

K-FLEX ST

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K-FLEX ST is a closed-cell, flexible elastomeric foam use in thermal and acoustic applications. K-FLEX ST is a Factory Mutual Approved, Class “0” fire rating (tested in accordance with BS476 Part 6 & 7), Anti-Microbial, Clean Room Approved Insulation without CFCs, HCFs, HCFCs, Formaldehyde, Green Guard Approved, Singapore Green Mark Approved (GBI) and Fiber free. K-FLEX ST Insulation is also available with pressure sensitive adhesive and aluminium foil for faster installation process.



K-FLEX ST

"K-FLEX is the world's leading manufacturer of elastomeric Insulation systems. In twenty one production facilities around the world, including Poland, France, China, India, Malaysia, Dubai, Egypt, United Kingdom and United States some 6,200 employees develop and manufacture outstanding product solutions for thermal and acoustic Insulation.

K-FLEX is committed to ensuring its products comply with the fire safety and industry-wide safety standards.

K-FLEX has 63 sales offices on five continents, offering premium service to more than 50,000 customers.

As the world's fastest-growing company in the industry, K-FLEX is also a global player in the target markets of building services, refrigeration, air conditioning and ventilation, rail, shipping, automotive and beverage industries as well as the solar industry and OEM businesses.

K-FLEX has ISO 9001 and ISO 14001 certification."

PLANT TIMELINE



K-FLEX ST is a multi purpose flexible elastomeric thermal Insulation with a built-in vapour barrier and a closed cell structure, this make K-FLEX insulation a high resistance to water vapour transmission which in turn enable the material to maintain a high level of energy conservation efficiency.

K-FLEX ST is a dust and fibre free Insulation that make it an ideal product for apartments, commercial buildings, industrial plants, oil & gas industry, marine and offshore applications.

K-FLEX ST is the ideal choice for:

- Refrigeration pipework
- Hot water piping system
- Ducting system
- Large pipe and tanks
- Chilled water piping system
- Drainage system

With 21 plants worldwide, K-FLEX can uniquely provide On-Time Delivery, Consistent Product Quality and a Highly Competitive Price.

ADVANTAGES



Low flame spread

When fire tested K-FLEX ST, it does not generate flaming droplets, and has a low fire propagation index. These combined meet the fire performance requirement of class "0" as defined in Building Regulations. Further guarantee is given by supervision contracts with independent European laboratories.



High water vapour diffusion resistance

K-FLEX ST closed cell elastomeric Insulation has a high water vapour diffusion resistance factor μ , that minimizes water vapour penetration, giving excellent long term performance.



Very low thermal conductivity

K-FLEX ST thermal conductivity is $\lambda 0^\circ\text{C} = 0.032\text{W}/(\text{m}\cdot\text{K})$. The thermal conductivity coefficient is the most important factor in calculation focused on energy saving.



TECHNICAL DATA

Brief description	Flexible elastomeric foam, closed-cell Insulation material
Material type	Nitrile Butadine Rubber
Colour	Black
Assembly	Light weight and flexible. Closed cell structure means no additional vapour barrier is required.

Property	Value/Assessment	Special Remark
Temperature Range	Max. service temperature: +116 °C Min. service temperature: -200 °C	Tested acc.to EN 14706, EN 14707 and EN 14304
Thermal Conductivity	$\lambda \leq 0.034 \text{ W/(m.K)}$ at +20 °C $\lambda \leq 0.032 \text{ W/(m.K)}$ at 0 °C $\lambda \leq 0.028 \text{ W/(m.K)}$ at -50 °C	Tested acc. to DIN EN 12667, EN ISO 8497
Water vapour diffusion resistance	Water vapour diffusion resistance: $\mu \geq 10,000$ Water Absorption: 0.2% by volume	Tested acc. To EN 12086, EN 13469 Test acc to ASTM C 209
Fire performance	Surface Spread of Flames: Class 1 Fire Propagation: Total Index Performance (I) ≤ 12 Sub Index (i1) ≤ 6 Fire Performance: Class 0	Surface Spread of Flame: tested according to BS 476 Part 7:1997 Self-extinguishing, does not drip, does not spread flames Fire Propagation: tested according to BS 476 Part 6:1989
Other Fire Class	FM-approved V0, 5VA Flame spread index (FSI): 25 Smoke develop index (SDI): 30 Ignitability index: 0 Spread of flame index: 0 Heat evolved index: 0 Smoke develop index: 3	Tested acc.to Class No.4924 UL 94 Tested acc. To ASTM E84 Tested acc. To AS/NZS 1530.3 - 1999
Chemical behaviour	Excellent resistance to ozone, oil and chemicals (consult product test list).	
Other certificates	Anti microbial Greenguard Low VOC Singapore Green Building Products Environmental Product Declaration (EPD)	Tested acc. To ASTM G21 Tested acc. To ISO 17025 Tested acc. To ISO 16000 part -3, -6, -9, -11 Approved Verified by UL
Density	48 to 70 kg/m ³	
UV resistance	For UV protection K-FLEX finish paint required	

For temperatures below -50 °C please contact our Customer Service Center to request for the corresponding technical information.

The reaction to fire classification is valid on metal or solid, mineral surfaces.

Further documents such as test certificates, approvals and the like can be requested using the registration number given.

K-FLEX reserves the right to change data and technical requirements without notice.

PIPE INSULATION THICKNESS RECOMMENDATIONS

Conditions	Pipe Size			
	6mm - 28mm	28mm - 60mm	60mm - 114mm	114mm - 168mm
Ambient Temperature: 33°C Medium Temperature: 6°C Relative Humidity 60% 70% 80%	10 mm 19 mm 25 mm	13 mm 19 mm 32 mm	13 mm 19 mm 32 mm	13 mm 25 mm 32 mm
Ambient Temperature: 33°C Medium Temperature: 12°C Relative Humidity 60% 70% 80%	10 mm 13 mm 19 mm	10 mm 13 mm 25 mm	10 mm 19 mm 25 mm	13 mm 19 mm 25 mm
Ambient Temperature: 33°C Medium Temperature: -50°C Relative Humidity 60% 70% 80%	32 mm 50 mm 63 mm	40 mm 50 mm 75 mm	40 mm 60 mm 90 mm	50 mm 60 mm 100 mm

SHEET INSULATION THICKNESS RECOMMENDATIONS

Conditions	Ducts - Tanks - Vessels - Equipment Metal
Ambient Temperature: 33°C Medium Temperature: 6°C Relative Humidity 60% 70% 80%	13 mm 25 mm 40 mm
Ambient Temperature: 33°C Medium Temperature: 12°C Relative Humidity 60% 70% 80%	13 mm 19 mm 32 mm
Ambient Temperature: 33°C Medium Temperature: -50°C Relative Humidity 60% 70% 80%	50 mm 75 mm 125 mm



K-FLEX ST tube is available in 2 meters length. In sheet form, K-FLEX ST is available in roll or pre-cut sheet. All sheet material is available with or without self adhesive and/or self adhesive and aluminium foil.

RANGE ► K-FLEX ST TUBES (2 METRES)

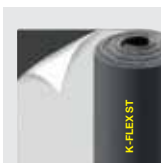
Copper Pipe		Iron Pipe		6 • 1/4"		9 • 3/8"		13 • 1/2"		19 • 3/4"		25 • 1"		32 • 1 • 1/4"		40 • 1 • 1/2"		50 • 2"	
OC Inches	ø OD mm	IPS Inches	ø OD mm	size	pcs/ctn	size	pcs/ctn	size	pcs/ctn	size	pcs/ctn	size	pcs/ctn	size	pcs/ctn	size	pcs/ctn	size	pcs/ctn
1/4"	6					9x6	158	13x6	100	19x6	50	25x6	30						
3/8"	10	1/6"	10.2			9x10	110	13x10	76	19x10	40	25x10	26	32x10	20				
1/2"	13					9x13	100	13x13	64	19x13	36	25x13	25	32x13	16				
5/8"	16	1/4"	13.5	6x16	133	9x16	94	13x16	56	19x16	36	25x16	25	32x16	16	40x16	11		
3/4"	19			6x19	90	9x19	68	13x19	50	19x19	30	25x19	20	32x19	16	40x19	11		
7/8"	22	1/2"	21.3	6x22	90	9x22	64	13x22	49	19x22	30	25x22	19	32x22	12	40x22	9	50x22	6
1"	25			6x25	76	9x25	54	13x25	40	19x25	25	25x25	16	32x25	12	40x25	8	50x25	6
1.1/8"	28	3/4"	26.9	6x28	65	9x28	49	13x28	36	19x28	24	25x28	16	32x28	12	40x28	8	50x28	6
1.1/4"	32					9x32	42	13x32	30	19x32	20	25x32	16	32x32	11				
1.3/8"	35	1"	33.7	6x35	50	9x35	38	13x35	29	19x35	20	25x35	15	32x35	9	40x35	8	50x35	4
1.1/2"	38					9x38	38	13x38	30	19x38	18	25x38	15						
1.1/2"	40					9x40	34	13x40	25	19x40	18								
1.5/8"	42	1.1/4"	42.4	6x42	45	9x42	30	13x42	25	19x42	16	25x42	12	32x42	9	40x42	6	50x42	4
1.7/8"	48	1.1/2"	48.3			9x48	25	13x48	20	19x48	14	25x48	11	32x48	8	40x48	6	50x48	4
2"	51					9x51	24	13x51	20	19x51	12	25x51	10						
2.1/8"	54					9x54	23	13x54	20	19x54	12	25x54	9	32x54	7	40x54	5	50x54	4
2.3/8"	60	2"	60.3			9x60	23	13x60	16	19x60	11	25x60	9	32x60	6	40x60	6	50x60	4
2.5/8"	67					9x67	23	13x67	15	19x67	11	25x67	8	32x67	6	40x67	4	50x67	3
2.7/8"	73													32x73	4	40x73	4	50x73	3
3"	76	2.1/2"	76.1					13x76	15	19x76	9	25x76	6	32x76	4	40x76	4		
3.1/2"	89	3"	88.9					13x89	12	19x89	9	25x89	6	32x89	4	40x89	4	50x89	3
4"	100							13x100	8	19x100	7								
4.1/2"	114	4"	114.3					13x114	12			25x114	4	32x114	3	40x114	3	50x114	3
5.1/2"	140	5"	139.8															50x140	2
6.5/8"	168	6"	165.2															50x168	2

RANGE ► K-FLEX ST SHEET IN ROLLS

Type	Thickness		Sheet 1.14 metre wide	
	mm	inches	format	m ² /box
PL/RO 06	6	1/4"	30 x 1.14	34.20
PL/RO 10	10	3/8"	20 x 1.14	22.80
PL/RO 13	13	1/2"	14 x 1.14	15.96
PL/RO 16*	16	5/8"	12 x 1.14	13.68
PL/RO 19	19	3/4"	10 x 1.14	11.40
PL/RO 25	25	1"	8 x 1.14	9.12
PL/RO 32	32	1.1/4"	6 x 1.14	6.84
PL/RO 40	40	1.1/2"	4 x 1.14	4.56
PL/RO 50	50	2"	4 x 1.14	4.56

* 16mm only available upon received Purchase Order from customer.

* 1.22m width will be available upon request.



Self adhesive available in all sizes.

PACKAGING ►

K-FLEX ST TUBES AND SHEETS

K-FLEX ST Tubes



Measurements:
2.1m x 0.394m x 0.32m

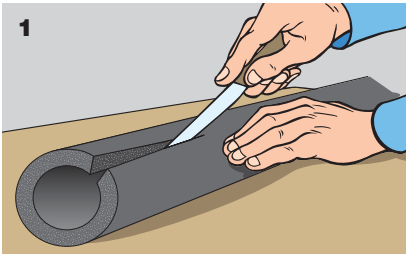


K-FLEX ST Sheets

Polyethylene bags
The bags allows for outdoor storage during the sorting stage.

Measurements:
0.5m x 1.23m

INSTALLATION ► FITTED PIPES

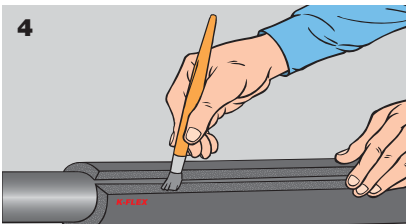
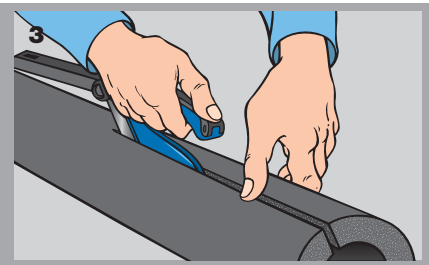


Use only the sharpest knife for cutting - this makes the subsequent glueing far easier.

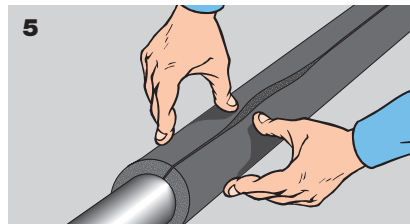
We recommend using the K-FLEX cutter which is ideal for longitudinal cuts.



The use of the cutter is illustrated in these two diagrams. Let the blade run along the tube without the tool's surfaces touching it to get a neat, clean cut.

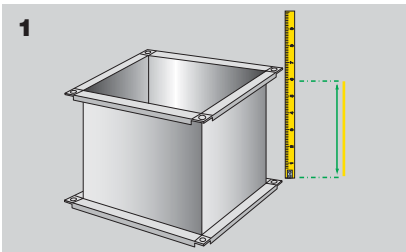


Position the tube so that the edges are separated, and apply an even layer of K-FLEX K-414 glue.



Once the glue has dried, reseal the tube, pressing the edges firmly together.

INSTALLATION ► INSULATION DUCTINGS

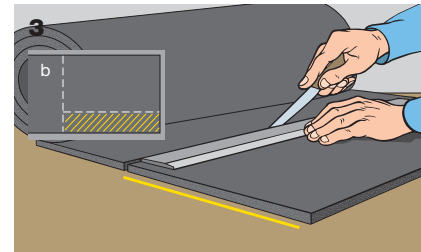


There are considerable advantages in using K-FLEX ST ROLL SHEET for ducting, which has the same height as the sheeting.

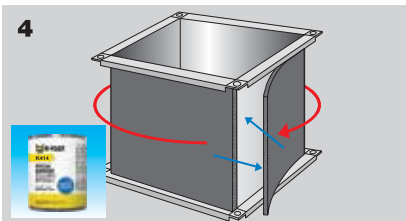
Take the measurements of the ducting section to be lagged.



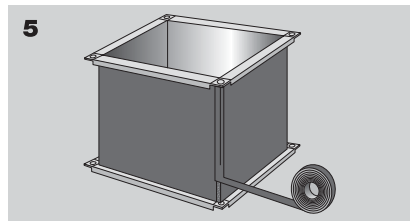
Use thinner to thoroughly clean the surface to be insulated. Insulation is not recommended where there is incrustation or other flaws which could prevent the sheeting from sticking perfectly.



Cut the corresponding portion out of the roll. There is an obvious saving in material by cutting the sheeting along its height (a) rather than along the length of the 1000 mm sheeting (b).



Glue the side of the sheeting to be stuck to the conduit and glue the conduit surface, then apply the sheeting, keeping it taut at the corners.



Cover the corner where the edges join with adhesive insulating tape. Compared to a similar operation carried out with 1000 mm sheeting, as well as the saving in material, there has only been one cut in the application.

PROJECT ► MALAYSIA

Hospital Putrajaya
Boston Scientific
Osram @ Kulim
IKEA Penang
Nation Cate
Hospital Cyberjaya
Central World @ I-City
Sandisk
Celestica Johor Bahru
Celestica Penang
Jabil Penang
Micron @ BT Kawan
Intel KM1
Keppel Factory
Hospital Tanjung Karang

PROJECT ► THAILAND

Mahanakhon Tower
Marriott Surawong
Palladium Hotel
Maya Chiangmai
Central Embassy Chiangmai
Promenada Chiangmai
Four Wing Grand Hotel
Dusit Hotel
Four Point Hotel
Best Western Hotel
Holiday Inn Hotel
Vana Belle Hotel
Paradise Park
The Nine Community Mall
The Walk



PROJECT ► INDONESIA

Akmani Hotel, Legian – Bali
All Season Hotel – Nusa Dua, Bali
Pullman Hotel, Central Park – Jakarta
Cavington Hotel – Jogya
Novotel Hotel – Tangerang
Sol Marina Hotel – Serpong
Mercure Hotel – Surabaya
Pakubuwono The View Apartment – Jakarta
Coca-Cola Factory – Surabaya
Australia Embassy Office – Jakarta
Istana Presiden Bogor
The East Office – Jakarta
Wisma Soho Office – Jakarta
The Peak Apartment – Jakarta
XXL Cinema All Outlet – Indonesia

PROJECT ► SINGAPORE

Changi Water Reclamation Plant
Marina Band Sands
Norvatis Plant @ Tuas
Glory
Rio Casa Condominium
Mayflower Primary School
Biopolis Centre
NUS Laboratory
UMCi @ Pasir Ris
Sony A&A
40 Gul Circle
St Joseph Institution International School
Crystal Plant @ Jurong Island
Singapore General Hospital
Sime Darby Centre

PROJECT ► VIETNAM

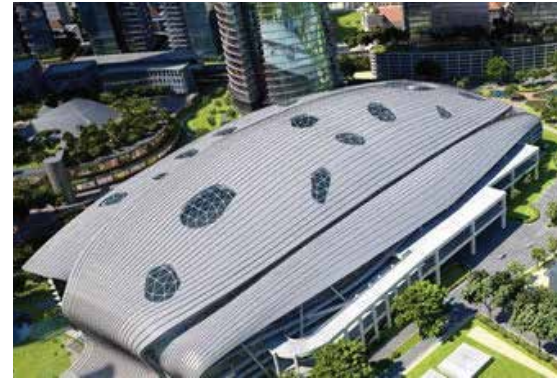
First Solar Factory
Nipro
DenEast Milk
Pepsico Suntory Factory
Cai Lan International Container Terminal
Intel
Olympus
Marigot Vietnam
Lotte Centre Ha Noi
Hyatt Regency Apartment
Hue Hospital
Intercontinental Resort and Spa
Bitexco Financial Center
Hilton Saigon Hotel
JW Marriott

PROJECT ► CAMBODIA

Cho Ray Phnom Penh Hospital
Almond Hotel
Olypia City
Calmette Hospital
City Tower
The Bridge Showroom
Toyoko Inn Hotel
Thai Villiage Restaurant
Cazameridian Twin Tower
Era Phnom Penh Hotel
Era Siem Reap Hotel
Tela Gase Station Head Office
Mazda Showroom
Marriott Hotel
The Parkland

PROJECT ► PHILIPPINES

Filinvest Plaza E
BPO-Araneta
Winford Hotel
Citadine
Northgate DCS
Circuit BPO
Texas Instruments
Novotel Aqua
World Commerce Place
Palawan International Airport
Robinson's Naga
National Musuem – Philippines
81 Newport
Studio A
Batasan Congress



ACCESSORIES

SELF ADHESIVE FOAM TAPES



PIPE SUPPORT



K 414 GLUE

