

# K-FLEX ST



K-FLEX ST is closed cell, flexible elastomeric foam use in thermal and acoustic applications. K-FLEX ST is a Factory Mutual Approved, Class "0" fire rating (based on 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 an Italian manufacturing company specialised in the production of thermal and acoustic flexible elastomeric insulation materials.

K-FLEX is an example of a successful Italian company that has established itself worldwide. The company is present in 60 countries, with production facilities in all continents and more than 2,000 employees. In addition, the company has commercial distribution branches, located all over the world, for the efficient and effective global distribution process of its products.

The original manufacturing plant, located in Roncello (Italy), was founded in 1989 and today it is the largest in the world for the production of elastomeric insulation.



#### K-FLEX > ST

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

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

#### TECHNICAL DATA > K-FLEX ST

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	$\lambda \leq 0.034$ W/(m.K) at +20 °C $\lambda \leq 0.032$ W/(m.K) at 0 °C $\lambda \leq 0.028$ W/(m.K) at -50 °C	Tested according to DIN EN 12667, EN ISO 8497
Water vapour diffusion resistance	Water vapour diffusion resistance: $\mu \ge 10,000$ 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) $\leq$ 12 Sub Index (i1) $\leq$ 6 Fire Performance: Class 0	Surface Spead 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).	
UV resistance	For UV protection K-FLEX finish paint required	
Acoustic Insertion Loss	35 dB	
Other certificates	Anti microbial Clean room - contamination class "A" Greenguard Singapore Green Building Products Low VOC	Tested acc. To ASTM G21 Tested acc. To ASTM F51-00 Tested acc. To ISO 17025 Approved Tested acc. To ISO 16000 part -3, -6, -9, -11

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.

### K-FLEX ST ▶ Pipe Insulation Thickness Recommendations K-FLEX ST ▶ Sheet Insulation Thickness Recommendations

		Pipe	Size			Posts Tarks Vessels Equipment Metal	
Conditions	6mm – 28mm	Jillill Zollilli		114mm - 168mm	Conditions	Ducts - Tanks - Vessels - Equipment Me	
Ambient Temperature: 33°C Medium Temperature: 6°C Relative Humidity 60% 70% 80%	10 mm 19 mm 25 mm	19 mm	13 mm 19 mm 32 mm	25 mm	Ambient Temperature: 33°C Medium Temperature: 6°C Relative Humidity 60% 70% 80%		
Ambient Temperature: 33°C Medium Temperature: 12°C Relative Humidity 60% 70% 80%		13 mm	10 mm 19 mm 25 mm	19 mm	Ambient Temperature: 33°C Medium Temperature: 12°C Relative Humidity 60% 70% 80%		
Ambient Temperature: 33°C Medium Temperature: -50°C Relative Humidity 60% 70% 80%	50 mm	40 mm 50 mm 75 mm	60 mm	50 mm 60 mm 100 mm	Ambient Temperature: 33°C Medium Temperature: -50°C Relative Humidity 60% 70% 80%	50 mm	

#### K-FLEX > ST



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)

Coppe	r 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	LPS Inches	ø OD mm	size	m/box	size	m/box	size	m/box	size	m/box	size	m/box	size	m/box	size	m/box	size	m/box
1/4"	6					9x6	288	13x6	160	19x6	100								
3/8"	10	1/6"	10.2			9x10	240	13x10	152	19x10	80	25x10	60						
1/2"	12					9x13	180	13x13	128	19x13	72	25x13	50						
5/8"	15	1/4"	13.5	6x16	266	9x16	168	13x16	112	19x16	60	25x16	50						
3/4"	20			6x19	180	9x19	136	13x19	104	19x19	60	25x19	40	32x19	32				
7/8"	22	1/2"	21.3	6x22	180	9x22	128	13x22	98	19x22	60	25x22	38	32x22	24	40x22	18	50x22	12
1"	25			6x25	152	9x25	108	13x25	80	19x25	50	25x25	40	32x25	24	40x25	16	50x25	10
1•1/8"	28	3/4"	26.9	6x28	130	9x28	98	13x28	78	19x28	48	25x28	32	32x28	24	40x28	16	50x28	10
1.3/8"	35	1"	33.7	6x35	100	9x35	76	13x35	58	19x35	36	25x35	24	32x35	18	40x35	16	50x35	8
1.5/8"	42	1.1/4"	42.4	6x42	, 90	9x42	60	13x42	48	19x42	32	25x42	22	32x42	16	40x42	12	50x42	8
1.7/8"	48	1.1/2"	48.3			9x48	50	13x48	40	19x48	24	25x48	18	32x48	14	40x48	10	50x48	8
2•1/8"	54					9x54	46	13x54	34	19x54	24	25x54	18	32x54	14	40x54	10	50x54	8
2•3/8"	60	2"	60.3			9x60	46	13x60	32	19x60	22	25x60	18	32x60	10	40x60	8	50x60	8
3"	76	2•1/2"	76.1			9x76	40	13x76	26	19x76	18	25x76	10	32x76	8	40x76	8	50x76	6
3•1/2"	89	3"	88.9			9x89	36	13x89	24	19x89	14	25x89	8	32x89	8	40x89	8	50x89	6
4•1/2"	114	4"	114.3			9x114	22	13x114	18	19x114	12	25x114	6	32x114	6	40x114	6	50x114	6
		5"	139.8													40x140	) 4	50x140	4
		6"	165.2													40x168	3 4	50x168	4

#### RANGE > K-FLEX ST SHEET IN ROLLS

	Thic	kness	Sheet 1.14 metre wide			
Туре	mm	inches	format	m²/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		





Self adhesive sheets 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



<sup>\*16</sup>mm only available upon received Purchase Order from customer.

#### **INSTALLATION** > FITTED PIPES

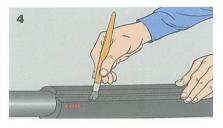


Use only the sharpest knife for cutting - this makes the subsequent glueing far easier.

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.

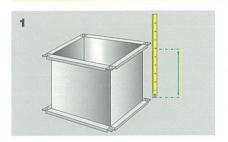


Position the tube so that the edges are separated, and apply an even layer of K-FLEX K-996 glue.



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

#### **INSTALLATION** INSULATION DUCTINGS

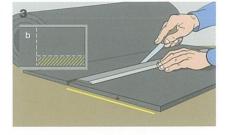


There are considerable advantages in using K-FLEX ST ROLL SHEET for ducting, which has the same height as the sheeting.

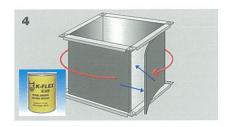
Take the measurements of the ducting section to be lagged.



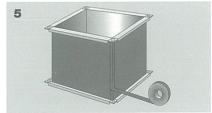
Use K-FLEX thinner to thoroughly clean the surface to be insulated. Insulation is not recommended where there is incrustation or other flaws which could prevent the sheeting from sticking perfectly.



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.



#### K-FLEX > ST



#### PROJECT MALAYSIA

D&Y Textile(M), Johor Kaifa Technology, Johor First Solar Robert Bosch Scandisk Infineon Kulim Haemonetics B.Braun Finisar Corporation Sunpower Alor Gajah Biocon Biocon Hersey Chocolate Seagate JB Platinum Face, Jln Sultan Ismail The Leafz, Off Jln Sg. Besi JAKIM A,B,C,D, Putrajaya 2C10 Putrajaya 4G5 Putrajaya DBKL Tower, KL Eco City Sky88 The Puteri Cove Residence, Puteri Harbour Green Haven, JB D' Summit, JB Paradigm Johor Four Season, KL Uptown Residences, D'sara Uptown Cherish Springs Condo & Hotel, Jaya 33 Damansara Foresta, Sri D'sara Glomac Damansara Damansara Foresta, Sri D'sara Glomac Damansara Le Nouvel, KLCC Regina, USJ 1
The Centina, Jln Sg Besi Beremi Hotel, Jln Bellamy, KL Dijaya, Tropez Danga Bay, JB UiTM Puncak Alam One Amerin, Balakong Pangaea, Cyberjaya Tabung Haji Sepang One South, Serdang Perdana Pusara, Putrajaya M-City, Jln Ampang Top Glove HQ @Setia Alam Country Garden, JB Forest City, JB Schlumberger, Labuan Parcel F, Putrajaya IIUM, Medical Campus, Kuantan KL Metropolis, Matrade Vogue Suites, KL Eco City CPI Avantas, Old Klang Road Sierramas Height Condo, Three28 Residence, Jln Tun Razak Public Mutual HQ Public Mutual HQ JKG Tower D'Centrum, Uniten MAHSA University, Putra Permai VINA SOHO, Cheras IKEA Cheras Cristal Residence, Cyberjaya Verde, Ara Damansara Continental City, Glenmarie First Lady Apparrels Lembaga Koko Malaysia ACORIS,MK 20 Glomac Centro Reflection Damansara IPKB, Setia Alam Teega Residence, Puteri Harbour Vortex, Jln Sultan Ismail The Park Residences,Bangsar South 3Towers, Jln Ampang Arcadia, Desa Parkcity Bangi Hospital
Berjaya Central Park Tower 1 & 2
GM Klang
Vertical Tower, Bangsar South
Tropicana International School The Robertson Parliament House Residence 22, Mon't Kiara



#### PROJECT > THAILAND

MahaNakhon Tower Marriott Surawong Palladium Hotel Maya Chiangmai Central Embassy Chiangmai Promenada Changma 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 Fashion Island Mega Play Merry King Rungsit Western Digital Canon Korat Toshiba Factory Seagate Korat Ichitan Factory Doubla A Factory Nikon Factory Ajinomoto Factory Nidec Copel Asahi Factory Ducati Factory New Tobacco Factory Sukhothai King Palace Royal Gems Thammasat University IDEO Mobi Mega Home Noble Ploenjit
Noble Revolve Ratchada
Harbor Mall Laemcgabang
Index Living Mall The Garden Night Latgrabang Alucon Factory Chapter One The Campus Fabinet Factory Egat krontoy Choroom Dukit ramintar Royal Paragon Phuket G-Land Tower Bang - Bangkok CDC Ares pattaya Pockperti Khaoyai FYI HOTEL FYI CENTER (OFFICE) Park 24 Condominum Rosewood Hotel @Kampuchea Rattanathibet Park Siamese@ Sukhumvit 31 Siamese Blossom@ Ramintra
Than Living Condo @Bangbuathong
Than Living Condo @Sathorn-charoenraj
Wish Signature Condo @Siam Bluport Celeste Condo (Khao Tao Bay View Resort) Terminal 21 @ Korat Pearl Bangkok 25 Fl (Pruksa Head Office)
Maya Theatre @Pattaya
Issard Collection @Sathorn Arcadia Beach @Chonburi Nitta project Extension Factory @ Amata, Rayong Hemaraj Industrial Estate @ Rayong

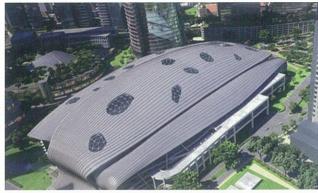
Mal Ton Residence 31 @Sukhumvit 63



#### 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 Apartement - Jakarta Coca-Cola Factory - Surabaya Australia Embassy Office - Jakarta Istana Presiden Bogor The East Office - Jakarta
Wisma Soho Office - Jakarta
The Peak Apartement - Jakarta
XXI Cinema All Outlet - Indonesia Darya Varia Laboratories Factory - Cileungsi Indo-Bharat Rayon Factory - Purwakarta Indolakto Factory - Sukabumi Sanbe Farma Factory - Bandung Uniplast Factory - Cikarang Central Park Office Tower - Jakarta Mall Paris Van Java - Bandung Schering Pharmaceutical - Pandaan, Surabaya Bank Indonesia (Bi) - Lampung
Mall & Office Tower Kota Kasablanka - Jakarta Plaza Indonesia Extention - Jakarta Theme Park Trans Studio - Bandung Konimex Pharmaceutical - Solo Kraft Foods Factory - Cikarang Pt Krakatau Steel - Cilegon Apartemen Kencana Pondok Indah - Jakarta Aiport Bajo - Nusa Tenggara Timur Jotun Factory - Cibitung
Nutrifood Factory - Cikarang
Reckitt Beckinser (Detol) Factory - Bekasi Unilever Factory - Cikarang Rs Pertamina - Sentul Data Center Cbn Cyber Office - Jakarta Kantor Kementrian Pemberdayaan Perempuan & Anak - Jakarta Arian - Jakarta Schlumberger Workshop And Office - Bekasi Apartement Ambasador - St Moritz - Jakarta Apartement Presidential Puri Kembangan -Capitol Apartement - Jakarta Sumarecon Mall - Bekasi Bayer Healthcare Indonesia Factory - Cibinong B-Braun Medical Factory - Cikampek Fahrenheith Factory - Tangerang Frisian Flag Factory - Jakarta Hankook Tire Factory - Cikarang Fave Hotel - Papua Nugini
Alfa Head Quarter Alam Sutra - Tangerang
Informedia Office - Bandung
Maxx Box Mall - Tangerang Glaxo Parmaceutical Factory - Pulo Gadung Hotel Swiss - Bel Legian Bali Menara Danamon Kuningan - Jakarta Hotel Radison - Bali
Tempo Scan Pacific - Cikarang
Sinde Budi Sentosa Tambun Bekasi
Toyota Training Center Lotte Factory - Cibitung Nittsu Shoji - Kerawang Sano Gratia Pharmaceutical - Cikarang Mahakam Beta Farma (Mbf) Factory, Pulogadung - Jakarta Kawan Lama Sejahtera Office - Jakarta Mid Town Signature - Summarecon Serpong Tangerang Tanto Line Office - Tj Periok Jakarta





#### PROJECT > SINGAPORE

Changi Water Reclaimation Plant NUS Laboratory AMD Singapore Biopolis Centre Glaxo Wellcome Pharmaceutical (GSK) Norvatis Plant @ Tuas Crystal Plant @ Jurong Island Singapore General Hospital P&G @ Biopolis Sony A&A Abbott Pharmaceuticals Wyeth Pharmaceuticals Schering Plough Corporation UMCi @ Pasir Ris 3M @ Gambas Ave Philips SSMC Wafer Fab Seagate @ Woodlands Siemens Semiconductors Plant Hewlett Packard Changi Store Hub Bugis Junction Comcentre 3 HDB Hub @Toa Payoh Marina Bay Sand New Cathay Building Nanyang Polytechnic Teck Ghee Community Club Global Switch @ Tai Seng IMM extension Kranji Turf Club DHL Head Office **UE** Square Singapore American School Bukit Timah Cold Storage City Sqaure Mall Hitachi Tower Ministry of Manpower Japanese School @ Changi Campus Junction Nine @ Yishun Junction Nine @ Yishun High Park Residence @ Seng Kang Cabana @ Yio Chu Kang Double Bay @ Simei Tampines Central 8 (DBSS) Twin Fountains @ Woodland Sentosa Cove Apartment Lincoln Suites Condo Cote D'Azur Condo Caspian Condo @lakeside Cusaden Condo Skyline @Telok Blangah High Oak Condo Latitude Condo @ Jalan Mutiara Rain Forest Condo Austville Condo @ Seng Kang

Light Condo @ Cairhill

#### PROJECT > PHILIPPINES

Texas Instrument
Sunpower Fab 2 & Fab 4 Factory
United Pulp and Paper Manufacturing Plant
Marina Bay Resort
BPO Araneta Call Center
Cebu Airport Terminal
Palawan Airport Terminal
Metro North Call Center
Conrad Hotel
Festival Shopping Mall
MBR Hotel & Casino
National Museum of Natural History
Cebu Hotel
SMDC-New Port

#### 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
DFS
CMED

#### PROJECT > VIETNAM

Robert Borsch Factory Dona Food Wear Standard Vietnam Factory PNJ Factory Pepsi Cola Factory First Solar Factory LPG Thi Vai Factory TCIE Da Nang Factory DKSH Factory CICt Cai Lan Port Lao Coffee Factory City Garden Apartment Hyatt Regency Apartment Crown Plaza Hotel Times Square Hue Hospital Russia Embassy Big C Supermarket ICON 4 Complex British Vietnam International School An Giang Television Minh Viet Building Cotec Office Building Sai Gon Pavillon Intercontinental Resort & Spa @ Da Nang Bitexco Financial Centre





#### ACCESSORIES > K-FLEX ST

SELF ADHESIVE FOAM TAPES

PIPE SUPPORT

K 996 GLUE

ALUMINIUM TAPE







