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Product Brochure

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Index

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Pipe Supports

Surefix *XL* Unlined Clip

For Steel Pipes & Insulated Pipe Supports

Construction
Mild Steel
BZP Finish

For Use With
Steel & Cast Iron Tubes
Insulated Pipe Supports

Pipe Size	Grip Range (mm)	Boss Type	Screw (mm)	Material (mm)
1/2″	19-23	M8/M10	M5 x 18	1 x 20
22mm	23-28	M8/M10	M5 x 18	1 x 20
3/4″	26-35	M8/M10	M5 x 18	1 x 20
1″	32-35	M8/M10	M5 x 18	1 x 20
1 1/4″	39-43	M8/M10	M5 x 18	1 x 20
1 1/2″	45-51	M8/M10	M5 x 18	1.2 x 20
55mm	54-58	M8/M10	M5 x 18	1.2 x 20
2″	60-65	M8/M10	M5 x 18	1.2 x 20
70mm	67-71	M8/M10	M5 x 18	1.2 x 20
2 1/2″	74-82	M8/M10	M6 x 25	1.5 x 25
85mm	82-89	M8/M10	M6 x 25	1.5 x 25
3″	91-98	M8/M10	M6 x 25	1.5 x 25
95mm	93-101	M8/M10	M6 x 25	1.5 x 25
105mm	102-109	M8/M10	M6 x 25	1.5 x 25
4″	109-117	M8/M10	M6 x 25	1.5 x 25
120mm	116-125	M8/M10	M6 x 25	1.5 x 25
125mm	129-141	M8/M10	M6 x 25	2 x 25
5″	136-146	M8/M10	M6 x 25	2 x 25
145mm	142-154	M8/M10	M6 x 25	2 x 25
6″	158-169	M8/M10	M6 x 25	2 x 25
175mm	166-177	M8/M10	M6 x 25	2 x 25

Surefix *XL* Rubber Lined Clip

For Copper, Plastic and Stainless Steel Pipes

Construction
Mild Steel
BZP Finish

For Use With
Copper & Plastic Tubes

Special Features
Rubber Lining tested to
DIN4109 for Acoustic Use

Pipe Size	Grip Range (mm)	Boss Type	Screw (mm)	Material (mm)
15cu	13-20	M8/M10	M5 x 18	1 x 20
18mm	17-23	M8/M10	M5 x 18	1 x 20
22cu	21-26	M8/M10	M5 x 18	1 x 20
28cu	26-35	M8/M10	M5 x 18	1 x 20
35cu	33-37	M8/M10	M5 x 18	1 x 20
42cu	40-46	M8/M10	M5 x 18	1.2 x 20
1 1/2″	48-53	M8/M10	M5 x 18	1.2 x 20
54cu	53-59	M8/M10	M5 x 18	1.2 x 20
2″	60-66	M8/M10	M5 x 18	1.2 x 20
67cu	67-77	M8/M10	M6 x 25	1.5 x 25
76cu	75-84	M8/M10	M6 x 25	1.5 x 25
3″	87-96	M8/M10	M6 x 25	1.5 x 25
95mm	94-104	M8/M10	M6 x 25	1.5 x 25
108cu	102-111	M8/M10	M6 x 25	1.5 x 25
4″	109-119	M8/M10	M6 x 25	1.5 x 25
120cu	122-135	M8/M10	M6 x 25	2 x 25
133cu	128-139	M8/M10	M6 x 25	2 x 25
5″	135-148	M8/M10	M6 x 25	2 x 25
159cu	151-164	M8/M10	M6 x 25	2 x 25
6″	158-170	M8/M10	M6 x 25	2 x 25

Heavy Duty Surefix *HD* Unlined Clip

For Steel Pipes & Insulated Pipe Supports

Construction
Mild Steel
BZP Finish

For Use With
Steel & Cast Iron Tubes
Insulated Pipe Supports

Heavy Duty

Pipe Size	Grip Range (mm)	Boss Type	Screw (mm)	Material (mm)
50nb / 2"	60-68	M12	M8 x 25	25 x 2
67mm	66-73	M12	M8 x 25	25 x 2
65nb / 2 1/2"	74-81	M12	M8 x 25	25 x 2
85mm	82-88	M12	M8 x 25	25 x 2
80nb / 3"	88-97	M12	M8 x 25	25 x 2
100mm	93-100	M12	M8 x 25	25 x 2
105mm	101-109	M12	M8 x 25	30 x 2.5
100nb / 4"	110-118	M12	M8 x 25	30 x 2.5
120mm	116-126	M12	M10 x 40	30 x .3
135mm	130-141	M12	M10 x 40	30 x .3
125nb / 5"	136-145	M12	M10 x 40	30 x .3
145mm	144-154	M12	M10 x 40	30 x .3
150nb / 6"	160-169	M12	M10 x 40	30 x .3
175mm	170-180	M16	M10 x 40	30 x .3
200nb / 8"	219-230	M16	M10 x 40	30 x .3
250nb / 10"	273-283	M16	M10 x 40	30 x .3

Heavy Duty Surefix *HD* Lined Clip

For Copper, Plastic and Stainless Steel Pipes

Construction
Mild Steel
BZP Finish

For Use With
Copper & Plastic Tubes

Special Features
Rubber Lining tested to
DIN4109 for Acoustic Use

Heavy Duty

Pipe Size	Grip Range (mm)	Boss Type	Screw (mm)	Material (mm)
67cu / 2"	60-69	M12	M8 x 25	25 x 2
76cu / 2 1/2"	75-81	M12	M8 x 25	25 x 2
80nb / 3"	83-91	M12	M8 x 25	25 x 2
108cu	102-112	M12	M8 x 25	30 x 2.5
125mm	122-138	M12	M10 x 40	30 x 3
155mm	153-164	M12	M10 x 40	30 x 3
200mm	196-209	M16	M10 x 40	30 x 3

Guide Clips

Construction
Mild Steel
BZP Finish

For Use With
Copper & Plastic Tubes

Special Features
Silicon Low Friction Lining

Size (mm)	Boss Size	Material Type	Temperature Limits ºC	Part Number
16	M10	20 x 1	-10 - +90	GC16
20	M10	20 x 1	-10 - +90	GC20
25	M10	20 x 1	-10 - +90	GC25
32	M10	20 x 1	-10 - +90	GC32
40	M10	20 x 1.2	-10 - +90	GC40
50	M10	20 x 1.2	-10 - +90	GC50
56	M10	20 x 1.2	-10 - +90	GC56
63	M10	25 x 1.5	-10 - +90	GC63

EXCO 100 - Split Band

For Steel Pipes and Insulated Pipe Supports

Construction
Mild Steel
BZP Finish
HT Sets & Nuts

For Use With
Steel Tubes
Cast Iron Tubes
Insulated Pipe Supports

Other sizes available on request

Size ID (mm)	Size NB	Hole Centres (mm)	Bolt Size (mm)	Material Width & Thickness (mm)
65		115	M10 x 40	30 x 3
76	65NB / 2 1/2"	125	M10 x 40	30 x 3
83		130	M10 x 40	30 x 3
89	80NB /3"	137	M12 x 40	30 x 3
95		143	M12 x 40	30 x 3
102		156	M12 x 40	30 x 3
108		163	M12 x 40	40 x 3
114	100 NB /4"	175	M12 x 40	40 x 3
121		187	M12 x 40	40 x 3
127		190	M12 x 40	40 x 3
133		200	M12 x 40	40 x 3
140		205	M12 x 40	40 x 3
146		210	M12 x 40	40 x 3
152		218	M12 x 40	40 x 3
159		228	M12 x 40	40 x 3
168	150 NB / 6"	236	M12 x 40	40 x 3
173		240	M16 x 50	40 x 3
178		248	M16 x 50	40 x 3
186		258	M16 x 50	40 x 5
193		265	M16 x 50	40 x 5
199		276	M16 x 50	40 x 5
208		284	M16 x 50	40 x 5
216		290	M16 x 50	40 x 5
220	200 NB / 8"	300	M16 x 50	40 x 5
225		302	M16 x 50	40 x 5
232		310	M16 x 50	40 x 5
244		313	M16 x 50	40 x 5
252		318	M16 x 50	40 x 5
259		320	M16 x 50	40 x 5
268		336	M16 x 50	40 x 5
273	250 NB / 10"	360	M16 x 50	50 x 6
283		364	M16 x 50	50 x 6
290		374	M16 x 50	50 x 6
298		383	M16 x 50	50 x 6
308		405	M16 x 50	50 x 6
323	300 NB / 12"	420	M16 x 50	50 x 6

Construction
Mild Steel
Nylon Coated Finish
HT Sets & Nuts

For Use With
Copper Tubes
Stainless Steel Tubes

Size ID (mm)	Size NB (cu)	Hole Centres (mm)	Bolt Size (mm)	Material Width & Thickness (mm)
15	15	50	M6 x 25	25 x 3
22	22	59	M6 x 25	25 x 3
28	28	65	M6 x 25	25 x 3
35	35	72	M6 x 25	25 x 3
42	42	92	M10 x 30	30 x 3
54	54	104	M10 x 30	30 x 3
67	67	116	M10 x 30	30 x 3
76	76	126	M10 x 30	30 x 3
108	108	158	M10 x 30	30 x 3
133	133	193	M12 x 40	40 x 3
159	159	219	M12 x 40	40 x 3

EXCO 190 - Forged Eye Bolt

Construction
Mild Steel
BZP Finish

Sizes Available
M8, M10, M12, M16, M20
Length - 100mm, 150mm, 200mm

For Use With
Split Band Clips

EXCO 200 - Link Eye

Construction
Cast Malleable Iron
BZP Finish

Sizes Available
M8, M10, M12

For Use With
Split Band Clips

EXCO 203 - Bow Nut

Construction
Mild Steel
BZP Finish

Sizes Available
M10, M12, M16, M20

For Use With
Split Band Clips

EXCO 105 - Split Band

For Steel Pipes & Insulted Pipe Supports

Construction
Mild Steel
BZP Finish
HT Sets & Nuts

For Use With
Steel Tubes
Cast Iron Tubes
Insulated Pipe Supports

Size ID (mm)	Size NB	Hole Centres (mm)	Boss	Bolt Size (mm)	Material Width & Thickness (mm)
65		115	M10	M10 x 40	30 x 3
76	65NB / 2 1/2"	125	M10	M10 x 40	30 x 3
83		130	M10	M10 x 40	30 x 3
89	80NB /3"	137	M10	M12 x 40	30 x 3
95		143	M10	M12 x 40	30 x 3
102		156	M10	M12 x 40	30 x 3
108		163	M10	M12 x 40	40 x 3
114	100 NB /4"	175	M10	M12 x 40	40 x 3
121		187	M12	M12 x 40	40 x 3
127		190	M12	M12 x 40	40 x 3
133		200	M12	M12 x 40	40 x 3
140		205	M12	M12 x 40	40 x 3
146		210	M12	M12 x 40	40 x 3
152		218	M12	M12 x 40	40 x 3
159		228	M12	M12 x 40	40 x 3
168	150 NB / 6"	236	M12	M12 x 40	40 x 3
173		240	M12	M16 x 50	40 x 3
178		248	M12	M16 x 50	40 x 3
186		258	M12	M16 x 50	40 x 5
193		265	M12	M16 x 50	40 x 5
199		276	M12	M16 x 50	40 x 5
208		284	M12	M16 x 50	40 x 5
216		290	M12	M16 x 50	40 x 5
220	200 NB / 8"	300	M12	M16 x 50	40 x 5
225		302	M12	M16 x 50	40 x 5
232		310	M12	M16 x 50	40 x 5
244		313	M12	M16 x 50	40 x 5
252		318	M12	M16 x 50	40 x 5
259		320	M12	M16 x 50	40 x 5
268		336	M12	M16 x 50	40 x 5
273	250 NB / 10"	360	M12	M16 x 50	50 x 6
283		364	M16	M16 x 50	50 x 6
290		374	M16	M16 x 50	50 x 6
298		383	M16	M16 x 50	50 x 6
308		405	M16	M16 x 50	50 x 6
323	300 NB / 12"	420	M16	M16 x 50	50 x 6

EXCO 102/103 Saddle

For Steel Pipes & Insulted Pipe Supports

Construction

Mild Steel

BZP Finish

For Use With

Steel Tubes

Cast Iron Tubes

Insulated Pipe Supports

Size ID (mm)	Size NB	Hole Centres (mm)	Max Bolt Size (mm)	Material Width & Thickness (mm)
65		119	M12	30 x 3
76	65NB / 2 1/2"	144	M12	30 x 3
83		145	M12	30 x 3
89	80NB /3"	163	M12	30 x 3
95		159	M12	30 x 3
102		166	M12	30 x 3
108		180	M12	40 x 3
114	100 NB /4"	204	M12	40 x 3
121		192	M12	40 x 3
127		197	M12	40 x 3
133		204	M12	40 x 3
140		220	M12	40 x 3
146		212	M12	40 x 3
152		221	M12	40 x 3
159		228	M12	40 x 3
168	150 NB / 6"	238	M12	40 x 3
173		237	M12	40 x 3
178		247	M12	40 x 3
186		258	M12	40 x 3
193		262	M12	40 x 5
199		263	M12	40 x 5
208		268	M12	40 x 5
216		286	M12	40 x 5
220	200 NB / 8"	313	M12	40 x 5
225		297	M12	40 x 5
232		305	M12	40 x 5
244		313	M12	40 x 5

EXCO 132 Saddle Guide

Contruction
Mild Steel
Nylon Coated Finish

For Use With
Copper Tubes
Stainless Steel Tubes

Size ID (mm)	Size NB (cu)	Dim A (mm)	Bolt Size (mm)	Material Width & Thickness (mm)
17	15	53	8	25 x 3
24	22	60	8	25 x 3
30	28	71	8	25 x 3
37	35	74	8	25 x 3
44	42	94	12	30 x 3
57	54	108	12	30 x 3
70	67	120	12	30 x 3
80	76	130	12	30 x 3
114	108	162	12	30 x 3
135	133	197	14	40 x 3
165	159	223	14	40 x 3

EXCO 133 Saddle Clamp

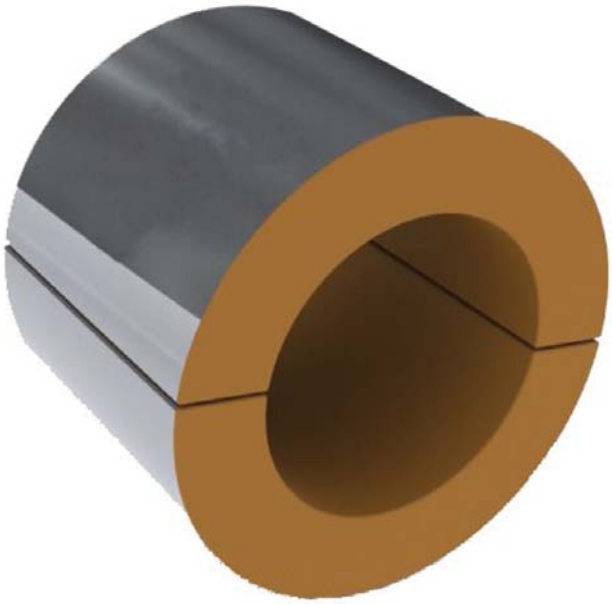
Contruction
Mild Steel
Nylon Coated Finish

For Use With
Copper Tubes
Stainless Steel Tubes

Size ID (mm)	Size NB (cu)	Dim A (mm)	Bolt Size (mm)	Material Width & Thickness (mm)
15	15	53	8	25 x 3
22	22	60	8	25 x 3
28	28	71	8	25 x 3
35	35	74	8	25 x 3
42	42	94	12	30 x 3
54	54	108	12	30 x 3
67	67	120	12	30 x 3
76	76	130	12	30 x 3
108	108	162	12	30 x 3
133	133	197	14	40 x 3
159	159	223	14	40 x 3

Properties

- CFC/HCFC–free with zero Ozone Depletion Potential (ODP)
- High Closed Cell Content
- Thermal Conductivity of 0.021 W/m·K / 0.146 Btu·in/hr·ft2·°F (The Lowest Thermal Conductivity of any Commonly Available Insulation Material)
- Inert Bore Coated for use on all Pipes Including Copper



High-Density Rigid Phenolic Insulation 37-120 kg/m^3 (5.0-7.5 lb/ft^3)

General Physical Properties (Metric)						
Property	Test Method	Unit	Typical Value			
Nominal Density	(EN ISO 845) / (ASTM D 1622)	Kg/m3	37	60	80	120
Thermal Conductivity	(EN 12667) / (ASTM C 518)	W/m·K	0.021	0.029	0.03	0.032
Colour			Grey	Grey	Grey	Grey
Operating Temperature Limits	Upper Limit Lower Limit	ºC ºC	120 -180	120 -180	120 -180	120 -180
Minimum Compressive Strength at +23 ºC	(EN 826) / (ASTM D 1621) Parallel Perpendicular	 kPa kPa	 150 100	 320 170	 590 440	 1000 800

Fire Test Specifications					
Fire Test	Test Method		Specification		
Fire Propagation	BS 476-6: 1989	Index of Performance (I) not exceeding 12 and sub index (i1) not exceeding 6*			
Surface Spread of Flame	BS 476-7: 1997	Class 1*	Class 1*	Class 1*	Class 1*
Vertical Burning	DIN 4102-1: 1998	B2	B2	B2	B2

These test results combined enable a Class 0 classification to the Building Regulations in England & Wales. Northern Ireland and the Republic of Ireland, and a Low Risk classification to the Building Standars in Scotland. These tests were conducted on samples of 25mm/1″ thickness faced with a reinforced aluminium foil vapour barrier jacket.

Hard Wood Block Insulation

Material
Hardwood - Kiln Dried

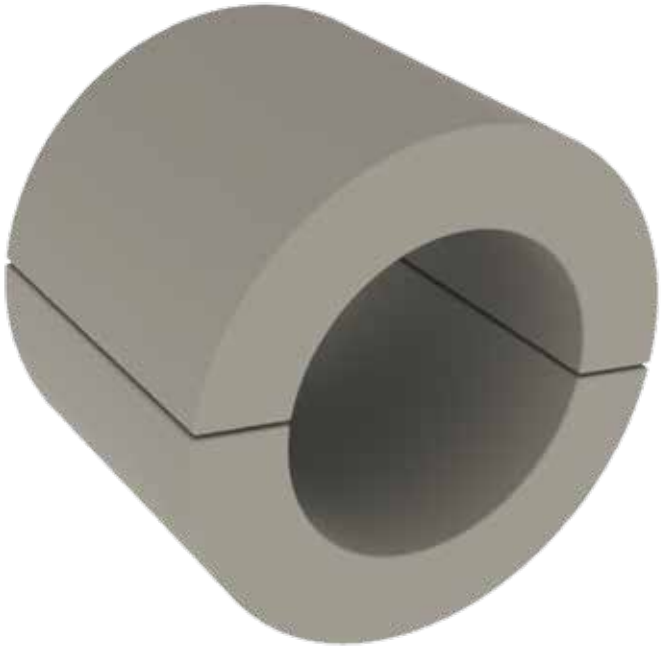
Length
100mm (Tolerance of -1.5mm Maximum)

Thickness
15, 20, 25, 30, 40, 50, 63, 75 (Other Thicknesses available upon request)
Tolerance on thickness not exceeding +/-1.5mm

Bore Sizes

Steel -	15nb, 20nb, 25nb, 32nb, 40nb, 50nb, 65nb, 80nb, 100nb, 125nb, 150nb, 200nb, 250nb, 300nb
Copper -	15cu, 22cu, 28cu, 35cu, 42cu, 54cu, 67cu, 76cu,108cu, 133cu, 159cu.
Plastic -	Available upon request.

Calcium Silicate Insulation



Description
A tough and durable calcium silicate insulation offering exceptional thermal efficiency on hot process applications. Non combusible, it is an inert material, containing no asbestos.

Appearance
White/off white rigid insulation.

Product Application
Calcium Silicate is an ideal insulation material for high temperature pipes. Used throughout the Petrochemical, Power Generation, Furnace and primary aluminium sectors, Calcium Silicate combines excellent thermal efficiency with high compressive strength, able to withstand foot traffic.

Typical Product Performance		
	Insulite 650	Insulite 1050
Maximum Service Temp:	650°C	1050°C
Age Density:	220kg/m^3	265kg/m^3
Compressive Strength:	0.8 Mpa	1.8Mpa
Combustibility:	Non-comb	Non-comb
Linear Shrinkage:	<2%	1.4%
Flexural Strength:	0.4 Mpa	0.8 Mpa
Thermal Conductivity @ 200°C	0.06W/mK	0.07W/mK

EXCO 104 S/E 'U' Bolt

For Steel Pipes & Insulated Pipe Supports

Construction

Mild Steel
BZP Finish

For Use With

Steel Tubes
Cast Iron Tubes
Insulated Pipe Supports

Size ID (mm)	Rod Dia (mm)
46	M10
51	M10
56	M10
62	M10
67	M10
72	M10
78	M10
85	M10
91	M10
97	M10
104	M10
110	M10
116	M10
123	M10
129	M10
135	M12
141	M12
146	M12
150	M12
154	M12
161	M12
166	M12
170	M12
175	M12
180	M12
185	M12
191	M12
195	M12
201	M12
208	M12
212	M12
216	M12
222	M12
228	M12
234	M12
240	M12
246	M12
254	M16
260	M16
264	M16
268	M16
275	M16
285	M16
292	M16
301	M16
310	M16

Size NB (mm)	Rod Dia (mm)
15	M6
20	M6
25	M6
32	M10
40	M10
50	M10
65	M10
80	M12
100	M12
125	M12
150	M12
200	M16
250	M16
300	M16

EXCO 134 S/E 'U' Bolt

For Copper Pipes

Construction
Mild Steel
Nylon Coated Finish

For Use With
Copper Tubes
Stainless Steel Tubes

Size ID (mm)	Size NB (cu)	Rod Ø	Leg Centres	Thread Length Standard	Thread Length Extended
15	15	M6	22	30	75
22	22	M6	29	30	75
28	28	M6	35	30	75
35	35	M6	42	30	85
42	42	M8	52	40	85
54	54	M8	64	40	85
67	67	M8	76	40	85
76	76	M10	88	40	85
108	108	M10	120	40	85
133	133	M10	145	40	85
159	159	M12	173	40	85

Expansion Priducts
MS1 & 2 Modular Slide Guide

MS1 Slimline

MS2 Standard

Construction
Mild Steel
BZP Finish

For Use With
Unlined & Rubber Lined
Brackets to Create a Guided
System

Type	Internal Thread	Max Travel	SWL
MS1	M10	50mm	0.25kN
MS2	M8/M10	50mm	0.25kN

DST BH - Ball Hanger

Size	Movement	SWL
M8	+/-5º	0.15kN
M10	+/-5º	0.20kN
M12	+/-5º	0.25kN

Construction
Mild Steel BZP Finish

For Use With
Unlined & Lined Clip Range &
Hanging brackets to reduce
drop rod lateral loads

Construction
Mild Steel BZP Finish
Low Friction Slide Insert

For Use With
Unlined &Rubber Lined Clips
Surefix HD on Larger Sizes

Special Features
Dual & Triple Bossed
Lockable for transport

Type	Internal Thread	External Thread	Max Travel	SWL
LF1	M8/M10	N/A	65mm	0.5kN
LF2-1	M10	M16	90mm	2.0kN
LF2-2	M10	M16	120mm	2.0kN
LF3-1	M12/M16	1/2"	120mm	6.0kN
LF3-2	M12/M16	1/2"	135mm	6.0kN

				LF1		LF2-*		LF3-*	
						LF2-1	LF2-2	LF3-1	LF3-2
									
Steel NB	NB	Steel OD	CU OD	LF1-***UL	LF1-***RL	LF2-*-***UL	LF2-*-RL	LF3-*-UL	LF3-*-RL
			15		LF1-015RL		LF2-*-015RL		LF3-*-015RL
		18		LF1-018UL	LF1-018RL	LF2-*-018UL	LF2-*-018RL	LF3-*-018UL	LF3-*-018RL
1/2"	15	21	22	LF1-021UL	LF1-022RL	LF2-*-021UL	LF2-*-022RL	LF3-*-021UL	LF3-*-022RL
3/4"	20	27	28	LF1-027UL	LF1-028RL	LF2-*-027UL	LF2-*-028RL	LF3-*-027UL	LF3-*-028RL
1"	25	34	35	LF1-034UL	LF1-035RL	LF2-*-034UL	LF2-*-035RL	LF3-*-034UL	LF3-*-035RL
1 1/4"	32	42	42	LF1-042UL	LF1-042RL	LF2-*-042UL	LF2-*-042RL	LF3-*-042UL	LF3-*-042RL
1 1/2"	40	48		LF1-048UL	LF1-048RL	LF2-*-048UL	LF2-*-048RL	LF3-*-048UL	LF3-*-048RL
			54		LF1-054RL		LF2-*-054RL		LF3-*-054RL
2"	50	60		LF1-060UL	LF1-060RL	LF2-*-060UL	LF2-*-060RL	LF3-*-060UL	LF3-*-060RL
			67				LF2-*-067RL		LF3-*-067RL
2 1/2"	65	76	76			LF2-*-076UL	LF2-*-076RL	LF3-*-076UL	LF3-*-076RL
3"	80	89				LF2-*-089UL	LF2-*-089RL	LF3-*-089UL	LF3-*-089RL
			108				LF2-*-108RL		LF3-*-108RL
4"	100	114				LF2-*-114UL	LF2-*-114RL	LF3-*-114UL	LF3-*-114RL
HEAVY DUTY									
								LF3-*-***HDUL	LF3-*-***HDRL
			133						LF3-*-133HDRL
5"	125	140						LF3-*-140HDUL	LF3-*-140HDRL
			159						LF3-*-159HDRL
6"	150	168						LF3-*-168HDUL	LF3-*-168HDRL
8"	200	220						LF3-*-220HDUL	LF3-*-220HDRL
10"	250	273						LF3-*-273HDUL	LF3-*-273HDRL
MAXIMUM TRAVEL				60mm		LF2-1 90mm	LF2-2 120mm	LF3-1 120mm	LF3-2 135mm

EXCO AAB - Adjustable Anchor Bracket

For Steel, Copper & Stainless Steel Pipes

The EXCO AAB Adjustable Anchor Bracket banks either 2 or 3 Split split bands on a set of steel cleat which can be adjusted for height and fall.

As a standard upto 54mm od bands will be powder coated, with larger sizes BZP for steel pipes or powder coated for copper & stainless steel.

Other band combinations are available upon request including brass, stainless steel & thicker profile steel bands.

Construction
Mild Steel BZP Finish
High Tensile BZP Set Screws

For Use With
Copper, Steel & Stainless Steel pipes

Special Features
Adjustable Height & Angle to facilitate fall in pipework.

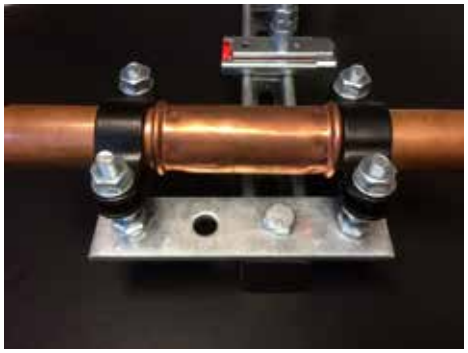
Pipe Size	Band Material	No Of Bands	Finish	SWL (kN)	Part Code
15	25 x 3	2	Black Powder Coat	2.0	AAB(2)015
22	25 x 3	2	Black Powder Coat	2.0	AAB(2)022
28	25 x 3	2	Black Powder Coat	2.0	AAB(2)028
35	25 x 3	2	Black Powder Coat	2.0	AAB(2)035
42	30 x 3	2	Black Powder Coat	2.0	AAB(2)042
54	30 x 3	2	Black Powder Coat	2.0	AAB(2)054
15	25 x 3	2	Black Powder Coat	2.0	AAB(2)022
20	25 x 3	2	Black Powder Coat	2.0	AAB(2)028
25	25 x 3	2	Black Powder Coat	2.0	AAB(2)035
32	25 x 3	2	Black Powder Coat	2.0	AAB(2)042
40	30 x 3	2	Black Powder Coat	2.0	AAB(2)040
50	30 x 3	2	BZP	2.0	AAB(2)050
15	25 x 3	3	Black Powder Coat	3.0	AAB(3)015
22	25 x 3	3	Black Powder Coat	3.0	AAB(3)022
28	25 x 3	3	Black Powder Coat	3.0	AAB(3)028
35	25 x 3	3	Black Powder Coat	3.0	AAB(3)035
42	30 x 3	3	Black Powder Coat	6.5	AAB(3)042
54	30 x 3	3	Black Powder Coat	6.5	AAB(3)054
67	30 x 3	3	Black Powder Coat	6.5	AAB(3)067
76	30 x 3	3	Black Powder Coat	6.5	AAB(3)076
108	40 x 3	3	Black Powder Coat	8.0	AAB(3)108
133	40 x 3	3	Black Powder Coat	8.0	AAB(3)133
159	40 x 3	3	Black Powder Coat	8.0	AAB(3)159
15	25 x 3	3	Black Powder Coat	3.0	AAB(3)022
20	25 x 3	3	Black Powder Coat	3.0	AAB(3)028
25	25 x 3	3	Black Powder Coat	3.0	AAB(3)035
32	25 x 3	3	Black Powder Coat	3.0	AAB(3)042
40	30 x 3	3	Black Powder Coat	6.5	AAB(3)040
50	30 x 3	3	BZP	6.5	AAB(3)050
65	30 x 3	3	BZP	6.5	AAB(3)065
80	30 x 3	3	BZP	6.5	AAB(3)080
100	40 x 3	3	BZP	8.0	AAB(3)100
125	40 x 3	3	BZP	8.0	AAB(3)125
150	40 x 3	3	BZP	8.0	AAB(3)150

Slip & Band Anchors
For Steel, Copper & Stainless Steel Pipes

Construction
Mild Steel BZP or Powder Finish
High Tensile BZP Set Screws

For Use With
Copper, Steel & Stainless Steel pipes

Special Features
Fabricated on Site using EXCO100 or EXCO130 Split Bands



The Slip Anchor and Band Anchor are an effective way of installing anchors on site with relatively low costs.

The idea is to use multiple split bands to ensure a firm mechanical grip on the pipework. In the case of the Slip Anchor, a band is placed on either side of a slip coupling to add a failsafe mechanism. The coupling could be any type of slip coupling, but not a pipe connector unless its a welded flange.

Pipe Size	Band Material	No Of Bands	Finish	Anchor Type
15	25 x 3	2	Black Powder Coat	Slip
22	25 x 3	2	Black Powder Coat	Slip
28	25 x 3	2	Black Powder Coat	Slip
35	25 x 3	2	Black Powder Coat	Slip
42	30 x 3	2	Black Powder Coat	Slip
54	30 x 3	2	Black Powder Coat	Slip
67	30 x 3	2	Black Powder Coat	Slip
76	30 x 3	2	Black Powder Coat	Slip
108	40 x 3	2	Black Powder Coat	Slip
15	25 x 3	2	Black Powder Coat	Slip
20	25 x 3	2	Black Powder Coat	Slip
25	25 x 3	2	Black Powder Coat	Slip
32	25 x 3	2	Black Powder Coat	Slip
40	30 x 3	2	Black Powder Coat	Slip
50	30 x 3	2	BZP	Slip
65	30 x 3	2	BZP	Slip
80	30 x 3	2	BZP	Slip
100	40 x 3	2	BZP	Slip

Pipe Size	Band Material	No Of Bands	Finish	Anchor Type
15	25 x 3	2	Black Powder Coat	Band
22	25 x 3	2	Black Powder Coat	Band
28	25 x 3	2	Black Powder Coat	Band
35	25 x 3	2	Black Powder Coat	Band
42	30 x 3	2	Black Powder Coat	Band
54	30 x 3	3	Black Powder Coat	Band
67	30 x 3	3	Black Powder Coat	Band
76	30 x 3	3	Black Powder Coat	Band
108	40 x 3	3	Black Powder Coat	Band
15	25 x 3	2	Black Powder Coat	Band
20	25 x 3	2	Black Powder Coat	Band
25	25 x 3	2	Black Powder Coat	Band
32	25 x 3	2	Black Powder Coat	Band
40	30 x 3	2	Black Powder Coat	Band
50	30 x 3	3	BZP	Band
65	30 x 3	3	BZP	Band
80	30 x 3	3	BZP	Band
100	40 x 3	3	BZP	Band

Construction
Mild Steel
BZP Finish
HT Sets & Nuts

For Use With
Steel Tubes
Cast Iron Tubes
Insulated Pipe Supports

Nominal Imperial	Pipe Size Metric (NB)	C/L of Pipe	Lug Centres	Material A (mm)	Material B (mm)	Bolt Size
1/2″	15	41	95	30 x 3	30 x 5	M10 x 30
3/4″	20	44	95	30 x 3	30 x 5	M10 x 30
1″	25	47	95	30 x 3	30 x 5	M10 x 30
1 1/4″	32	55	105	30 x 3	30 x 5	M10 x 30
1 1/2″	40	58	105	30 x 3	30 x 5	M10 x 30
2″	50	72	116	30 x 3	30 x 5	M10 x 30
2 1/2″	65	80	140	30 x 3	30 x 5	M10 x 30
3″	80	87	180	40 x 3	40 x 5	M12 x 40
4″	100	99	180	40 x 3	40 x 5	M12 x 40
5″	125	130	230	50 x 3	50 x 6	M16 x 50
6″	150	144	230	50 x 3	50 x 6	M16 x 50
8″	200	200	380	50 x 6	50 x 8	M16 x 50
10″	250	250	430	50 x 6	50 x 10	M20 x 70
12″	300	289	490	50 x 6	50 x 10	M20 x 70

Construction
Mild Steel
BZP Finish
HT Sets & Nuts

For Use With
Steel Tubes
Cast Iron Tubes
Insulated Pipe Supports

Nominal Imperial	Pipe Size Metric (NB)	C/L of Pipe	Width	Hole Centres	Material (mm)	Fixing Holes
1/2"	15	49	60	12 x 25 Slot	30 x 5	12
3/4"	20	52	60	12 x 25 Slot	30 x 5	12
1"	25	55	60	12 x 25 Slot	30 x 5	12
1 1/4"	32	59	60	12 x 25 Slot	30 x 5	12
1 1/2"	40	62	60	12 x 25 Slot	30 x 5	12
2"	50	68	60	12 x 25 Slot	30 x 5	12
2 1/2"	65	76	80	12 x 25 Slot	30 x 5	12
3"	80	111	112	50	40 x 5	12
4"	100	123	112	50	40 x 5	12
5"	125	150	170	70	50 x 6	14
6"	150	164	170	70	50 x 6	14
8"	200	200	256	115	50 x 8	19
10"	250	245	312	127	50 x 10	19
12"	300	300	362	152	50 x 10	19

Construction
Mild Steel
BZP Finish
HT Sets & Nuts

For Use With
Steel Tubes
Cast Iron Tubes
Insulated Pipe Supports

Nominal Imperial	Pipe Size Metric (NB)	Height	Width (mm)	Hole Ø	Material (mm)
1/2"	15	80	50	12	30 x 3
3/4"	20	80	50	12	30 x 3
1"	25	80	50	12	30 x 3
1 1/4"	32	97	65	12	30 x 3
1 1/2"	40	97	65	12	30 x 3
2"	50	118	70	12	30 x 3
2 1/2"	65	136	92	12	30 x 3
3"	80	190	130	14	40 x 3
4"	100	190	130	14	40 x 3
5"	125	250	180	19	50 x 6
6"	150	250	180	19	50 x 6
8"	200	300	240	23	60 x 8
10"	250	355	292	23	60 x 8
12"	300	410	342	23	60 x 8

EXCO 170 - Filbow Clamp

FM Approved for Steel Pipes

Construction

Cold Rolled Mild Steel

Pre-Galv Finish

For Use With

Steel Tubes

Nominal Imperial	OD (mm)	Height	Width (mm)	Hole Ø	Material (mm)
1/2″	28	51.5	36.5	10.5	25 x 1
3/4″	30	53.5	37.5	10.5	25 x 1
1″	36	65.5	46.5	10.5	25 x 1
1 1/4″	46	79.9	55.7	10.5	25 x 1.2
1 1/2″	52	85.9	58.7	10.5	25 x 1.2
2″	66	99.9	65.7	10.5	25 x 1.2
2 1/2″	78	116	75.5	10.5	25 x 1.2
3″	92	132	84.5	10.5	25 x 1.2
4″	116	167.5	107.5	10.5	25 x 2
5″	142	200	126.5	13	25 x 2.5
6″	170	238	150.5	13	25 x 2.5
8″	222	311.5	197.5	17	30 x 3
10″	275	384.5	244	17	30 x 3
12″	324	470	310	17	30 x 3

EXCO 240 G/M/B - Munsen Rings

Construction

Metric Threads

240G = Galvanised

240M = Malleable Iron

240B = Cast Brass

EXCO 241 G/M/B - School Board Clips

241G = Galvanised

241M = Malleable Iron

241B = Cast Brass

EXCO 242 G/M/B - Backplates

242G = Galvanised

242M = Malleable Iron

242B M10 Male & Female Threads

High Tensile Nut

Construction
Steel Grade 8.8 DIN934.
Cold Formed.
BZP Finish

Sizes Available
M4, M5, M6, M8, M10,
M12, M16, M20, M24

Wedge Nut

Construction
Mild Steel
BZP Finish

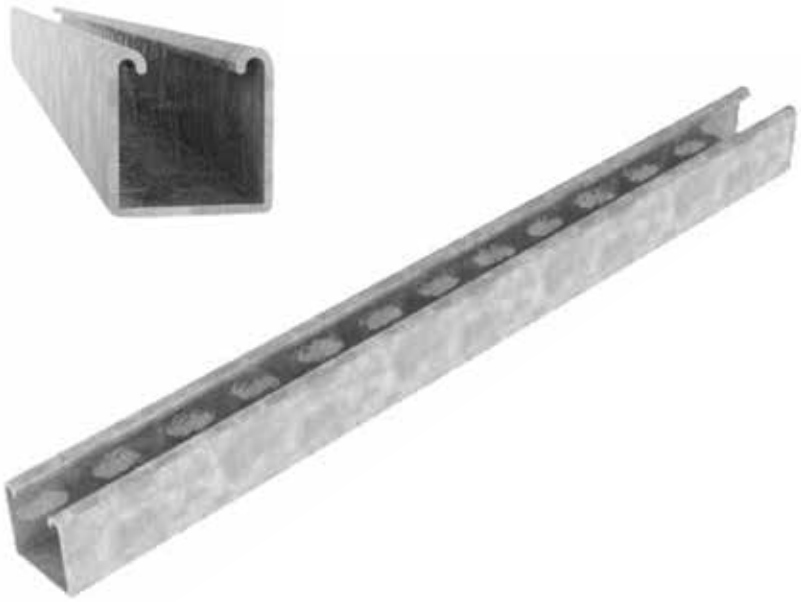
Sizes Available
M6, M8, M10 & M12

Flange Clamp

Construction
Mild Steel
BZP Finish

Sizes Available
M8, M10 & M12

EXCO Strut System



Construction

Cold Rolled Mild Steel

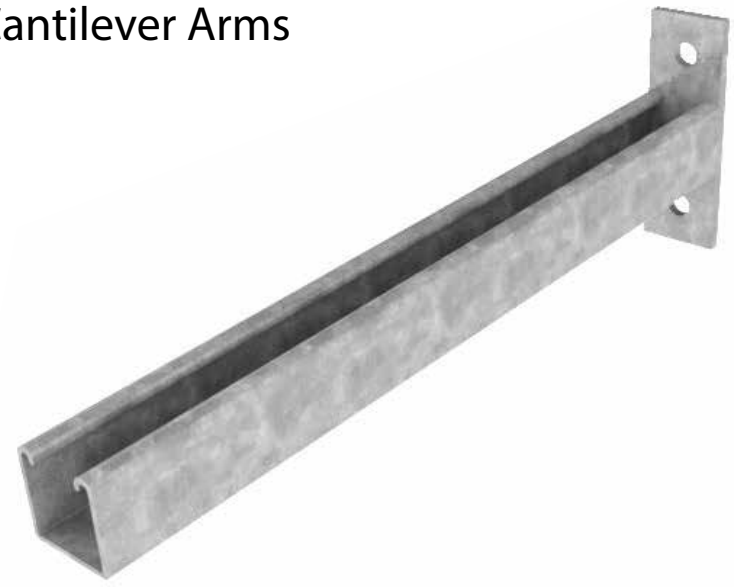
Pre-Galv Finish

Manufactured to BS 6946

We also Offer a Cutting Service

Length (m)	Description	Weight (Kg)
3	41 x 41 Deep Plain	7.83
6	41 x 41 Deep Plain	15.66
3	41 x 41 Deep Slotted	7.47
6	41 x 41 Deep Slotted	14.94
3	41 x 21 Shallow Plain	5.52
6	41 x 21 Shallow Plain	11.04
3	41 x 21 Shallow Slotted	5.16
6	41 x 41 Shallow Slotted	10.32
3	41 x 41 Deep Back to Back	15.66
6	41 x 41 Deep Back to Back	31.32
3	41 x 21 Shallow Back to Back	11.01
6	41 x 21 Shallow Back to Back	22.02

Cantilever Arms



Construction

Cold Rolled Mild Steel
Pre-Galv Finish
Manufactured to BS 6946

Lengths

150mm, 300mm, 450mm,
600mm, 750mm

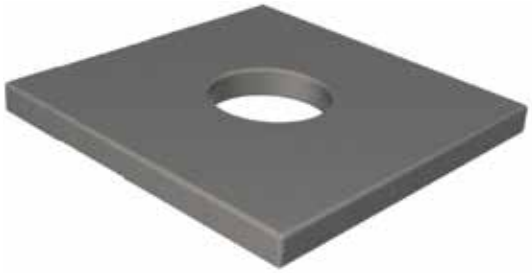
Square Plate Washers

Construction

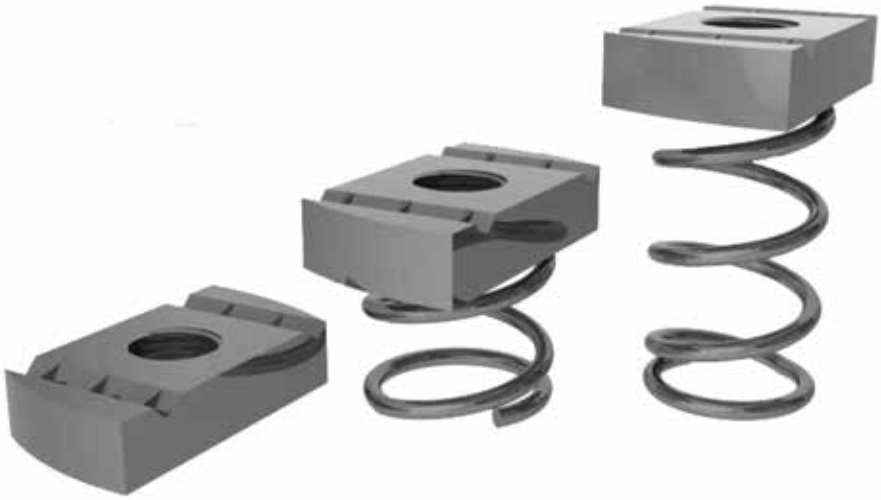
5mm Mild Steel BZP Finish

Sizes Available

M6, M8, M10, M12

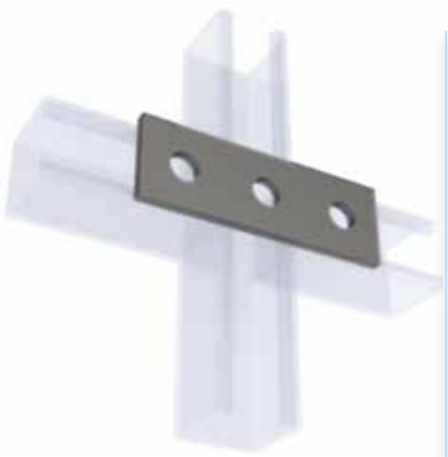


Channel Nuts



Size	Type	Thickness (mm)	Spring Length (mm)
M6	No Spring	5	n/a
M8	No Spring	5	n/a
M10	No Spring	8	n/a
M12	No Spring	8	n/a
M6	Short Spring	5	10
M8	Short Spring	5	10
M10	Short Spring	8	10
M12	Short Spring	8	10
M6	Long Spring	8	35
M8	Long Spring	5	35
M10	Long Spring	8	35
M12	Long Spring	8	35

EXCO02

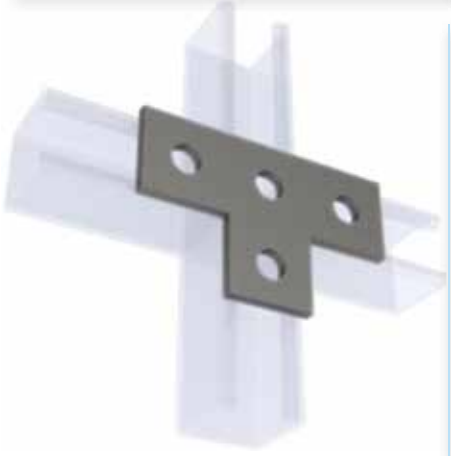


EXCO03

EXCO04

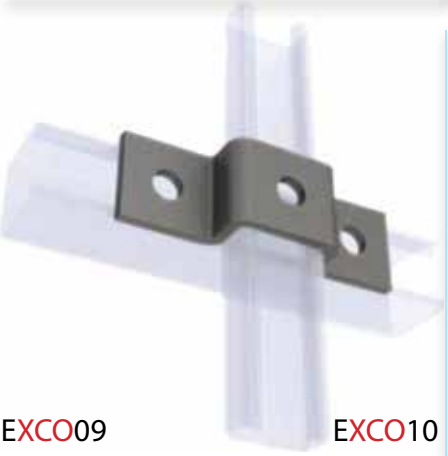
EXCO05

EXCO06



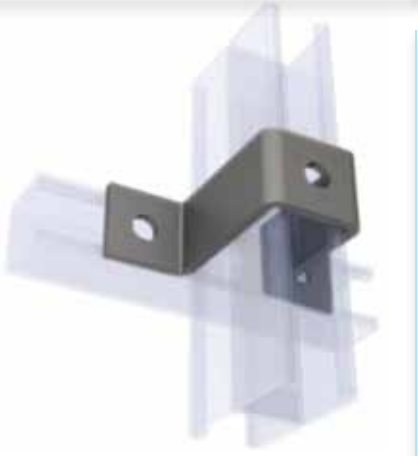
EXCO07

EXCO08



EXCO09
41 x 21

EXCO10
41 x 41



EXCO11

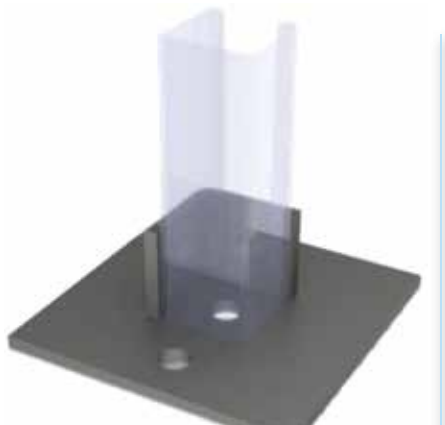
EXCO12

EXCO13

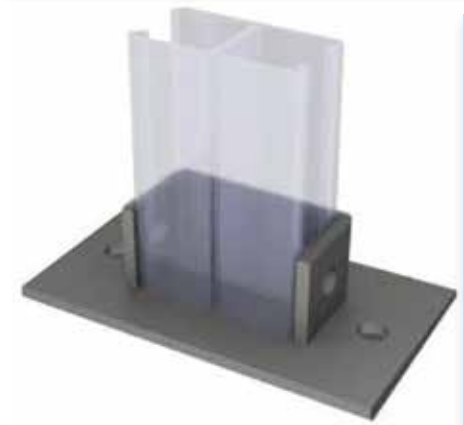
EXCO14

EXCO29

EXCO30

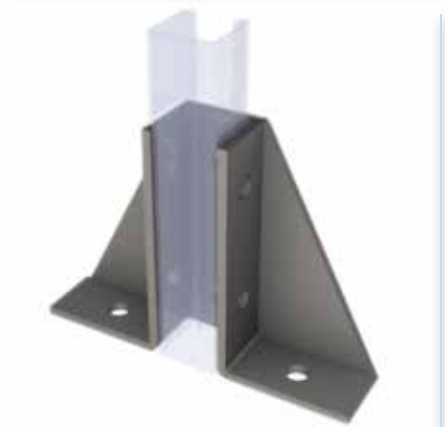


EXCO31



EXCO32

EXCO33



EXCO35

EXCO37

EXCO38

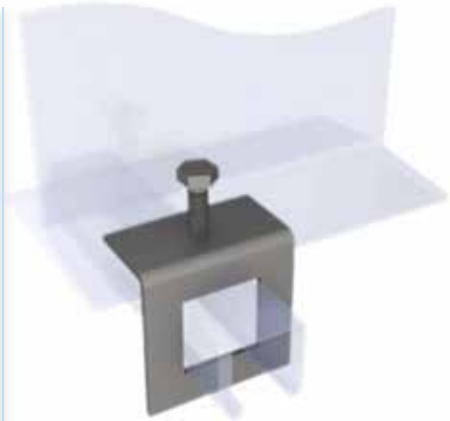
EXCO39

EXCO40

EXCO41

EXCO42

EXCO43



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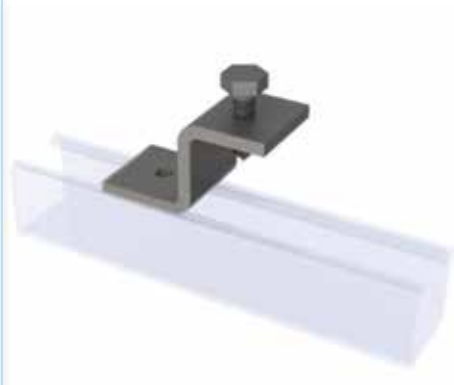

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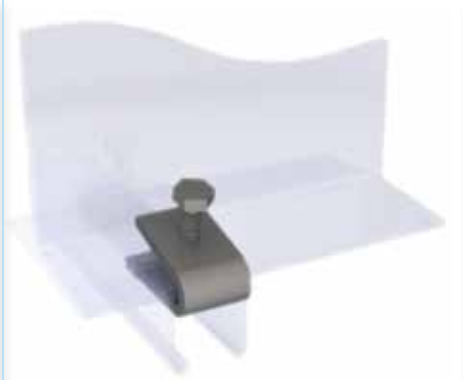
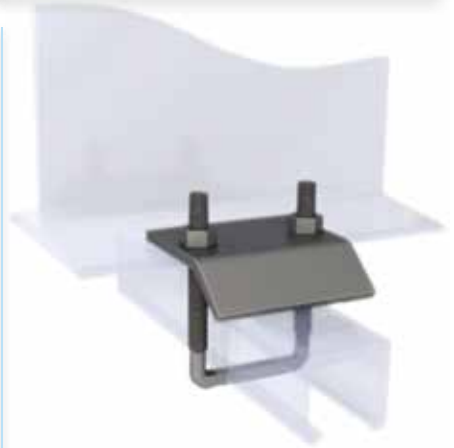


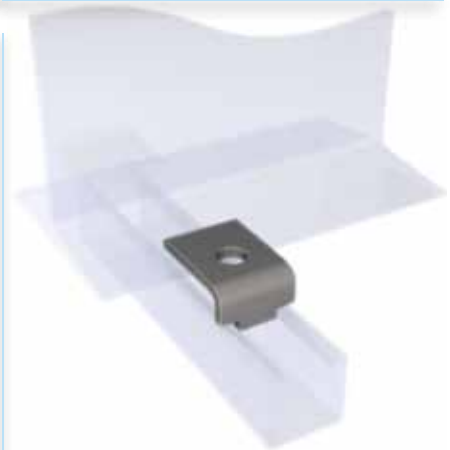
EXCO46

EXCO47



EXCO48

EXCO49



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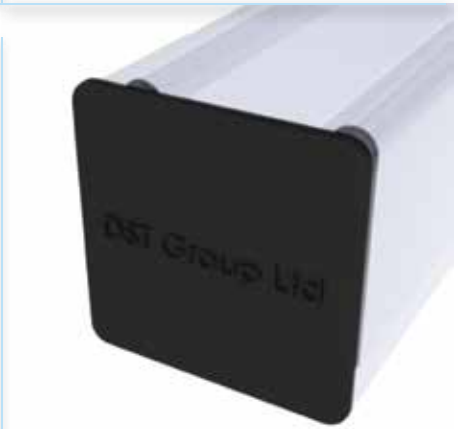
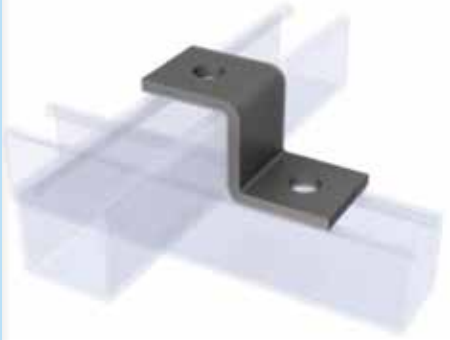
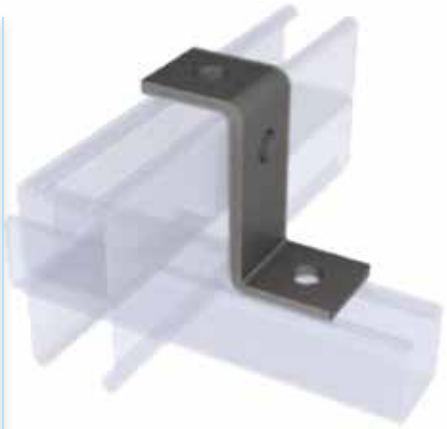


EXCO51

EXCO52



EXCO15



EXCO16

EXCO17

EXCO18

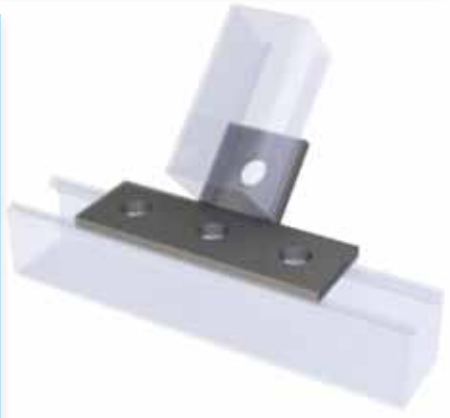
EXCO19

EXCO20

EXCO21

EXCO23

EXCO25



EXCO26

EXCO27

EXCO28

Construction

Mild Steel 4.8 Grade to DIN EN20891.-1

BZP Finish

Standard Lengths	Cut Lengths (mm)			
Size	Size	Size	Size	Size
M6 x 1m	M10 x 25	M10 x 160	M10 x 295	M10 x 430
M6 x 3m	M10 x 30	M10 x 165	M10 x 300	M10 x 435
M8 x 3m	M10 x 35	M10 x 170	M10 x 305	M10 x 440
M10 x 1m	M10 x 40	M10 x 175	M10 x 310	M10 x 445
M10 x 3m	M10 x 45	M10 x 180	M10 x 315	M10 x 450
M12 x 1m	M10 x 50	M10 x 185	M10 x 320	M10 x 455
M16 x 1m	M10 x 55	M10 x 190	M10 x 325	M10 x 460
M16 x 3m	M10 x 60	M10 x 195	M10 x 330	M10 x 465
M20 x 1m	M10 x 65	M10 x 200	M10 x 335	M10 x 470
M20 x 3m	M10 x 70	M10 x 205	M10 x 340	M10 x 475
M24 x 1m	M10 x 75	M10 x 210	M10 x 345	M10 x 480
M24 x 3m	M10 x 80	M10 x 215	M10 x 350	M10 x 485
	M10 x 85	M10 x 220	M10 x 355	M10 x 490
	M10 x 90	M10 x 225	M10 x 360	M10 x 495
	M10 x 95	M10 x 230	M10 x 365	M10 x 500
	M10 x 100	M10 x 235	M10 x 370	M10 x 505
	M10 x 105	M10 x 240	M10 x 375	M10 x 510
	M10 x 110	M10 x 245	M10 x 380	M10 x 515
	M10 x 115	M10 x 250	M10 x 385	M10 x 520
	M10 x 120	M10 x 255	M10 x 390	M10 x 525
	M10 x 125	M10 x 260	M10 x 395	M10 x 530
	M10 x 130	M10 x 265	M10 x 400	M10 x 535
	M10 x135	M10 x 270	M10 x 405	M10 x 540
	M10 x 140	M10 x 275	M10 x 410	M10 x 545
	M10 x 145	M10 x 280	M10 x 415	M10 x 550
	M10 x 150	M10 x 285	M10 x 420	M10 x 555
	M10 x 155	M10 x 290	M10 x 425	M10 x 560

Expansion Products

Key Points

Require Full Guiding

Available for any Temperature or Pressure

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard

Bellows are Pre-Cold Drawn

EXCO Type AX2 Axial Bellows
Designed to accept linear expansion on copper and stainless steel pipe systems.
Standard product details are shown below, athough these may vary dependant upon application and PED requirements.

Material Specification

Flanges: (Stainless steel to all wetted areas)	Carbon Steel PN16 With Stainless steel facings
Convolutions:	316 Stainless Steel
Internal Sleeve:	316 Stainless Steel

Working Conditions

Pressure:	16 Bar
Temperature:	120 Degrees C
Test:	1.5x Working

PED Requirements
All Bellows supplied by **EXCO** are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm^2	Force to Compress N/mm	Part Number
32nb / 35cu	30	130	14	39	AX2/032/PN16
40nb / 42cu	30	130	20	53	AX2/040/PN16
50nb / 54cu	50	225	32	53	AX2/050/PN16
65nb / 67cu	50	225	49	91	AX2/065/PN16
80nb/ 76cu	50	230	66	99	AX2/080/PN16
100nb / 108cu	50	230	124	121	AX2/100/PN16
125nb / 133cu	60	240	180	117	AX2/125/PN16
150nb / 159cu	60	240	262	173	AX2/150/PN16
200nb	70	275	419	179	AX2/200/PN16
250nb	70	280	665	270	AX2/250/PN16
300nb	70	285	909	320	AX2/300/PN16

The anchor loads generated by this type of Axial Expansion Compensator are high. A bracket guide with a low frictional resistance should be used.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided (e.g. **EXCO** 253 Slide Guide or **EXCO** 114 Roller Chair and Guide). Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres.(See page 116)

Primary Pipe Guide Spacings

Anti Vibration Products

Key Points

Require Full Guiding

Available for any Temperature or Pressure

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard

Bellows are Pre-Cold Drawn

EXCO Type AX3 (SPE) Axial Bellows

Designed to accept linear expansion on Steel & Copper pipe systems.

Working Conditions

Pressure:	Standard 10 Bar (Upto 16 Bar - Dependant on PED Conditions)
Temperature:	120 Degrees C
Test:	1.5x Working

PED Requirements

All Bellows supplied by **EXCO** are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm^2	Force to Compress N/mm	Part Number
15	25	200	4	1.47	AX3/015/SPE25)
18	25	200	5	1.47	AX3/012/SPE(25
20	25	200	6	1.47	AX3/020/SPE25)
25	25	200	10	1.27	AX3/025/SPE(25)
32	25	210	16	3.04	AX3/032/SPE(25)
40	25	220	21	3.04	AX3/040/SPE(25)
50	25	250	40	3.34	AX3/050/SPE(25)

The anchor loads generated by using this type of Axial Expansion Compensator are high. It is worth keeping in mind the type of pipework bracketry that will be used. A guide bracket with a low frictional resistance should be used.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided. Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres. (See Page 116)

Primary Pipe Guide Spacings

AX3

Screwed Axial Bellow

Key Points

Require Full Guiding

Available in any Temperature or Pressure

Supplied with CE certs where Applicable

Internal Flow liner as Standard

Bellows are Pre-Cold Drawn

Material Specification

Flow Liner - 304 Stainless Steel

Convolutions - 316 Stainless Steel

Nipples - 304L Stainless Steel

EXCO Type AX3 Axial Bellows

Designed to accept linear expansion on Steel & Copper pipe systems.

Working Conditions

Pressure:	Standard 10 Bar (Upto 16 Bar - Dependant on PED Conditions)
Temperature:	120 Degrees C
Test:	1.5x Working

PED Requirements

All Bellows supplied by EXCO are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm^2	Force to Compress N/mm	Part Number
15	25	200	4	1.47	AX3/015/MSC(25)
20	25	200	6	1.47	AX3/020/MSC(25)
25	25	200	10	1.27	AX3/025/MSC(25)
32	25	210	16	3.04	AX3/032/MSC(25)
40	25	220	21	3.04	AX3/040/MSC(25)
50	25	250	40	3.34	AX3/050/MSC(25)
65	25	273	50	3.54	AX3/065/MSC(25)
15	50	300	4	1.47	AX3/015/MSC(50)
20	50	300	6	1.47	AX3/020/MSC(50)
25	50	300	10	1.27	AX3/025/MSC(50)
32	50	310	16	3.04	AX3/032/MSC(50)
40	50	320	21	3.04	AX3/040/MSC(50)
50	50	350	40	3.04	AX3/050/MSC(50)

The anchor loads generated by using this type of Axial Expansion Compensator are high. It is worth keeping in mind the type of pipework bracketry that will be used. A guide bracket with a low frictional resistance should be used.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided. Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres. (See Page 114)

Primary Pipe Guide Spacings

Primary Guide 2-4 Pipe od's

Secondary Guide 12 - 14 Pipe od's

Anchor Point

Key Points

FA1 for steel pipes

FA2 for copper & stainless steel.

Supplied with CE certs where applicable

Internal flow liner as standard

Size	Installed Length +/- 25 (mm)	Force to Deflect +/- 25mm (N/mm)	Installed Length +/- 50 (mm)	Force to Deflect +/- 50 (mm)	Part Number
25	465	10.7	750	2.8	FA1/025/PN16
32	465	10.7	750	2.8	FA1/032/PN16
40	465	10.7	750	2.8	FA1/040/PN16
50	465	12.1	750	4	FA1/050/PN16
65	465	15.9	750	5	FA1/065/PN16
80	465	56.7	750	16	FA1/080/PN16
100	465	94.0	750	27	FA1/100/PN16
125	760	21.6	1000	11	FA1/125/PN16
150	760	38.2	1000	19	FA1/150/PN16
200	1010	29.8	1250	17	FA1/200/PN16
250	1010	55.2	1250	32	FA1/250/PN16
Size	Installed Length +/- 75 (mm)	Force to Deflect +/- 75mm (N/mm)	Installed Length +/- 100 (mm)	Force to Deflect +/- 100 (mm)	Part Number
25	1035	1.3	1320	1.3	FA1/025/PN16
32	1035	1.3	1320	1.3	FA1/032/PN16
40	1035	1.3	1320	1.3	FA1/040/PN16
50	1035	1.7	1320	1.3	FA1/050/PN16
65	1035	2.2	1320	1.3	FA1/065/PN16
80	1035	7.7	1320	2.7	FA1/080/PN16
100	1035	12.3	1320	5.4	FA1/100/PN16
125	1240	4.3	1480	5.4	FA1/125/PN16
150	1240	11.1	1480	4.5	FA1/150/PN16
200	1490	11.5	1730	4.5	FA1/200/PN16
250	1490	22.8	1730	4.5	FA1/250/PN16

Material Specification

Connections:	Carbon Steel Drilled PN1 6 (Van-stone Facings on FA2)
Convolutions:	321 Stainless Steel (316 Stainless steel on FA2)
Internal Sleeve:	321 Stainless Steel (316 Stainless steel on FA2)
Tie Rods:	Carbon Steel
Hemispherical W ashers:	Carbon Steel
Connecting Spool:	Carbon Steel (316 Stainless steel on FA2)

The EXCO Type FA1 & FA2 Lateral Expansion compensator is suitable for use on systems up to 250ºC at 16 bar pressure PED certification supplied dependant upon application.

All units are supplied at installation lengths and are pre stressed. Please note EXCO can design and supply lateral expansion compensators to accommodate higher system temperatures / pressures and other rates of lateral movement or special dimensions. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

Standard Installation

These units are often used when new mains are being connected to existing mains. They allow a lateral movement to occur. These units are also useful for connections from boilers and plant, which will compensate any stresses put onto the "Headers". Advice should always be sought when using these units to ensure the units will allow the amount of movement which will occur. Please consult the Expansion Compensator Application Guide for positioning of the anchor points and subsequent support centres. (See page 114)

Key Points

AN1 for Steel Pipes

AN2 for Copper & Stainless Steel

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard

Size (mm)	Angular Deflection	Installed Length	Effective Area cm^2	Force to Deflect Nm/deg	Part Number
25	+/- 5º	195	40	1.27	AN1/025/PN16
32	+/- 5º	195	40	3.04	AN1/032/PN16
40	+/- 5º	200	40	3.04	AN1/040/PN16
50	+/- 5º	133	40	3.34	AN1/050/PN16
65	+/- 5º	133	62	1.47	AN1/065/PN16
80	+/- 5º	133	81	1.47	AN1/080/PN16
100	+/- 5º	133	127	1.27	AN1/100/PN16
125	+/- 6.5º	199	195	3.04	AN1/125/PN16
150	+/- 6.5º	199	273	3.04	AN1/150/PN16
200	+/- 7.5º	212	469	3.34	AN1/200/PN16
250	+/- 7.5º	212	700	3.04	AN1/250/PN16

Material Specification

Connections: Carbon Steel Drilled PN16 (Van-stone facings on AN2
Other Flanges Available If Required
Convolutions: 321 Stainless Steel (316 Stainless steel on AN2)
Internal Sleeve: 321 Stainless Steel (316 Stainless steel on AN2)
Hinge Pins: Carbon Steel

The EXCO Type AN1 & AN2 Angular Expansion compensators are suitable for use on systems up to 200ºC at 16 bar pressure. All units are supplied at installation lengths and are pre stressed. Please note EXCO Group can design and supply angular expansion compensators to accommodate higher system temperatures / pressures or special dimensions. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

PED Requirements

CE Certificates issued if required. All units are catagorised to PED standards, and we require accurate temperatures and pressures at time of order to enable correct selection and certification.

Standard Installation

These units are commonly used in pairs, although three pin systems can be designed if required. Please contact our sales office for application and design advice. These units can be used on a drop rod system. Please consult the Expansion Compensator Application Guide for positioning of anchor points.
(See page 114)

Key Points

GI1 for Steel Pipes

GI2 for Copper & Stainless Steel

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard

Size (mm)	Angular Deflection	Installed Length	Force to Deflect Nm/deg	Part Number
25	+/- 5º	195	8.3	GI1/025/PN16
32	+/- 5º	195	8.3	GI1/032/PN16
40	+/- 5º	195	8.3	GI1/040/PN16
50	+/- 5º	180	8.3	GI1/050/PN16
65	+/- 5º	180	10.1	GI1/065/PN16
80	+/- 5º	180	31.4	GI1/080/PN16
100	+/- 5º	180	60.8	GI1/100/PN16
125	+/- 6.5º	225	36.2	GI1/125/PN16
150	+/- 6.5º	225	55.3	GI1/150/PN16
200	+/- 7.5º	250	107.1	GI1/200/PN16
250	+/- 7.5º	250	192	GI1/250/PN16

Material Specification

Connections:	Carbon Steel Drilled PN16 (Van-stone facings on GI2) Other Flanges Available If Required
Convolutions:	321 Stainless Steel (316 Stainless steel on GI2)
Internal Sleeve:	321 Stainless Steel (316 Stainless steel on GI2)
Hinge Pins:	Carbon Steel

The EXCO Type GI1 & GI2 Gimbal Expansion compensators are suitable for use on systems up to 200ºC at 16 bar pressure. All units are supplied at installation lengths and are pre stressed.

Please note EXCO can design and supply gimbal expansion compensators to accommodate higher system temperatures / pressures or special dimensions. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

PED Requirements

CE Certificates issued if required. All units are catagorised to PED standards, and we require accurate temperatures and pressures at time of order to enable correct selection and certification.

Standard Installation

These units are commonly used in pairs, although three pin systems can be designed if required. Please contact our sales office for application and design advice. These units can be used on a drop rod system. (See page 114)

D-Flex Untied

Flanged Pump Flexible

Key Points

Flanges: Carbon Steel - Drilled PN16 or PN6
(Other Flanges Available)

Nylon Re-inforced EPDM Rubber Body

Steel Reinforced Collars

Round flanges - No Tie Bars

Size (mm)	Installed Length	Material Type	Temperature Limits ºC	Part Number
32	130	Nylon Reinforced EPDM	-10 - 90	EXCO/032/PN16/6
40	130	Nylon Reinforced EPDM	-10 - 90	EXCO/040/PN16/6
50	130	Nylon Reinforced EPDM	-10 - 90	EXCO/050/PN16/6
65	130	Nylon Reinforced EPDM	-10 - 90	EXCO/065/PN16/6
80	130	Nylon Reinforced EPDM	-10 - 90	EXCO/080/PN16/6
100	130	Nylon Reinforced EPDM	-10 - 90	EXCO/100/PN16/6
125	130	Nylon Reinforced EPDM	-10 - 90	EXCO/125/PN16/6
150	130	Nylon Reinforced EPDM	-10 - 90	EXCO/150/PN16/6

EXCO D-Flex Pump Flexibles are installed to absorb vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying Chilled & Heating Water. Please see above for temperature & Pressure limits.

EXCO D Flex units are not suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

EXCO D Flex Untied units should not be installed on pumps located on Inertia bases

EXCO D-Flex units are manufactured from spherical moulded EPDM, which is a soft compound to offer a high isolation efficiency and high noise absorbing properties.

EXCO The units are a full bore thus removing pressure drop problems. The EPDM rubber is nylon re-inforced, and has a steel wire re-inforced collar.

Flanges BZP coated carbon steel PN16.

D-Flex units have a 10 year design life when used on LTHW systems.

EXCO D Flex units are stamped with Origin of Manufacture, Date Of Manufacture, Batch Number and Size.

Please note no torsion forces should be applied to these units.

EXCO also Supply DIN 4809 Approved Pump Flexibles. Please Contact our Sales Office for further information.

Key Points

Flanges: Carbon Steel - Drilled PN16
(Other Flanges Available)

Nylon Re-inforced EPDM Rubber Body

Steel Reinforced Collars

Tie Bars: Anti-Tamper Carbon Steel

Size (mm)	Installed Length	Material Type	Temperature Limits ºC	Part Number
32	130	Nylon Reinforced EPDM	-10 - 90	EXCO/032/PN16T
40	130	Nylon Reinforced EPDM	-10 - 90	EXCO/040/PN16T
50	130	Nylon Reinforced EPDM	-10 - 90	EXCO/050/PN16T
65	130	Nylon Reinforced EPDM	-10 - 90	EXCO/065/PN16T
80	130	Nylon Reinforced EPDM	-10 - 90	EXCO/080/PN16T
100	130	Nylon Reinforced EPDM	-10 - 90	EXCO/100/PN16T
125	130	Nylon Reinforced EPDM	-10 - 90	EXCO/125/PN16T
150	130	Nylon Reinforced EPDM	-10 - 90	EXCO/150/PN16T
200	130	Nylon Reinforced EPDM	-10 - 90	EXCO/200/PN16T
250	130	Nylon Reinforced EPDM	-10 - 90	EXCO/250/PN16T
300	On Request	Nylon Reinforced EPDM	-10 - 90	EXCO/300/PN16T
350	On Request	Nylon Reinforced EPDM	-10 - 90	EXCO/350/PN16T
400	On Request	Nylon Reinforced EPDM	-10 - 90	EXCO/400/PN16T

EXCO D-Flex Pump Flexibles are installed to reduce Vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying Chilled & Heating Water. Please see above for temperature & Pressure limit. EXCO D-Flex units are not suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

EXCO D-Flex units are manufactured from spherical moulded EPDM, which is a soft compound to offer a high isolation efficiency and high noise absorbing properties.

The D-flex units tied type has specially designed anti tamper tie bars. This will only allow the units to be installed at their optimal length and avoid elongation of the unit. These units are 16 bar rated.

The units are a full bore thus removing pressure drop problems.
The EPDM rubber is nylon re-inforced, and has a steel wire re-inforced collar.

Flanges BZP coated carbon steel PN16.

D-Flex units have a 10 year design life when used on LTHW systems.

EXCO D Flex units are stamped with Origin of Manufacture, Date Of Manufacture, Batch Number and Size.

Please note no torsion forces should be applied to these units.

EXCO also supply DIN 4809 Approved Pump Flexibles. Please contact our sales office for further information.

D-Flex Screwed Pump Flexible

Key Points

Unions: Carbon Steel

Nylon Re-inforced EPDM Rubber Body

Steel Reinforced Collars

Size (mm)	Installed Length	Material Type	Temperature Limits ºC	Part Number
15	200	Nylon Reinforced EPDM	-10 - 90	PGS/015
20	200	Nylon Reinforced EPDM	-10 - 90	PGS/020
25	200	Nylon Reinforced EPDM	-10 - 90	PGS/025
32	200	Nylon Reinforced EPDM	-10 - 90	PGS/032
40	200	Nylon Reinforced EPDM	-10 - 90	PGS/040
50	200	Nylon Reinforced EPDM	-10 - 90	PGS/050

EXCO D-Flex Pump Flexibles are installed to absorb vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying Chilled & Heating Water. Please see above for temperature & Pressure limits.

EXCO D Flex units are not suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

EXCO D Flex Untied units should not be installed on pumps located on Inertia bases

EXCO D-Flex units are manufactured from spherical moulded EPDM, which is a soft compound to offer a high isolation efficiency and high noise absorbing properties.

The units are a full bore thus removing pressure drop problems. The EPDM rubber is nylon re-inforced, and has a steel wire re-inforced collar.

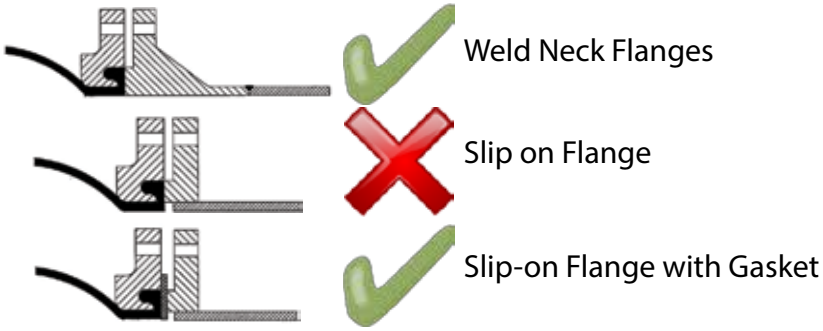
Unions BZP coated carbon steel PN16.

D-Flex units have a 10 year design life when used on LTHW systems.

EXCO D Flex units are stamped with Origin of Manufacture, Date Of Manufacture, Batch Number and Size.

Please note no torsion forces should be applied to these units.

EXCO also supply DIN 4809 approved pump flexibles. Please contact our sales office for further information.



Weld Neck Flanges

Slip on Flange

Slip-on Flange with Gasket

A. Pre-installation Check

1. Selection

Prior to installation, check you have the right bellows for the particular duty.
Rubber bellows have temperature and pressure limitations. See EXCO Data Sheets for your product.
All rubber bellows will extend under pressure. These pressure thrust forces can be very substantial at pressures above 2 bar and 65mm N.B. size. Unless the pipe work can be sufficiently anchored a tied bellows should be fitted.

2. Mating Flanges

We recommend the rubber bellows are mated up against full-bore weld neck flanges. If installed in this manner no additional gaskets are required.
We advise against using slip on or screwed flanges as mating flanges, as these can damage the rubber bellows. Once the sealing face has been damaged medium, will penetrate the reinforcement layers and destroy the integrity of the bellows.
If it is unavoidable to use this type of mating flange, a gasket must be installed. (This should be a hard gasket such as Klingerite and be at least 3mm thick) The gasket should reach the internal bore of the rubber bellows. Another option is to fill the gap of the slip on flange with weld and grind it flush.

3. Misalignment

Check the two mating flanges are parallel and that they are in line (maximum allowed offset is 5mm in any direction). The gap between flanges should be within +/- 5mm of the bellows neutral. Under no circumstances must the Pump Flexible be used to take up misalignment.
Ensure the pipework is adequately supported. The bellows must not support pipes or plant.

B. Installation

1. Bolts

Bolts should be inserted from the bellows side. On some larger sizes this may not be possible. In that case a bolt of the exact length needs to be selected. An alternative is to use studding cut to length and fitted with a nut at both sides. This is important, as the bellows will increase in diameter under pressure. Even if there is space between the bolt and the bellows in an un-pressurised state, they may foul when pressurised. Bolts of the right diameter must be used to ensure correct alignment.

2. Alignment
Take care when inserting the bellows into the gap between the two mating flanges. Sharp edges can damage the sealing face of the rubber bellows. Before tightening the bolts, ensure the bellows sits evenly in its flange groove and does not get pinched between flanges. The sealing face of the bellows must be concentric with the sealing face of the mating flanges.

3. Tightening the Bolts
Great care has to be taken with the tightening of the flange bolts. Remember you are tightening against a rubber face. As with gaskets, over tightening will cause the joints to leak and it will damage the bellows. "Tighter is definitely not better!"
Tighten opposite bolts to get an even pressure all round (check the gap between the flanges).
Rubber will set and the bolts will have to be retightened after 24 hours.

4. Tie Bars
Once the bellows is fitted, ensure the tie bars are tight. All tie bars should be at equal length. When three or more tie bars are fitted it may be necessary to remove one tie bar to install the bellows. Ensure that washers are re-assembled in the right order and orientation.

C. Taking Care of Rubber Bellows

1. Paint -	Do not paint rubber bellows. The paint will attack the rubber. (This also applies to paint splatter).
2. Welding -	Protect the rubber from weld spatter.
3. Lagging -	Do not Lag rubber bellows on heating systems. The increased temperature will reduce the life of the bellows.
4. Tie Bar Check -	Once the system is filled but not under pressure, check the tie bars are still tight (pipe work on springs may have dropped due to the weight of the water). Note: - tie bars should never be slackened off to reduce noise or vibration transmission, major damage to equipment may occur.
5. Water Treatment -	Most bellows use an EPDM inner liner. EPDM is a proven material in heating and chilled water systems. It is resistant to glycol and to most chemicals used in water treatment, when used in normal concentrations. Suppliers of water treatment chemicals are reluctant to give information about their formulations, we cannot approve any specific chemical.

Always check with the chemical supplier that the additives are suitable for use with EPDM rubber. For other mediums check with EXCO for suitability.

D. Best Practice

The following are only recommendations but if followed they will ensure proper installation and maximum service life of the rubber bellows.

1. Fitting -	We recommend the use of stool pieces to align mating flanges and to ensure the correct gap. (They are available from EXCO).
2. System -	When the bellows are installed on rotating equipment such as pumps to absorb noise and vibration, the pipe work either side of the bellows should be guided. This ensures the bellows move and not the pipe work thus acting as an acoustic break.

WRAS APPROVED PRODUCT

Key Points

Suitable for Potable Water

Suitable for High Temperatures

PED Certified as Required

Stainless Steel to all Wetted Areas

Size (mm)	Installed Length	Material Type	Temperature Limits ºC	Part Number
32nb / 35cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/032/PN16T
40nb / 42cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/040/PN16T
50nb / 54cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/050/PN16T
65nb / 67cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/065/PN16T
80nb / 76cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/080/PN16T
100nb / 108cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/100/PN16T
125nb / 133cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/125/PN16T
150nb / 159cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/150/PN16T
200nb	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/200/PN16T
250nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/250/PN16T
300nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/300/PN16T
350nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/350/PN16T
400nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/400/PN16T

EXCO D-Flex Pump Flexibles are installed to reduce Vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying high temperature water or potable water systems. Please see above for temperature & Pressure limits. EXCO FA3 units are suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

Material Specification

Connections:	Carbon Steel Drilled PN1 6 Van-stone Facings
Convolutions:	316 Stainless steel
Internal Sleeve:	316 Stainless steel
Tie Rods:	Carbon Steel
Hemispherical Washers:	Carbon Steel
Connecting Spool:	316 Stainless steel

The EXCO Type FA3 Pump Flexible is suitable for use on systems up to 200oC at 16 bar pressure. PED certification supplied dependant upon application.

All units are supplied at installation lengths and are pre stressed. Please note, EXCO can design and supply flexible connections to accommodate higher system temperatures / pressures. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

EPDM Flexible Hose

Key Points

EPDM Rubber Core

304 Stainless Steel Overbraid

Hose WRAS Approved

Manufactured by EXCO in the UK

0 - 100oC @ 10 Bar

Description - EPDM Rubber hose with 304 Stainless steel overbraid, swaged fittings to clients requirements.

Testing - Hydrostatic batch test to minimum 20 bar cold. Test Certificate can be submitted upon request.

Approvals - All hose is WRAS approved irrespective of application.

Applications - Fan Coil Connections
Radiant Panel Connections
Tap Connections

Fittings

FIT001
Fixed Taper Male

FIT002
Swivel Flat Face Female

FIT003
Swivel Coned Seat Female

FIT004
Compression

FIT005
Brass Standpipe

FIT006
Flat Face 90º Female Elbow

FIT007
Coned Face 90º Female Elbow

FIT008
Plastic Push Fit (Brass Push Fit Available on Request)

FIT009
Flat Faced Insert with Retained Washer

FIT0010
Long Tap Tail (Also Avilable Short Tail)

Key Points

321 Stainless Steel Core

304 Stainless Steel Overbraid

Manufactured in the UK

0 - 100oC @ 10 Bar

- Description - 321 Stainless steel hose with 304 Stainless steel overbraid. Welded fittings to client requirements.
- Testing - Hydrostatic batch test to minimum 20 bar cold. Test Certificate can be submitted upon request.
- Applications - Fan Coil Connections
  Radiant Panel Connections
  Tap Connections
  Final Connections to Equipment

Fittings

FIT001
Fixed Taper Male

FIT002
Swivel Flat Face Female

FIT003
Swivel Coned Seat Female

FIT006
Flat Face 90º Female Elbow

FIT007
Coned Face 90º Female Elbow

Key Points

10 Year Guarantee for EPDM. 2 Year Gaurentee for Stainless Steel

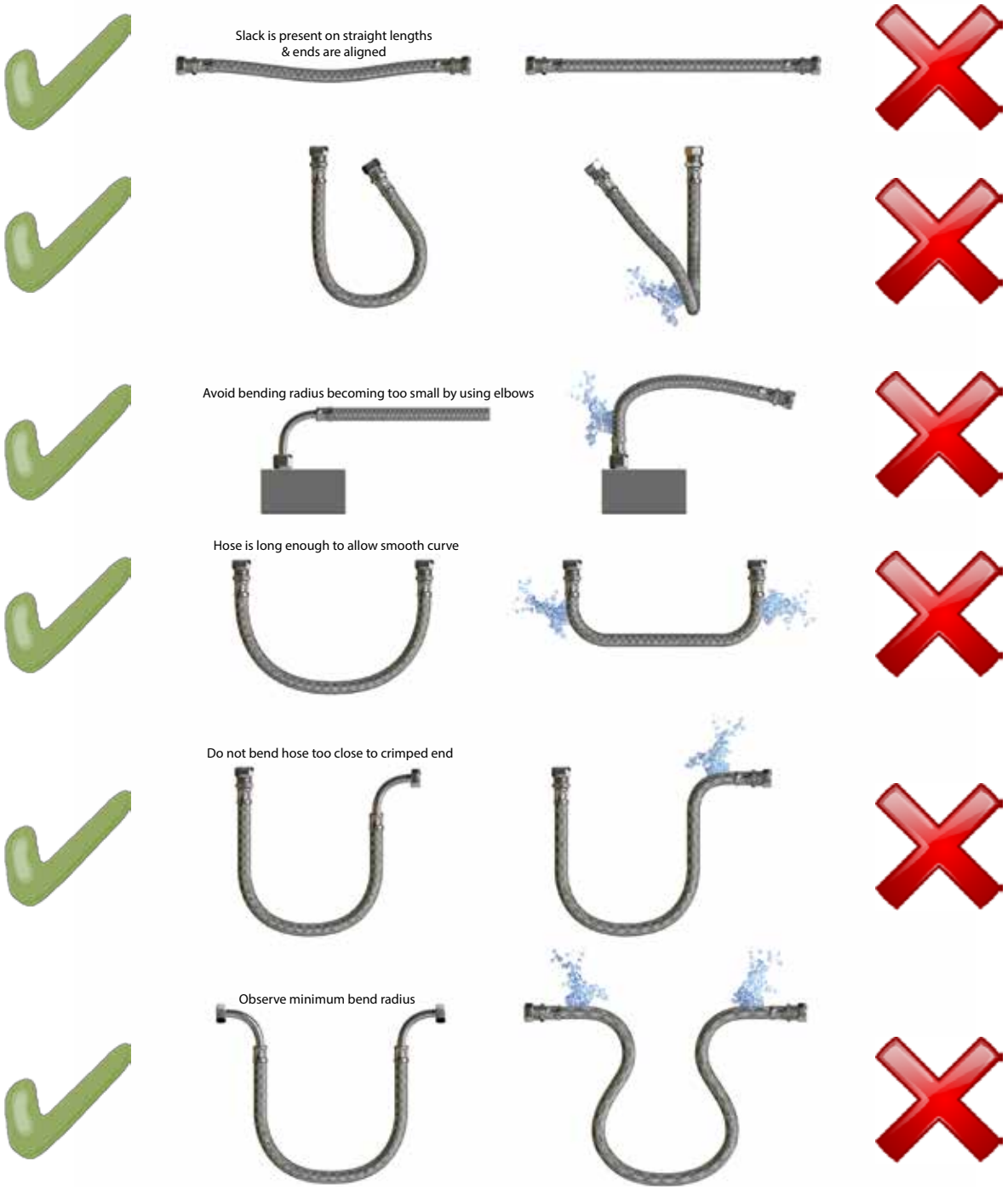
25 Year Design Life

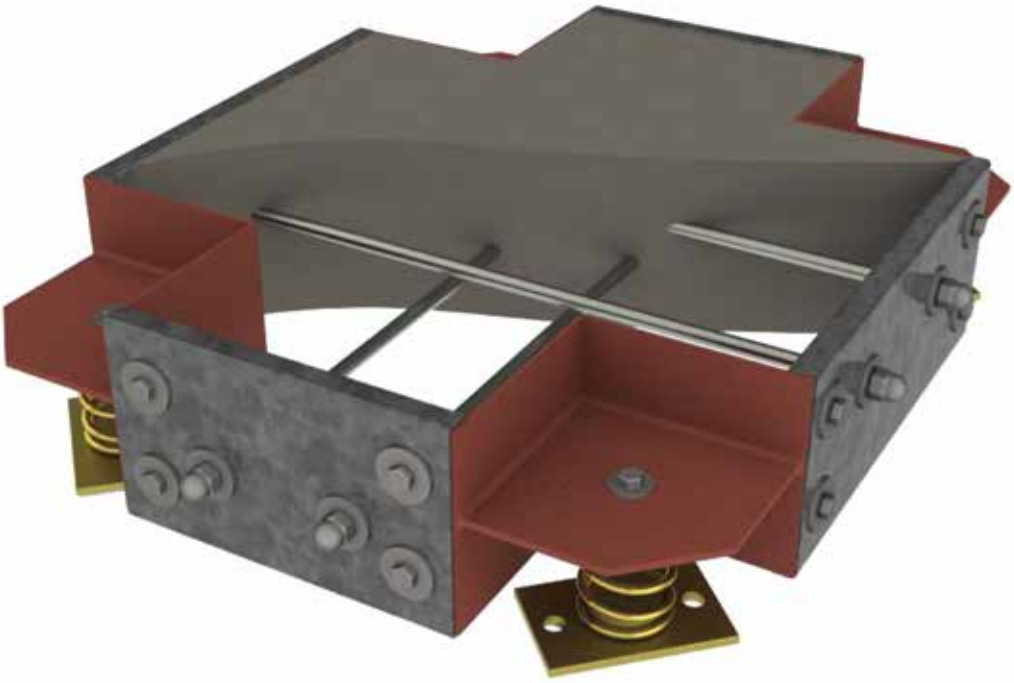
ISO9001 Quality System

Manufactured at EXCO in the UK

Installation

Installation conditions as below
must be adhered to, to ensure longevity of the product.





- EXCO Inertia Bases are supplied in a flat pack form to allow ease of installation on site, but can be delivered assembled if required. These are supplied with spring mounts and all fixings required to assemble the inertia base.

- EXCO can calculate the size of inertia base required. Please forward the pump details to DST Group Sales Office. As standard the EXCO Inertia Bases are supplied either 150mm or 300mm deep.

- EXCO Inertia Bases are supplied to provide no less than 1.5 : 1.0 Rate of inertia. As standard these bases are supplied with Springs.

- EXCO can, if required supply these bases fully assembled and cast with a 24N mix of concrete.

- EXCO advise that EXCO/***/PN16T Tied EXCO D-Flex Pump Flexibles are used for isolating vibration from pump connections.

Please Note:

Spring selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - Again EXCO can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, othercoatings can be offered for external use. Please advise if your application is extenal.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

DS0 & DS1
Enclosed Spring Mount

Key Points

Anti-Vibration Mount for Plant & Machinery

Enclosed Spring for Greater Stability.

Standard 25mm Deflection

Can be used in Conjunction with Inertia Bases

Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
DS/0-0050	130	110	M10	M12	11-23	25
DS/0-0080	130	110	M10	M12	18-37	25
DS/0-0130	130	110	M10	M12	30-60	25
DS/0-0200	130	110	M10	M12	45-91	25
DS/0-0300	130	110	M10	M12	68-137	25
DS/0-0500	130	110	M10	M12	114-228	25
DS/0-0630	130	110	M10	M12	148-296	25
DS/0-0800	130	110	M10	M12	182-364	25
DS/1-0150	173	148	M12	M12	34-69	25
DS/1-0200	173	148	M12	M12	45-91	25
DS/1-0300	173	148	M12	M12	68-137	25
DS/1-0500	173	148	M12	M12	114-228	25
DS/1-0750	173	148	M12	M12	170-341	25
DS/1-1000	173	148	M12	M12	227-455	25
DS/1-1200	173	148	M12	M12	273-546	25
DS/1-1400	173	148	M12	M12	318-637	25
DS/1-2-1700	173	148	M12	M12	386-773	25
DS/1-2-1900	173	148	M12	M12	432-864	25

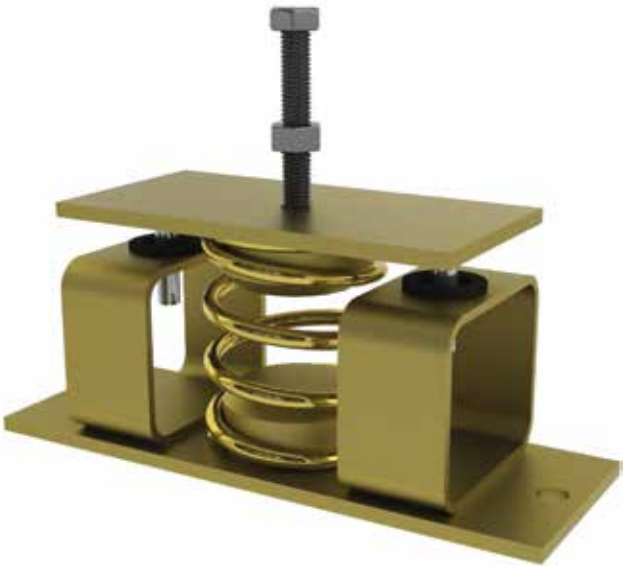
Please Note

Spring selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - EXCO can advise on selection at time of ordering.

Standard housing is powder coated, the standard spring is BZP, other coatings can be offered for external use. Please advise if your application is extenal.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.



Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK

Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
RS/0-0050	230	198	M12	M12	11-23	30
RS/0-0080	230	198	M12	M12	18-37	30
RS/0-0130	230	198	M12	M12	30-60	30
RS/0-0200	230	198	M12	M12	45-91	30
RS/0-0300	230	198	M12	M12	68-137	30
RS/0-0500	230	198	M12	M12	114-228	30
RS/0-0630	230	198	M12	M12	148-287	30
RS/0-0800	230	198	M12	M12	182-364	30
RS/0-1100	230	198	M12	M12	250-500	30
RS/1-0425	230	198	M12	M12	97-194	30
RS/1-0600	230	198	M12	M12	136-273	30
RS/1-0750	230	198	M12	M12	170-341	30
RS/1-1000	230	198	M12	M12	227-455	30
RS/1-1400	230	198	M12	M12	318-637	30
RS/1-1700	230	198	M12	M12	386-773	30
RS/1-2000	230	198	M12	M12	455-910	30
RS/1-2400	230	198	M12	M12	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - EXCO can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is extenal.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Open Spring Mount

Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK

Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
OS/0-0050	130	92	M12	M10	11-23	30
0S/0-0080	130	92	M12	M10	18-37	30
OS/0-0130	130	92	M12	M10	30-60	30
OS/0-0200	130	92	M12	M10	45-91	30
OS/0-0300	130	92	M12	M10	68-137	30
OS/0-0500	130	92	M12	M10	114-228	30
OS/0-0630	130	92	M12	M10	148-287	30
OS/0-0800	130	92	M12	M10	182-364	30
OS/0-1100	130	92	M12	M10	250-500	30
OS/1-0425	165	120	M12	M12	97-194	30
OS/1-0600	165	120	M12	M12	136-273	30
OS/1-0750	165	120	M12	M12	170-341	30
OS/1-1000	165	120	M12	M12	227-455	30
OS/1-1400	165	120	M12	M12	318-637	30
OS/1-1700	165	120	M12	M12	386-773	30
OS/1-2000	165	120	M12	M12	455-910	30
OS/1-2400	165	120	M12	M12	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - EXCO can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is extenal.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Neoprene Mount

Key Points

Suitable for isolating vibration from packaged units

Pressurisation Units

Please advise the weight and plant footprint requiring isolation for mount recommendations

Weight (Kg)	Material Type	Hole Tapping Size	Dimensions (mm) Width x Height	Part Number
150	Neoprene Commercial Grade Black Rubber	M10	75 x 32	CMC/150/M
300	Neoprene Commercial Grade Black Rubber	M12	90 x 40	CMC/300/M

Neoprene Hanger

Key Points

Isolating vibration from Pipework

Please advise the weight of plant requiring isolation for hanger recommendations

Weight (Kg)	Material Type	Hole Tapping Size	Dimensions (mm) Width x Height	Part Number
150	Neoprene Commercial Grade Black Rubber	M10	75 x 32	CMC/150/M
300	Neoprene Commercial Grade Black Rubber	M12	90 x 40	CMC/300/M

Please Note:

Mount selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different mount loads maybe required at different locations - Again EXCO can advise on selection at time of ordering.

Mounts when fitted should be loaded equally, installing one mount before another will lead to uneven load.

Standard Spring Hangers

Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK

Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
SHO S/0-0050	150	180	M12	M12	11-23	30
SHO S/0-0080	150	180	M12	M12	18-37	30
SHO S/0-0130	150	180	M12	M12	30-60	30
SHO S/0-0200	150	180	M12	M12	45-91	30
SHO S/0-0300	150	180	M12	M12	68-137	30
SHO S/0-0500	150	180	M12	M12	114-228	30
SHO S/0-0630	150	180	M12	M12	148-287	30
SHO S/0-0800	150	180	M12	M12	182-364	30
SHO S/0-1100	150	180	M12	M12	250-500	30
SHO S/1-0425	250	250	M16	M16	97-194	30
SHO S/1-0600	250	250	M16	M16	136-273	30
SHO S/1-0750	250	250	M16	M16	170-341	30
SHO S/1-1000	250	250	M16	M16	227-455	30
SHO S/1-1400	250	250	M16	M16	318-637	30
SHO S/1-1700	250	250	M16	M16	386-773	30
SHO S/1-2000	250	250	M16	M16	455-910	30
SHO S/1-2400	250	250	M16	M16	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - EXCO can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is extenal.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Spring Hanger with Positioning Plate

Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK

Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
SHOS/0/P-0050	150	180	M12	M12	11-23	30
SHOS/0/P-0080	150	180	M12	M12	18-37	30
SHOS/0/P-0130	150	180	M12	M12	30-60	30
SHOS/0/P-0200	150	180	M12	M12	45-91	30
SHOS/0/P-0300	150	180	M12	M12	68-137	30
SHOS/0/P-0500	150	180	M12	M12	114-228	30
SHOS/0/P-0630	150	180	M12	M12	148-287	30
SHOS/0/P-0800	150	180	M12	M12	182-364	30
SHOS/0/P-0110	150	180	M12	M12	250-500	30
SHOS/1/P-0425	250	250	M16	M16	97-194	30
SHOS/0/P-0600	250	250	M16	M16	136-273	30
SHOS/1/P-0750	250	250	M16	M16	170-341	30
SHOS/1/P-1000	250	250	M16	M16	227-455	30
SHOS/1/P-1400	250	250	M16	M16	318-637	30
SHOS/1/P-1700	250	250	M16	M16	386-773	30
SHOS/1/P-2000	250	250	M16	M16	455-910	30
SHOS/1/P-2400	250	250	M16	M16	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - EXCO can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - EXCO can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is extenal.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Passive Fire Protection

Construction
Stainless Steel
Intumescent Liner
Acoustic Rubber Seals

For Use With
Steel Tubes
Copper Tubes
Plastic Tubes

Standards

Fully tested by independent Fire Testing Authorities, in accordance with British and European Standards

Provides inherent fire safety and protection by responding against flame, heat and smoke

Maintains the fundamental requirements of building integrity, structural stability, fire separation and safe means of escape

Achieve their intended purpose by raising the fire resistance of the structure, protecting against the effects of fire, and limiting the movement of flame and smoke

Products serve, by fire containment, to protect life, safeguard building structure and protect assets

Description

Suitable for fire containment in both plasterboard and block work walls for upto two hour fire rated seal

The Fire Sleeve Pipe Wrap is a stainless steel sleeve lined with a high expansion intumescent compound overlaid with a fire resistant acoustic foam compression seal

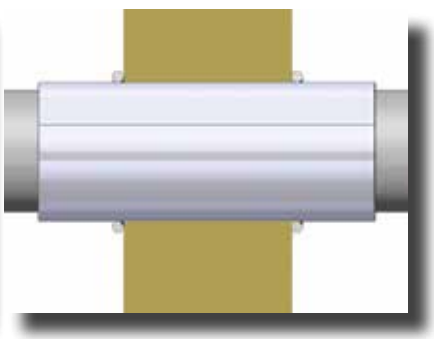
The intumescent liner and foam are water, moisture and lubricant resistant

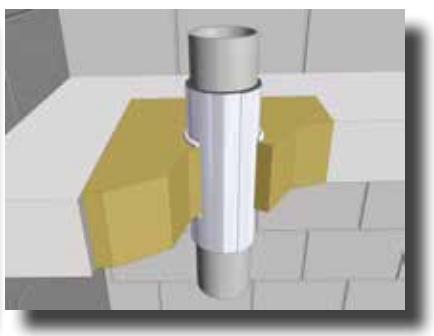
The intumescent liner expands when exposed to heat and so provides a fire barrier

When used to seal plastic pipes it will fill the void left by the collapsing pipe

Intumescent, expands up to 50 times whilst creating high pressure of a minimum of 30 bar compression strength. It will close a plastic pipe, which is collapsing due to fire

Installation





IMPORTANT NOTICE: DO NOT REDUCE THE LENGTH OF THE SLEEVE

Fire Sleeve Pipe Wrap

Construction
Stainless Steel
Intumescent Liner
Acoustic Rubber Seals

For Use With
Steel Tubes
Plastic Tubes
Copper Tubes

Benefits

- Easy to fit 'Snap-Lock' action saves fitting time
- Unaffected by water, moisture or lubricants
- Up to 2 hours of fire resistance rating
- Highly flexible
- Available in a range of pipe sizes
- Maintenance free
- Acoustic rated foam forms a cold smoke seal
- Lightweight

Product Data – Compression Seal

- Density (Kgm3) Minimum 75
- FMVSS 302 Self Extinguishing
- BS 4753 Char Length 4-5mm
- Wicking None
- Dripping None

Temperature (ºC)	Depth of Seal (mm)	Expansion Rate
Ambient	1	
150	1	
170	2.1	2
200	4	4
250	12.7	12
300	28	28
450	42.3	42
600	51.7	52
800	56	56

Product Data – Intumescent Liner

- Description: a flexible graphite impregnated compound
- Density: approx. 1.3g/cm3
- Colour: black
- Expansion start temperature: approx. 200ºC
- Total expansion volume: > 50 fold
- Pressure: minimum 30 bar

Limitations of use

Not to be used against sub straights that bleed oils, plasticisers or solvents. Tested following the principals of BS 476 Part 20 and EN 1366-3: 2009.

Packaging

Fire Sleeve Pipe Wraps are manufactured in 205mm lengths. Individually packed.

Storage

Store in frost free, dry conditions below 30oC.

Health & Safety

Fire Sleeve Pipe Wrap presents no hazard to health during installation.
All copies of test reports are available upon request.

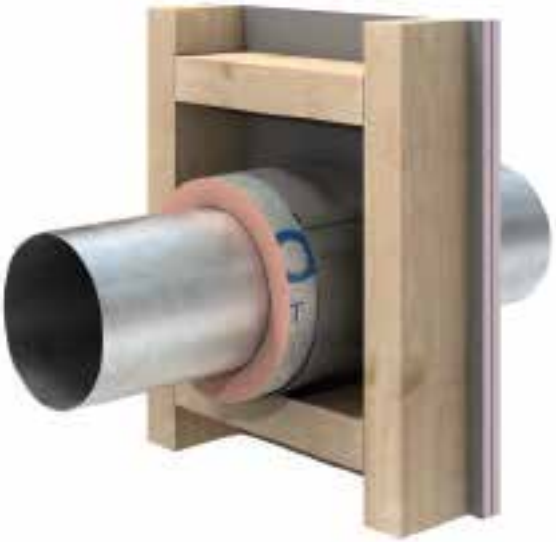
All Pipe Sleeves are 205 mm long

Sizes are the same for Steel, Copper and Plastic Pipe.

Size Ø mm	Size Ø mm
15	96
18	99
21	102
24	105
27	108
30	111
33	114
36	117
39	120
42	123
45	126
48	129
51	132
54	135
57	138
60	141
63	144
66	147
69	150
72	153
75	156
78	159
81	162
84	165
87	168
90	171
93	174

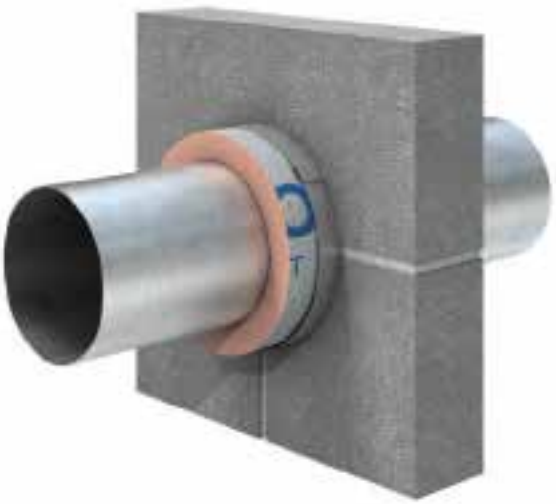
Larger Sizes Available on Request

As part of Excos complete passive fire protection system offering, Kooltherm® FireSleeves are a unique combination of high performance phenolic insulation, intumescent and stainless steel.



These innovative products act as a 2 hour fire stop on both steel and copper pipe service penetrations through timber frame and block wall applications, and incorporate the excellent fire and smoke performance of Kooltherm® FM Pipe Insulation up to 30mm thick.

Kooltherm® FireSleeves comprise of an outer sleeve of 0.5mm thick stainless steel which is clasp fastening and 205mm in length. It is lined with intumescent material. The stainless steel sleeve, encloses a 300mm length of Kooltherm® FM Pipe Insulation which is also lined with intumescent material.



Kooltherm® FireSleeves can be supplied in the following sizes:

NB	OD	THICKNESS			
INCH	MM	20THK	25THK	30THK	40THK
		Integrity/ Insulation	Integrity/ Insulation	Integrity/ Insulation	Integrity/ Insulation
	15cu	120 / 60t	120 / 60		
1/2	15nb/22cu	120 / 60	120 / 60		
3/4	20nb/28cu	120 / 60	120 / 60		
1	25nb/35cu	120 / 60	120 / 60	120 / 60	
1 1/4	32nb/42cu	120 / 60	120 / 60	120 / 60	
1 1/2	40nb	120 / 60	120 / 60	120 / 60	
	54cu	120 / 60	120 / 60	120 / 60	
2	50nb	120 / 60	120 / 60	120 / 60	
	67cu	120 / 60	120 / 60	120 / 60	
2 1/2	65nb/76cu	120 / 60	120 / 60	120 / 60	
3	80nb	120 / 60	120 / 60	120 / 60	
	108cu	120 / 60	120 / 60	120 / 60	60/60
4	100nb	120 / 60	120 / 60	120 / 60	60/60
5	125nb	120 / 60	120 / 60	120 / 60	60/60
	133cu	120 / 60	120 / 60	120 / 60	60/60
	159cu	120 / 60	120 / 60	120 / 60	60/60
6	150nb	120 / 60	120 / 60	120 / 60	60/60
8	200nb	120 / 60			

Installation Guidance

1. Prepare opening in the wall, with minimal disturbance to surrounding structure.

2. Open Kooltherm® FireSleeve and install the 300mm lined Kooltherm® Insulation onto the pipe. Fit the 205mm stainless steel fire sleeve over the intumescent lined Kooltherm® FM Pipe Insulation and ensure that the stainless steel clasp is fully engaged.

3. Ensure the Kooltherm® FireSleeve is positioned centrally with in the opening.

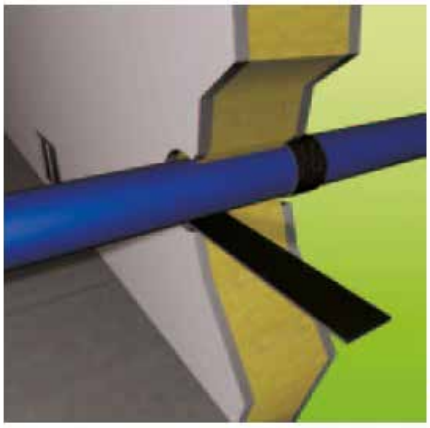
4. Seal any gaps of 5mm or less around the exterior surface of the Kooltherm® FireSleeve with a 2hr Fire Rated Intumescent Mastic. Large gaps over 5mm should be filled with an appropriate fire rated filler or mortar.

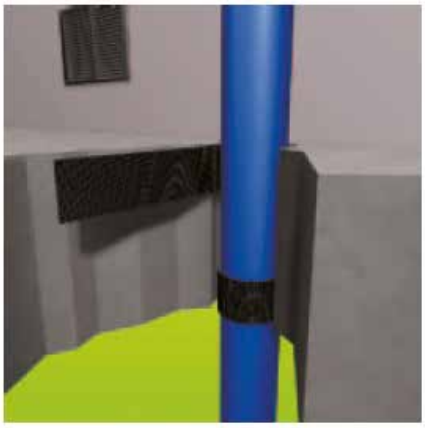
5. Install Kooltherm® FM Pipe Insulation flush to the Kooltherm® FireSleeve and vapour seal in accordance with the project specification.

Fire Performance

Kooltherm® FM Pipe Insulation products and Pipe Support systems achieve a BL-s1, d0 classification to EN 13501-1 when tested under the European Fire Classification System (Euroclass) for `reaction to fire'.

Endless Wrap System





Construction
Intumescent Material
Glass Fibre Mesh
Adhesive backed

For Use With
Insulated Steel Tubes
Plastic Tubes
Insulated Copper Tubes

CE

Endless Wrap wrap gives the users versatility when installing in a multitude of common site conditions, Endless Wrap is supplied in a convenient 25m long, 40mm wide roll.

Endless Wrap is an intumescent material, based on elastomeric thermoplastic polymers combined with active components that provide high a volume expansion and pressure seal in the event of a fire.

As plastics soften or insulation burns away in the heating condition of the fire, Endless Wrap expands to close off the void left by the pipe or insulation.

Compatible pipes and insulation (see tables) are tested to a size of 200mm in diameter through flexible walls and rigid floors and walls, and for use alongside the Exco range of products.

Compatible With
PVC
PP
MDPE
PE
PVC-U
PVC-C
ABS
HDPE
SAN+PVC

ENDLESS WRAP COMFIGURATION FOR METALLIC PIPES WITH INSULATION UPTO 120MINS		
INSULATION TYPE	No OF WRAPS	THICKNESS
Phenolic Foam	2	4
Elastomeric Foam	2	4
Glass Wool	2	4
Stone Wool	2	4

ENDLESS WRAP COMFIGURATION UPTO 120MINS		
PIPE OD	No OF WRAPS	THICKNESS
40	1	2
55		4
63	2	4
75	2	4
82	2	4
90	3	6
110	3	6
125	4	8
160	4	8
200	5	10

Construction
Stainless Steel
Intumescent Liner
Acoustic Rubber Seals

For Use With
Steel Tubes
Copper Tubes
Plastic Tubes

CE

Description

EC Endless Collar consists of the high performance intumescent material Strip which is wrapped in one or more layers around the pipe or the insulation and fixed with a stainless steel strap and hooks at the wall or ceiling. In the event of a fire, the intumescent material expands with high pressure and thus seals the opening hermetically against flames and smoke. For wall installations one pipe collar on each side of the wall and for ceiling installations one collar on the underside of the ceiling must be provided.

Applications

- Sealing of plastic pipes up to max. 160 mm outside diameter in solid walls, drywall partitions and solid ceilings
- Suitable for plastic pipes, mineral fibre reinforced plastics, and plastic composite pipes
- PE acoustic insulation is possible at plastic pipes
- Synthetic rubber insulation on plastic pipes, copper and metal pipes possible
- Useable in combination with ROKU® FPF Fire Protection Foam (straight pipes and corner solutions)

Advantages

- Flexible solution for individual applications
- Very low installation height of the collar
- One sealing serves for maximum 3 pipes side by side
- Suitable for the application in wet and humid areas
- Slim collar
- For plastic pipes in corner constructions only 2/3 of the pipe sealing may be applied
- Delivery in a practical dispenser box

Intumescent Acrylic Mastic

Description

Intumescent Sealant is suitable for sealing joints and service penetrations in fire walls, partitions, fire rated door frames and glazing systems. Tested to BS476 Parts 20 and 22, EXCO Group Acoustic Intumescent Sealant provides up to 4 hours fire protection in joints of up to 30mm wide

Suitable for

- Perimeter pointing around door and window frames
- Sealing small openings in fire walls and floors.
- Sealing around plastic pipe or cable penetrations which have been protected with the recommended EXCO Intumescent product eg. Fire Sleeve Pipe Wraps.

Features

- Fire rating up to 4 hours.
- Excellent adhesion to many common building substrates.
- Joint movement accommodation +/-17.5%.
- EXCO Acrylic Sealant expands by approximately 20% in fire conditions.
- EXCO Acrylic Sealant is fully paintable.

Testing

- Tested to BS476 Part 20:1987 and other International Standards.

Health and Safety

- According to 91/155/EEC Revision No.1.

Joint Size (mm)	Depth of Sealant (mm)	Integrity (mins)	Insulation (mins)	Backing	Type of Seal
10	10	240	30	PE Foam	Single
15	10	240	30	PE Foam	Single
20	15	240	120	PE Foam	Dual
20	20	240	60	C144 Firestrip	Single
30	20	240	120	PE Foam	Dual
30	15	240	30	C144 Firestrip	Single

Substrate Performance	
Glass	
Glass (normal)	yes
Glass (stained)	yes
Glass (reflective)	yes
Metals	
Aluminium (milled)	yes
Alluminium (anodised)	yes
Steel	yes
Steel (galvanised)	yes
Lead	N/R
Painted Surfaces	
Acrylic	test
Varnish	test
Polyester	yes
Polyurethane	yes
Plastic Materials	
PVC	yes
Acrylic/Fibreglass	yes
Polycarbonate	test
Polymethacrylate	test
Masonry	
Concrete	yes
Brick	yes
Plaster	yes
Tile	yes

Chart Key

Use without primer - Yes
Check for suitability - Test
Not Recommended - N/R

PE Foam - Closed cell polyethylene backer rod (nominal density 35kg/m3)
MF - Mineral Wool Fibre (nominal density 100kg/m3)
NB. All tests were carried out with sealant on fire side of furnace.

Construction
Powder Coated Mild Steel
Intumescent Liner
Activates at 150oC

For Use With
Plastic Tubes to crush the softening plastic pipe and thereby close the penetrations through the fire rated walls and floors.

EXCO Fire Stop Collars provide a simple and effective method of firestopping plastic pipework where it passes through compartment walls and floors.

Tested to BS476 Part 20, Fire Stop Collars will provide up to 4 hours' fire protection.

- Simple to install
- Water resistant
- Maintenance Free
- Available to suit pipe sizes ranging from 55 to 355mm O.D.

EXCO Firestop Collars

EXCO Firestop Collars fixed to both sides of wall

Description

EXCO Firestop Collars consist of a powder coated steel sleeve containing a flexible graphite based intumescent liner, manufactured to suit the pipework to be firestopped. Integral toggles are opened up and the collar is simply fitted around the plastic pipe. The toggles are closed and the collar is pushed flush to the surface of the wall or underside of floor. The collar is then securely fastened to the structure by means of fire resistant fixings threaded through fixing tabs. Any gaps of up to 25mm wide around the pipework should be filled with EXCO Acoustic Intumescent Sealant. For gaps greater than 25mm EXCO Firestop Compound can be used.

Under fire conditions the intumescent material swells filling the void left by the burnt out plastic.

Fire Rating

Outside Ø of Pipework (mm)	Fire Rating (hours)
55 - 250	2 - 4
275 - 315	3
330 - 355	1

Suitable for sealing UPVC, Polypropylene, HDPE and ABS plastic

Specification

Install EXCO Fire Stop Collars to provide up to 1,2,3 or 4 hours' fire protection to all plastic pipework. Installation to be fully in accordance with manufacturer's instructions. See below for contact details.

Intumescent Fire Wraps

Description

EXCO Intumescent Pipe Wraps offer a simple and more economic alternative to Firestop collars for firestopping plastic pipework and electrical trunking in walls and floors. Tested to BS476 Part 20, Intumescent Pipe Wraps will provide up to 4 hours' fire protection.

EXCO Intumescent Pipe Wraps offer a simple and more economic alternative to Firestop collars for firestopping plastic pipework and electrical trunking in walls and floors. Tested to BS476 Part 20, Intumescent Pipe Wraps will provide up to 4 hours' fire protection.

- Simple installation
- No mechanical fixings
- Water resistant
- Load bearing
- Maintenance free
- Available to suit pipe sizes up to 160mm O.D.
- Available to fit most electrical trunking sizes.

EXCO Intumescent Pipe Wrap sealed into compartment wall with EXCO Firestop Compound.
EXCO Intumescent Pipe Wrap sealed into compartment floor using EXCO Firestop Compound.

Description

Pipe Wraps comprise layers of a graphite based intumescent sheet encapsulated in a polythene sheath. The product is manufactured to be wrapped around the outside diameter of the pipework or trunking and is secured by means of a self-adhesive strip. The Intumescent Pipe Wrap is then positioned within the compartment wall or floor so that the edge of the product is left exposed at the face of the wall or soffit.

The Intumescent Pipe Wrap is then sealed into the structure with EXCO Firestop Compound.

Under fire conditions, the intumescent material expands against the structure and fills the void left by the burnt out plastic.

For walls it may be necessary to fit two wraps depending on the fire risk areas concerned and if the wall thickness exceeds 150mm.

Fire Rating

Outside Ø of Pipework (mm)	Fire Rating (hours)
55	2 - 4
82	2 - 4
110	2 - 4
160	2 - 4

Specification

Install EXCO Intumescent Pipe Wraps to provide up to 4 hours' fire protection to all plastic pipework and electrical trunking where they pass through fire rated walls and floors. Installation to be fully in accordance with manufacturer's instructions. See below for contact details.

Exco Industries Limited June 2016
STANDARD CONDITIONS OF SALE

1) Interpretation

In these conditions the following terms have the following meaning:-

Seller - Exco Industries Limited

Buyer - The person, firm or company purchasing the products subject of the contract between the Seller and the Buyer

Products - The goods or materials which shall be the subject of the contract between the Seller and the Buyer

Price - The price specified in the Seller's quotation, acknowledgement, order or otherwise communicated to the Buyer and agreed

2) General

2.1. These conditions prevail over any conditions stipulated by the Buyer, whether express or by implication or incorporation. If the Buyer's documentation shall contain any conditions as to sale and purchase they shall be of no contractual effect between the Seller and the Buyer.

2.2. Save as is otherwise expressly agreed in writing by the Seller or as is expressly provided in these conditions all guarantees, warranties, conditions, representations or stipulations whether expressed or implied and whether arising hereunder or under any prior agreement or statement, or by statute, common law or otherwise are hereby excluded and negated, provided that nothing in this clause or elsewhere in these conditions shall operate to exclude the provisions of Section 12 of the Sales of Goods Act 1979 and the Consumer Rights Act 2015 or to exclude or restrict liability for death or personal injury resulting from the Seller's negligence.

2.3. In the event that the Buyer produces to the Seller at any stage conditions upon which the Buyer will enter any agreement to acquire the Products the terms of these Standard Conditions of Sale shall prevail over the Buyer's conditions in the event of conflict.

3) Orders

3.1. Orders for products shall be in writing and are accepted by the Seller subject to these conditions unless otherwise varied in writing.

3.2. Once an order has been placed by the Buyer it may not be suspended, cancelled or amended without the Seller's prior written agreement. The Buyer shall be responsible for the cost of all purchases, stocks, work-in-progress, labour costs, unrecovered overheads, and other expenses suffered by the Seller as a result of such suspension, cancellation or amendment.

3.3. Products are supplied specifically for the purposes mentioned in the Order/Order Acknowledgement and for no other purposes.

4) The Price

4.1. All prices given, published or put forward are quotations unless otherwise expressly stated therein. Prices quoted are prices prevailing at the date of quotation and are subject to increase. The Seller may at any time before delivery increase the price of the undelivered products or balance of the products by notice in writing to the Buyer. Prices invoiced are prices prevailing at the date of despatch.

4.2. Unless otherwise stated on acceptance, the price of the products shall include the Seller's costs of standard packing, normal insurance and delivery of the products to any one address in the United Kingdom maintained specified in writing by the Buyer and agreed by the Seller prior to delivery.

5) Payment

5.1. Unless otherwise stated on the Seller's invoice or otherwise agreed in writing, payment for the products shall be made not later than thirty days after the end of the month of invoicing but so that the Seller may at any time on or after acceptance by notice in writing to the Buyer vary the terms of payment by demanding immediate payment or (at the Seller's option) adequate security for sums which will be due hereunder.

5.2. Time of payment shall be of the essence and failure by the Buyer to pay the price or any installment thereof in due time shall entitle the Seller to treat such failure as a repudiation of the whole contract by the Buyer and to require the Buyer to make immediate payment of all monies due or become due and to recover from the Buyer damages for such breach of contract and/or (at the Seller's option) to charge interest at four per cent per annum above the base rate of Barclays Bank PLC from due date until payment.

6) Delivery

Unless otherwise agreed in writing between the Seller and the Buyer the following provisions shall apply:-

6.1. Delivery of the products shall have taken place when the products have been delivered to the address specified on the Seller's quotation, acknowledgement or other document or if the Buyer refuses to accept delivery, at the time when the products are due and ready for delivery in such latter instance the Seller shall be entitled to arrange storage for the products and to charge such storage and other costs to the Buyer and the Buyer shall also be responsible for the payment of interest on any unpaid sum in accordance with clause 5.2.

6.2. The delivery date or dates specified on the Seller's acceptance of order are estimates only. The Seller shall not be liable for failure to deliver by such date or dates or for any damage or loss arising directly or indirectly out of delay in delivery; nor shall the Buyer be entitled to refuse to accept the Products because of late delivery.

6.3. Where delivery is to be made by installments, each delivery shall be deemed for such purpose to be the subject of a separate contract and any failure whatsoever by the Seller in respect of any one delivery shall not entitle the Buyer to repudiate the contract or any installments remaining to be delivered thereunder.

6.4. The risk of any loss or damage to or deterioration of the products shall be borne by the Buyer from the time delivery has taken place in accordance with clause 6.1.

6.5. In respect of sea transit the Seller shall not be required to give the Buyer the notice relating to insurance of the products referred to in Section 32(3) of the Sales of Goods Act 1979 and the Consumer Rights Act 2015.

6.6. The Buyer is deemed to have accepted the Products after a period of 3 days after the date of delivery.

6.7. The Buyer shall make all necessary arrangements to take delivery of the Product on the date when the Products are tendered for delivery.

7) Property

Notwithstanding delivery and the passing of risk:-

7.1. The property in the products shall remain the Sellers until payment in full has been made to the Seller by the Buyer for the products and all other sums due to the Seller at the date of delivery of the products.

7.2. Where full payment has not been made to the Seller and the Buyer uses the products in his manufacturing process or incorporates the products with other products the property in the products shall be retained by the Seller insofar as such products are identifiable and insofar as they are incorporated with other products the Seller's title in the products shall transfer into the product of which the products form a part. The Seller also reserves the right to trace into the proceeds of sale of the products or of the products of which the products form a part to the extent that the Seller remains unpaid.

7.3. Until such payment is made the Buyer shall hold all products and materials the property in which is vested in the Seller on a fiduciary basis only and in any of the events specified above the Buyer shall store such products and materials so as to be marked and clearly identifiable as the property of the Seller in any dispute relating thereto.

7.4. The Buyer grants the Seller the right of entry (by force, if necessary) upon the Buyer's premises to recover the products if the Buyer is in breach.

8) Lien

The Seller shall in respect of all unpaid debts due from the Buyer under the same or any other contract have a general lien on all products and property of the Buyer in its possession (although the products or some of them may have been paid for) and shall after the expiration of fourteen days written notice to the Buyer be entitled to dispose of such products and property as it deems fit, and apply the proceeds towards such debts.

9) Loss/Damage/Storage

9.1. Unless otherwise agreed in writing between the Buyer and Seller the Seller may deliver against any order an excess and/ or deficiency up to ten per cent of weight or volume ordered without any liability whatsoever to the Buyer save that the price shall be adjusted accordingly.

9.2. The Buyer shall inspect the products immediately upon delivery and shall within 3 days of such delivery (time being of the essence) give notice in writing to the Seller and the carrier of all claims on account of damage to or total or partial loss of Products in transit. Claims for non-delivery must be submitted in writing to the Seller within fourteen days after notification of despatch. Quality claims must be made in writing immediately after the Buyer learns of the defect and in any event not later than thirty days after the Buyer's receipt of the products. Any claim not made in writing and received by the Seller within the aforesaid time limits shall be deemed waived.

9.3. If the Buyer establishes to the satisfaction of the Seller that products have been damaged in transit or that the consignment is incomplete, the Seller will, at the Seller's option, repair or replace such products or credit the Buyer with the value thereof as appropriate, provided that the Buyer shall have given to the Seller written notification (otherwise than upon the carrier's delivery document) of such damage or shortage as provided in clause 9.2. The Seller shall be permitted a reasonable opportunity to inspect any damaged consignment and to investigate any shortage.

9.4. Save as provided in clause 9.3 above, the Seller shall not be liable to the Buyer for any loss or damage arising out of or in connection with products damaged or shortages.

9.5. If the Seller fails to make delivery or makes defective delivery of any one installment such failure or defective delivery shall not vitiate the contract as regards other installments.

9.6. The right of the Buyer to set off the value of any shortage, defective products or products not otherwise conforming to contract shall be restricted to the specific invoice for the products in question and shall not apply to previous or future accounts.

10) Liability/Limitation and Warranty

10.1. All conditions, guarantees, or warranties express or implied by statute, common law or otherwise including (but without prejudice to the generality of the foregoing) conditions, guarantees or warranties as to quality, fitness for purpose or description of the products or their life or wear or use under any conditions whether known or made known to the Seller or not are hereby excluded.

10.2. The Seller's liability for any and all direct loss or damage resulting to the Buyer from defects in the products or any other cause shall be limited to the purchase price of the quantity of the products in respect of or in relation to which such loss or damage is claimed. The Seller shall not be liable for any loss, damage or expense caused to the Buyer by reason of any labour costs or other expenditure incurred by the Buyer or for any indirect or consequential loss or damage howsoever arising. Subject as aforesaid the Seller shall be under no liability in contract or in tort for any loss or damage or personal injury arising directly or indirectly out of the supply or use of the products or containers other than death or personal injury resulting from the negligence of the Seller within the meaning of Section 1 of the Unfair Contract Terms Act 1977 and the Consumer Rights Act 2015.

11) Force Majeure

11.1. Deliveries may be partially or totally suspended by either party during any period in which it is prevented from manufacturing, delivering or taking delivery of the products through any circumstances outside its control. If because of such circumstances, the Seller is unable to supply the total requirement of the products the Seller may allocate its available supply (after satisfaction of its own requirements) amongst all of its customers, including those not under contract, as the Seller thinks fit. Deliveries so suspended shall be cancelled without liability, but the contract between the parties shall otherwise remain unaffected.

11.2. For the purpose of these conditions, circumstances outside the Seller's control include acts of God, strikes, lock-outs, other industrial action, fire, accident, lightning, earthquakes, storms, floods, explosion, war, governmental restriction and any other circumstances, whether similar or dissimilar, beyond the reasonable control of the Seller.

12) Indemnity

The Buyer shall indemnify the Seller in respect of all damage or injury occurring to any person, firm, company or property and against all actions, suits, claims and demands, charges or expenses in connection therewith for which the Seller may become liable in respect of the products sold under the contract in the event that the damage or injury shall have been occasioned otherwise than by the negligence of the Seller.

13) Default

The Seller reserves the right (without prejudice to its other rights and remedies) either to terminate the contract between the parties or to suspend further deliveries under it or require payment in advance in the event that the Buyer fails to pay for any one delivery when the same becomes due or the Buyer's financial responsibility becomes unsatisfactory to the Seller or if the Buyer, being a company, goes into liquidation or has a receiver appointed or not being a company has a receiving order made against him or enters into any arrangement or composition with creditors.

14) V.A.T.

All prices quoted are exclusive of all import duties, V.A.T. and other imposts which will be for the Buyer's account and should be added to the price as appropriate.

15) Intellectual Property

No representation, warranty or indemnity is given by the Seller that the products do not infringe any letters patent, trademarks, registered designs or other industrial rights.

16) Product Liability

16.1. The Buyer shall ensure that the products are transported, stored, fitted and used in accordance with any specifications or instructions which the Seller may provide.

16.2. The Buyer shall ensure that customers of the products incorporating the products shall be warned of the nature of the products and shall be given any information in respect of any claims made against the Seller where the Buyer has failed to comply with clause 16.1 above.

17) Assignability

The contract of which these conditions form part is personal to the Buyer and the benefit thereof shall not be assigned without the Seller's written consent.

18) Proper Law

These conditions and the contract between the parties shall be construed and applied in accordance with the Law of England and the English Courts shall have sole jurisdiction in any dispute relating thereto.

ISOQAR REGISTERED

UKAS MANAGEMENT SYSTEMS 0026

Certificate Number 4185
ISO 9001, ISO 14001
OHSAS 18001

WRAS APPROVED PRODUCT

Hoses & Bellows

LOSS PREVENTION CERTIFICATION BOARD LPCB

Fire Sleeve Pipe Wraps
& Intumescent Mastic

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