12,0	KK+s2-2/022-1,2-SK-T	67202022 *	63,6	18,0	KK+s2-4/022-1,2-SK-T	67204022 *	45,6
28,0	25	3/4	26,9	20	12,5	KK+s2-2/028-1,2-SK-T	67202028 *	56,4	19,0	KK+s2-4/028-1,2-SK-T	67204028 *	36,0
35,0	32	1	33,7	25	13,0	KK+s2-2/035-1,2-SK-T	67202035 *	48,0	19,5	KK+s2-4/035-1,2-SK-T	67204035 *	32,4
42,0	40	1 1/4	42,4	32	13,5	KK+s2-2/042-1,2-SK-T	67202042 *	40,8	20,0	KK+s2-4/042-1,2-SK-T	67204042 *	28,8
		1 1/2	48,3	40	13,5	KK+s2-2/048-1,2-SK-T	67202048 *	38,4	20,5	KK+s2-4/048-1,2-SK-T	67204048 *	24,0
54,0	50		54,0		13,5	KK+s2-2/054-1,2-SK-T	67202054 *	36,0	21,0	KK+s2-4/054-1,2-SK-T	67204054 *	24,0
		2	60,3	50	14,0	KK+s2-2/060-1,2-SK-T	67202060 *	28,8	21,5	KK+s2-4/060-1,2-SK-T	67204060 *	18,0
76,1	65	2 1/2	76,1	65	14,0	KK+s2-2/076-1,2-SK-T	67202076 *	27,6	22,0	KK+s2-4/076-1,2-SK-T	67204076 *	14,4
88,9	80	3	88,9	80	14,5	KK+s2-2/089-1,2-SK-T	67202089 *	21,6	22,5	KK+s2-4/089-1,2-SK-T	67204089 *	14,4

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## Kaiflex KKplus s2 Sheet · uncoated (KaiCene-Technology) · continuous



Colour: Black / Anthracite

Insulation thickness mm	Sheet · continuous 1,2 m width · OD coil: 40 cm · in carton				Sheet · continuous · self-adhesive 1,2 m width · OD coil: 40 cm · in carton			
	Reference	Order No.	rm/ roll	m <sup>2</sup> / roll	Reference	Order No.	rm/ roll	m <sup>2</sup> / roll
6	KK+s2-06-RL40-1,2	97406000 *	18	21,6	KK+s2-06-RL40-1,2-SK	97506000 *	18	21,6
10	KK+s2-10-RL40-1,2	97410000 *	10	12,0	KK+s2-10-RL40-1,2-SK	97510000 *	10	12,0
13	KK+s2-13-RL40-1,2	97413000	8	9,6	KK+s2-13-RL40-1,2-SK	97513000	8	9,6
19	KK+s2-19-RL40-1,2	97419000	6	7,2	KK+s2-19-RL40-1,2-SK	97519000	6	7,2
25	KK+s2-25-RL40-1,2	97425000	4	4,8	KK+s2-25-RL40-1,2-SK	97525000	4	4,8
32	KK+s2-32-RL40-1,2	97432000	3	3,6	KK+s2-32-RL40-1,2-SK	97532000	3	3,6

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## Kaifix PS<sup>plus</sup> s2 Kaiflex R-FORCE pipe support · uncoated



Colour: Black									
Copper pipe Cu	Iron & steel pipe Fe		Maximum support interval m (in acc. with DIN 1988)	KKplus 2 pipe support			KKplus 4 pipe support		
	OD mm	Inch		OD mm	OD mm	Reference	Order No.	OD mm	Reference
18,0	3/8	17,2	2,25	43,0	PS+s2-2/018	28D02018	55,0	PS+s2-4/018	28D04018
22,0	1/2	21,3	2,75	47,0	PS+s2-2/022	28D02022	60,0	PS+s2-4/022	28D04022
28,0	3/4	26,9	3,00	53,0	PS+s2-2/028	28D02028	66,0	PS+s2-4/028	28D04028
35,0	1	33,7	3,50	61,0	PS+s2-2/035	28D02035	74,0	PS+s2-4/035	28D04035
42,0	1 1/4	42,4	3,75	69,0	PS+s2-2/042	28D02042	85,0	PS+s2-4/042	28D04042
		44,5	3,75	76,0	PS+s2-2/048	28D02048 *	91,0	PS+s2-4/048	28D04048
54,0		54,0	4,25	82,0	PS+s2-2/054	28D02054	98,0	PS+s2-4/054	28D04054
	2	60,3	4,75	89,0	PS+s2-2/060	28D02060	105,0	PS+s2-4/060	28D04060
76,1	2 1/2	76,1	5,50	105,0	PS+s2-2/076	28D02076	122,0	PS+s2-4/076	28D04076
88,9	3	88,9	6,00	118,0	PS+s2-2/089	28D02089 *	136,0	PS+s2-4/089	28D04089

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## Kaifix EC<sup>plus</sup> Easy Connect · for Kaiflex KK<sup>plus</sup> s2 tubes



Colour: Black												
Copper pipe Cu		Iron & steel pipe Fe			KKplus 2 Insulation thickness 9,5 - 16,0 mm				KKplus 4 Insulation thickness 15,5 - 25,0 mm			
OD mm	Nom width DN	Inch	OD mm	Nom width DN	avg. IT mm	Reference	Order No.	pcs./ carton	avg. IT mm	Reference	Order No.	pcs./ carton
18,0	15	3/8	17,2	10	11,5	EC+zs-2/018	90802018	97	17,5	EC+zs-4/018	90804018	43
22,0	20	1/2	21,3	15	12,0	EC+zs-2/022	90802022	72	18,0	EC+zs-4/022	90804022	43
28,0	25	3/4	26,9	20	12,5	EC+zs-2/028	90802028	49	19,0	EC+zs-4/028	90804028	30
35,0	32	1	33,7	25	13,0	EC+zs-2/035	90802035	42	19,5	EC+zs-4/035	90804035	27
42,0	40	1 1/4	42,4	32	13,5	EC+zs-2/042	90802042	35	20,0	EC+zs-4/042	90804042	24
		1 1/2	48,3	40	13,5	EC+zs-2/048	90802048 *	32	20,5	EC+zs-4/048	90804048	18
54,0	50		54,0		13,5	EC+zs-2/054	90802054	30	21,0	EC+zs-4/054	90804054	16
		2	60,3	50	14,0	EC+zs-2/060	90802060	24	21,5	EC+zs-4/060	90804060	16
76,1	65	2 1/2	76,1	65	14,0	EC+zs-2/076	90802076	23	22,0	EC+zs-4/076	90804076	12
88,9	80	3	88,9	80	14,5	EC+zs-2/089	90802089 *	18	22,5	EC+zs-4/089	90804089	10

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All values are based on results obtained under typical conditions of use.

Recipient of these technical specifications are to check with Kaimann in advance if given values are meeting the specifications of intended area of application.

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