



Synthetic rubber for secure protection against the formation of condensation

Applications:



Cooling engineering, heating systems, ventilation and indoor climate engineering

- Secure and efficient insulation
- Extremely flexible
- A low level of thermal conductivity combined with a high μ value

Product description

FIROFLEX IP is a black flexible insulation material based on synthetic rubber. Through its high level of water vapour diffusion resistance, FIROFLEX IP prevents condensation from developing. In addition, its low level of thermal conductivity makes this material an economical solution with regards to efficient energy saving measures within the areas of cooling, sanitary ware and heating.

Technical data

Materials prEN 14304	Foamed plastic based on synthetic rubber: Flexible Elastomeric Foam (FEF)																													
Description and areas of application	A very flexible closed-cell insulation material featuring a low level of thermal conductivity and a high level of water vapour diffusion resistance. Used for insulation of pipes in cooling/indoor climate and process technical facilities for the purpose of saving energy and preventing the formation of thawed water.																													
Application temperatures prEN 14304	-50 °C – +105 °C (surface and binders + 85 °C) Please contact our customer service department for further information on how to deal with temperatures below -50 °C.																													
Thermal conductivity λ W/(m•K) based on various mean temperatures (°C)	-10	± 0	+10																											
	0,033	0,034	0,035																											
Water vapour diffusion resistance μ	≥ 10.000																													
																														
Fire behaviour DIN EN 13501	Tube: low flammability (B ₁ – s3, d0) DIN EN 13823 Z-56.269-3515 Sheet: low flammability (B – s3, d0) DIN EN 13823 Z-56.269-3518 (self-extinguishing, does not drip, does not spread flames)																													
Avoid corrosion damages	This product fulfils all requirements listed in DIN 1988, section 7 (inspected by MPA—Stuttgart, Germany)																													
Storage	Self-adhesive binders	1 year																												
	Self-adhesive paper rolls	1 year																												
Production	CFC-free, HCFC-free, formaldehyde-free and cadmium-free																													
Carton size	<table border="1"> <thead> <tr> <th>Carton description</th> <th>Width / mm</th> <th>Length / mm</th> <th>Height / mm</th> <th>m³</th> </tr> </thead> <tbody> <tr> <td>FIROFLEX IP Hose 2 m</td> <td>2110</td> <td>400</td> <td>325</td> <td>0,27</td> </tr> <tr> <td>FIROFLEX IP Hose reel</td> <td>500</td> <td>500</td> <td>300</td> <td>0,08</td> </tr> <tr> <td>FIROFLEX IP Paper rolls / self-adhesive paper rolls</td> <td>485</td> <td>485</td> <td>1085</td> <td>0,26</td> </tr> <tr> <td>FIROFLEX IP Adhesive tape</td> <td>570</td> <td>310</td> <td>325</td> <td>0,06</td> </tr> </tbody> </table>					Carton description	Width / mm	Length / mm	Height / mm	m ³	FIROFLEX IP Hose 2 m	2110	400	325	0,27	FIROFLEX IP Hose reel	500	500	300	0,08	FIROFLEX IP Paper rolls / self-adhesive paper rolls	485	485	1085	0,26	FIROFLEX IP Adhesive tape	570	310	325	0,06
Carton description	Width / mm	Length / mm	Height / mm	m ³																										
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*Version: March 16th 2009 for FIROFLEX CC hose materials
 All technical information and descriptions are valid as of May 2009.
 Updated information is available at www.firo-gmbh.com.

FIROFLEX® IP Tubes

Low flammability | Length: 2.0 m | Colour: black



Copper pipes Cu	Steel pipes Fe			Inner Ø min/max mm	Insulation thickness (IT): 6 mm			Insulation thickness (IT): 9 mm			
	Outer Ø mm	Inch	Outer Ø mm		Nominal width DN	Dimension	m / box	€ / m	Dimension	m / box	€ / m
6			6		7,0 - 8,5	6 x 6	496	1,23	9 x 6	352	1,43
8			8		9,0 - 10,5	6 x 8	432	1,27	9 x 8	300	1,46
10	1/8		10,2	6	11,0 - 12,5	6 x 10	364	1,34	9 x 10	266	1,54
12			12		13,0 - 14,5	6 x 12	316	1,36	9 x 12	234	1,64
15	1/4		13,5	8	16,0 - 17,5	6 x 15	266	1,53	9 x 15	192	1,69
18	3/8		17,2	10	19,0 - 20,5	6 x 18	210	1,64	9 x 18	166	1,80
22	1/2		21,3	15	23,0 - 24,5	6 x 22	166	1,71	9 x 22	136	2,00
25			25		26,0 - 27,5	6 x 25	140	1,78	9 x 25	108	2,17
28	3/4		26,9	20	29,0 - 30,5	6 x 28	120	1,91	9 x 28	98	2,28
			30		31,0 - 33,0	6 x 30 •	112	2,01	9 x 30 •	92	2,37
35	1		33,7	25	36,0 - 38,0	6 x 35	92	2,14	9 x 35	76	2,51
			38		39,0 - 41,0				9 x 38 •	66	2,67
42	1 1/4		42,4	32	43,5 - 45,5				9 x 42	60	2,91
			44,5		46,0 - 47,5				9 x 45 •	56	3,15
	1 1/2		48,3	40	49,5 - 51,5				9 x 48	50	3,35
54			54		55,0 - 57,0				9 x 54	46	3,98
			57		58,0 - 60,0				9 x 57 •	42	4,36
	2		60,3	50	61,5 - 63,5				9 x 60	36	4,93
64			63,5		65,0 - 67,5				9 x 64	34	5,44
70			70		71,0 - 73,5				9 x 70 •	32	5,98
76,1	2 1/2		76,1	65	77,0 - 79,5				9 x 76	30	6,51
80					81,0 - 84,0				9 x 80	30	7,18
88,9	3		88,9	80	90,5 - 93,5				9 x 89	30	7,96
			101,6		105,0 - 108,0				9 x 102 •	16	10,99
108					109,5 - 113,0				9 x 108 •	16	11,99
	4		114,3	100	116,0 - 120,0				9 x 114	16	12,93
			125		127,0 - 131,0				9 x 125 •	12	16,68
133					135,0 - 139,0				9 x 133 •	12	17,81
	5		139,7	125	142,0 - 146,0				9 x 140 •	12	18,14
159					162,0 - 167,0				9 x 160	12	20,64

Thickness tolerance ± 1,0 mm Thickness of insulation 6 mm ± 1,5 mm Thickness of insulation 9 mm

Length tolerance ± 1,5 %

Production of shorter products For hose materials, up to 10% of the box content may be ordered at 1 m length. For box contents of less than 20 m, a 2 m long hose may be substituted by two hoses of 1 m each.

Slit hoses Thickness of insulation 6 mm and 9 mm 0.30 € / m

• Delivery time is determined on an individual basis

FIROFLEX® IP Tubes



Low flammability | Length: 2.0 m | Colour: black

Copper pipes Cu	Steel pipes Fe			Inner Ø min/max mm	Insulation thickness (IT): 13 mm			Insulation thickness (IT): 19 mm			
	Outer Ø mm	Inch	Outer Ø mm		Nominal width DN	Dimension	m / box	€ / m	Dimension	m / box	€ / m
6			6		7,0 - 8,5	13 x 6	222	1,76			
8			8		9,0 - 10,5	13 x 8	210	1,91			
10	1/8		10,2	6	11,0 - 12,5	13 x 10	172	2,07	19 x 10	98	3,49
12			12		13,0 - 14,5	13 x 12	162	2,17	19 x 12	88	3,76
15	1/4		13,5	8	16,0 - 17,5	13 x 15	136	2,42	19 x 15	78	4,55
18	3/8		17,2	10	19,0 - 20,5	13 x 18	118	2,67	19 x 18	72	4,66
22	1/2		21,3	15	23,0 - 24,5	13 x 22	98	2,93	19 x 22	64	5,26
25			25		26,0 - 27,5	13 x 25	80	3,03	19 x 25	50	6,26
28	3/4		26,9	20	29,0 - 30,5	13 x 28	78	3,15	19 x 28	48	6,41
			30		31,0 - 33,0	13 x 30	72	3,40	19 x 30	42	6,62
35	1		33,7	25	36,0 - 38,0	13 x 35	60	3,80	19 x 35	36	7,39
			38		39,0 - 41,0						
42	1 1/4		42,4	32	43,5 - 45,5	13 x 42	48	4,24	19 x 42	32	8,25
			44,5		46,0 - 47,5	13 x 45 •	44	4,87	19 x 45 •	28	9,25
	1 1/2		48,3	40	49,5 - 51,5	13 x 48	40	5,11	19 x 48	24	10,12
54			54		55,0 - 57,0	13 x 54	34	6,15	19 x 54	24	11,48
			57		58,0 - 60,0	13 x 57	32	6,47	19 x 57	22	12,55
	2		60,3	50	61,5 - 63,5	13 x 60	32	6,80	19 x 60	18	12,88
64			63,5		65,0 - 67,5	13 x 64	30	7,06	19 x 64	18	13,51
70			70		71,0 - 73,5	13 x 70 •	24	7,93	19 x 70	18	14,75
76,1	2 1/2		76,1	65	77,0 - 79,5	13 x 76	22	8,38	19 x 76	12	15,82
80					81,0 - 84,0	13 x 80 •	20	9,25	19 x 80 •	12	16,94
88,9	3		88,9	80	90,5 - 93,5	13 x 89	20	10,15	19 x 89	12	17,32
			101,6		105,0 - 108,0	13 x 102 •	16	13,27	19 x 102	12	22,78
108					109,5 - 113,0	13 x 108	16	14,41	19 x 108	10	24,34
	4		114,3	100	116,0 - 120,0	13 x 114	16	15,97	19 x 114	10	25,54
			125		127,0 - 131,0	13 x 125 •	12	19,64	19 x 125	10	28,32
133					135,0 - 139,0	13 x 133 •	12	20,82	19 x 133	8	29,62
	5		139,7	125	142,0 - 146,0	13 x 140 •	12	21,21	19 x 140	6	31,19
159					162,0 - 167,0	13 x 160	12	24,72	19 x 160	6	36,47

Thickness tolerance	± 1,5 mm	Thickness of insulation 13 mm	± 2,5 mm	Thickness of insulation 19 mm
Length tolerance	± 1,5 %			
Production of shorter products	For hose materials, up to 10% of the box content may be ordered at 1 m length. For box contents of less than 20 m, a 2 m long hose may be substituted by two hoses of 1 m each.			
Slit hoses	Thickness of insulation 13 mm and 19 mm 0.40 € / m			
• Delivery time is determined on an individual basis				

FIROFLEX® IP Tubes

Low flammability | Length: 2.0 m | Colour: black



Copper pipes Cu	Steel pipes Fe			Inner Ø min/max mm	Insulation thickness (IT): 25 mm			Insulation thickness (IT): 32 mm			
	Outer Ø mm	Inch	Outer Ø mm		Nominal width DN	Dimension	m / box	€ / m	Dimension	m / box	€ / m
6			6		7,0 - 8,5						
8			8		9,0 - 10,5						
10	1/8		10,2	6	11,0 - 12,5						
12			12		13,0 - 14,5				32 x 12	32	8,08
15	1/4		13,5	8	16,0 - 17,5				32 x 15	32	9,02
18	3/8		17,2	10	19,0 - 20,5	25 x 18	42	6,82	32 x 18	32	9,44
22	1/2		21,3	15	23,0 - 24,5	25 x 22	42	7,26	32 x 22	26	10,04
25			25		26,0 - 27,5						
28	3/4		26,9	20	29,0 - 30,5	25 x 28	40	8,54	32 x 28	24	11,26
			30		31,0 - 33,0						
35	1		33,7	25	36,0 - 38,0	25 x 35	24	9,30	32 x 35	22	13,82
			38		39,0 - 41,0						
42	1 1/4		42,4	32	43,5 - 45,5	25 x 42	22	11,72	32 x 42	16	15,89
			44,5		46,0 - 47,5						
	1 1/2		48,3	40	49,5 - 51,5	25 x 48	18	13,75	32 x 48	14	17,44
54			54		55,0 - 57,0	25 x 54	16	15,50	32 x 54	12	20,17
			57		58,0 - 60,0				32 x 57	12	21,11
	2		60,3	50	61,5 - 63,5	25 x 60	12	16,96	32 x 60	10	21,70
64			63,5		65,0 - 67,5	25 x 64	12	17,74	32 x 64	10	22,81
70			70		71,0 - 73,5	25 x 70	12	18,50	32 x 70	8	24,80
76,1	2 1/2		76,1	65	77,0 - 79,5	25 x 76	10	19,91	32 x 76	8	26,49
80					81,0 - 84,0				32 x 80 •	8	27,92
88,9	3		88,9	80	90,5 - 93,5	25 x 89	8	22,18	32 x 89	8	29,05
			101,6		105,0 - 108,0				32 x 102 •	6	33,07
108					109,5 - 113,0	25 x 108	6	30,47	32 x 108	6	39,44
	4		114,3	100	116,0 - 120,0	25 x 114	6	31,89	32 x 114	6	42,80
			125		127,0 - 131,0						
133					135,0 - 139,0				32 x 133	4	49,55
	5		139,7	125	142,0 - 146,0	25 x 140	4	39,72	32 x 140	4	52,64
159					162,0 - 167,0				32 x 160	2	61,81

Thickness tolerance ± 2,5 mm Thickness of insulation 25 mm ± 3,0 mm Thickness of insulation 32 mm

Length tolerance ± 1,5 %

Production of shorter products For hose materials, up to 10% of the box content may be ordered at 1 m length. For box contents of less than 20 m, a 2 m long hose may be substituted by two hoses of 1 m each.

Slit hoses Thickness of insulation 25 mm and 32 mm 0.40 € / m

• Delivery time is determined on an individual basis