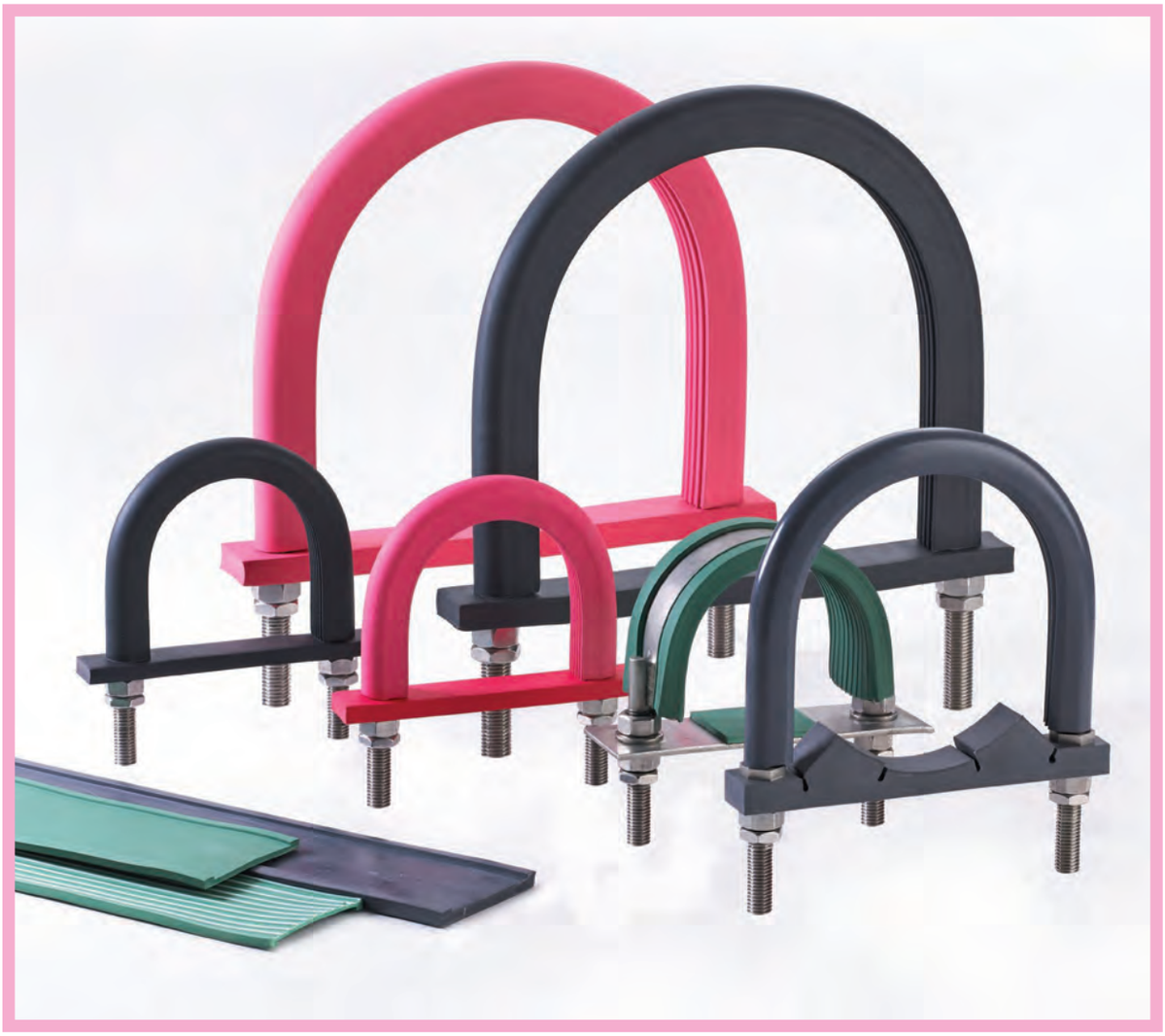
COMLIN ISOLATION PRODUCTS

Comlin is a family of elastomeric materials developed over a number of years to meet the arduous and very specific requirements of the process pipework engineer.



The primary functions of the product groups shown in this section are:

- The reduction or elimination of noise and fatigue due to vibration of pipework against the supporting structure.
- The prevention of galvanic corrosion due to the contact of dissimilar metals in the presence of an electrolyte.
- The prevention of wear and/or crushing of composite, thin-wall or non-ferrous pipework.

The materials we offer have been selected to provide optimum performance characteristics over a wide range of applications; our HTFR grade is a flame-retardant material suitable for occasional operation at 350°C. Our low-friction grades, whilst providing very low resistance to sliding pipework, still retain the inherent flexibility of the backing material with no limitation as to how small the pipe can be.

We offer two standard product forms: one for applications using pipe clamps where the Comlin is inserted between the clamp and pipe, this is known as ‘clamp strip’. The second is for U-bolt applications where the U-bolt is sheathed with Comlin and provided with a seating strip for protection to the underside of the pipe.

COMLIN MATERIAL CHOICE

COMLIN FR80

Our special fire-retardant grade of material has a UL94 flame rating of H-0 and an oxygen index of only 25%; it has good resistance to ozone/UV attack and has very good flex fatigue. It also has good fluid resistance and good performance in polar chemicals.

Suitable for most applications within the temperature range of –50 to 150°C, the material has excellent compression set properties, weathering resistance and mechanical strength.

Again, this material can be supplied in our low-friction form, and is designated **Comlin FR80LF**.

COMLIN RG45

A specially formulated low modulus polymer alloy suitable for applications that require a very soft, flexible support whilst retaining all the advantages of this type of material.

It has excellent low-temperature performance and is capable of operating within the temperature range –60 to 125°C, with the added advantage of being stable in an irradiated environment. It has very good compression set characteristics and withstands ozone/UV attack and weathering.

This material can be supplied in our own unique low-friction form incorporating integral ribs of polypropylene embedded into the contact face of the product. This is achieved without loss of properties or reduction of temperature range. This grade is designated **Comlin RG45LF**.

COMLIN HTFR65

This high temperature material is suitable for applications within the temperature range of –60 to 350°C. Based on silicone technology, it has excellent resistance to fire, very low toxicity and can operate continuously at 300°C with minimum loss of properties. This material has excellent resistance to ozone, UV and weathering, very good compression set and is generally resistant to oils.

Due to the high temperature range capability of this material, it is not possible to provide it with our low-friction facing.

COMPARISON OF COMLIN MATERIALS WITH NEOPRENE

Comlin RG45 and **Comlin FR80** grades compare favourably with neoprene with respect to resistance to ozone/UV attack and weathering, but are far superior when considering compression set, operational temperature range and mechanical strength.

Comlin HTFR65 performs considerably better in all respects than neoprene: resistance to ozone, UV, weathering, temperature and fire are all superior.

U-BOLT MATERIAL

The standard material for Comlin U-Bolts is carbon steel meeting the requirements of IS1367/DIN601 Grade 4.6 with nuts to ASTM A193/DIN555 Grade 4.

Other grades that are available are:

LTCS: ASTM A193 Grade L7 with ASTM A194 Grade 4 nuts

Stainless Steel: BSENISO3506 Grade A2 (Tp304) or Grade A4 (Tp316)

Carbon steel U-Bolts are supplied galvanized as standard. Zinc plating or Xylan coating are also available upon request.

Specify material and protective coating at time of ordering as follows

Part Number 801-aaa-b-c-d

Where –

aaa is the item size

b is the U-Bolt material

c is the protective coating

d is the Comlin grade – only required for type 801 and 802 U-Bolts.

Code	Material (b)	Protective Coating (c)	Comlin Grade (d)
1	Carbon Steel	Zinc Plated & Yellow Passivated	FR80
2	LTCS	Galvanised	HTFR65
3	Tp 304 StSt (A2)	Xylan Coated	
4	Tp 316 StSt (A4)	No protection	

Example of full part code would therefore be –

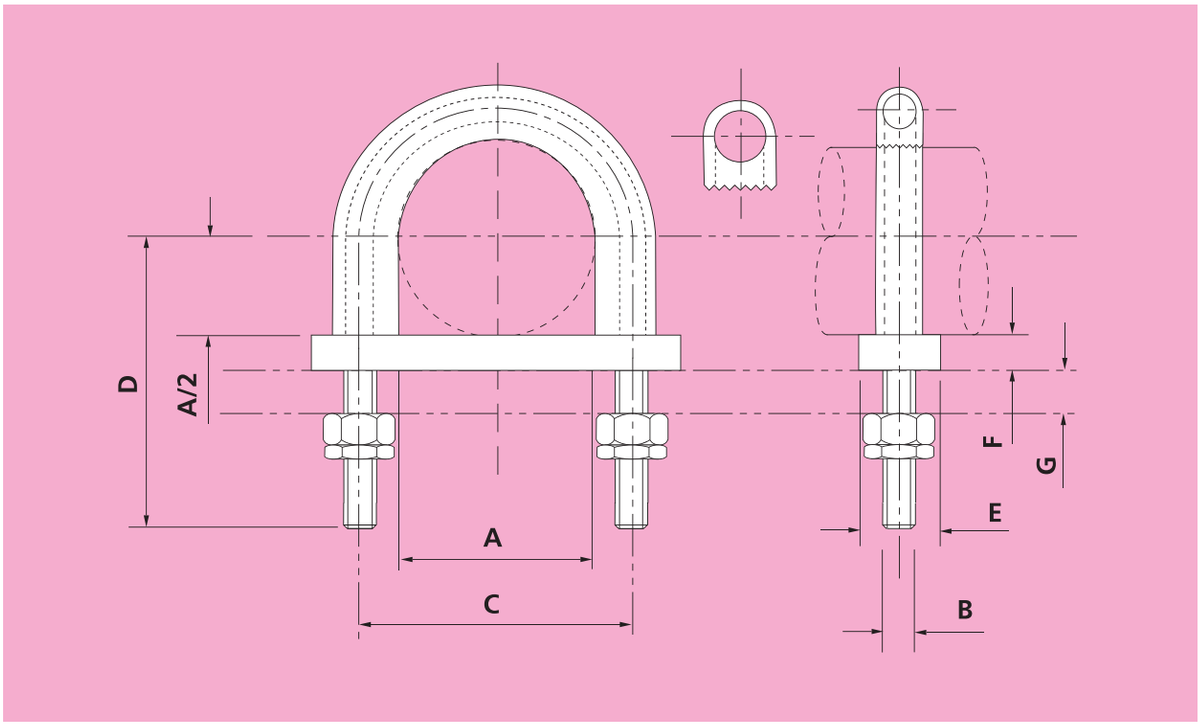
802-108-1-2-2 for 108mm diameter cupro-nickel pipe with carbon steel u-bolt, galvanised & lined with HTFR65 Comlin.

COMLIN MATERIAL PROPERTIES

Property	Test Method	Unit	Material Grade RG45	FR80	HTFR65	RG45LF	FR80LF
Hardness, 5 Sec	D2240	Shore A	45	80	65	50	85
Specific Gravity	D297		0.97	1.24	1.31	1.05	1.31
Ultimate Tensile Strength	D412	MPa	1.2	7.2	7.5	1.2	7.2
Ultimate Elongation	D412	%	300	410	350	300	410
100% Modulus	D412	MPa	1.2	3.2	4.0	1.2	3.2
Compression Set @ 168 Hrs. 25 °C	D395B	%	13.0	27.1	10.0	13.0	27.1
Compression Set @ 168 Hrs. 100 °C	D395B	%	22.0	46.3	15.0	22.0	46.3
Tension Set	D412	%	5.0	10.0	12.0	5.0	10.0
Brittle Point	D746	°C	-76.0	-56.0	-70.0	-76.0	-56.0
Maximum Continuous Temperature		°C	125	150	300	125	150
Oxygen Index	D2863		–	25.0	35.0	–	25.0
Horizontal Burn	UL- 94		–	HB	HB	–	HB
Vertical Burn	UL- 94		–	–	V-0	–	–
Ozone/UV Resistance			V.Good	V.Good	V.Good	V.Good	V.Good
Dielectric Constant			2.3	2.44	2.8	2.3	2.44
Colour Code							
Type 801			–*	Black	Grey	–	–
Type 802			–*	Red	Grey	–	–
Type 901			–	–	–	–*	Black
Type 902			–	–	–	–*	Red
Type 816			Beige	Green	Grey	–	–
Type 817			Beige	Green	Grey	–	–
Type 818			–	Green	–	–	–
Type 916			–	–	–	Beige	Green
Type 917			–	–	–	Beige	Green
Type 918			–	–	–	–	Green

*Available upon special request — non-stocked products.

801 COMLIN GRIP TYPE LINED U-BOLT
FOR STAINLESS STEEL & GALVANISED PIPES -60°C TO +300°C



PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
801-021	21	6	37	60	20	8	30	60
801-027	27	6	43	65	20	8	32	64
801-034	34	6	50	65	20	8	28	60
801-043	43	10	69	70	25	10	19	69
801-049	49	10	75	80	25	10	26	76
801-061	61	10	87	90	25	10	30	80
801-072	72	12	98	95	25	10	25	83
801-089	89	12	115	100	25	10	22	80
801-115	115	12	141	110	25	10	19	77
801-140	140	12	166	135	25	10	31	89

PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
801-168	168	16	210	180	35	15	49	128
801-219	219	16	261	200	35	15	44	123
801-245	245	16	287	210	35	15	41	120
801-273	273	16	315	225	35	15	42	121
801-324	324	16	366	250	35	15	41	120
801-356	356	16	398	265	35	15	40	119
801-407	407	16	449	300	35	15	50	129

ORDER BY: PART NUMBER '801-aaa-b-c-d'
AVAILABLE IN GRADES FR80 & HTFR65.

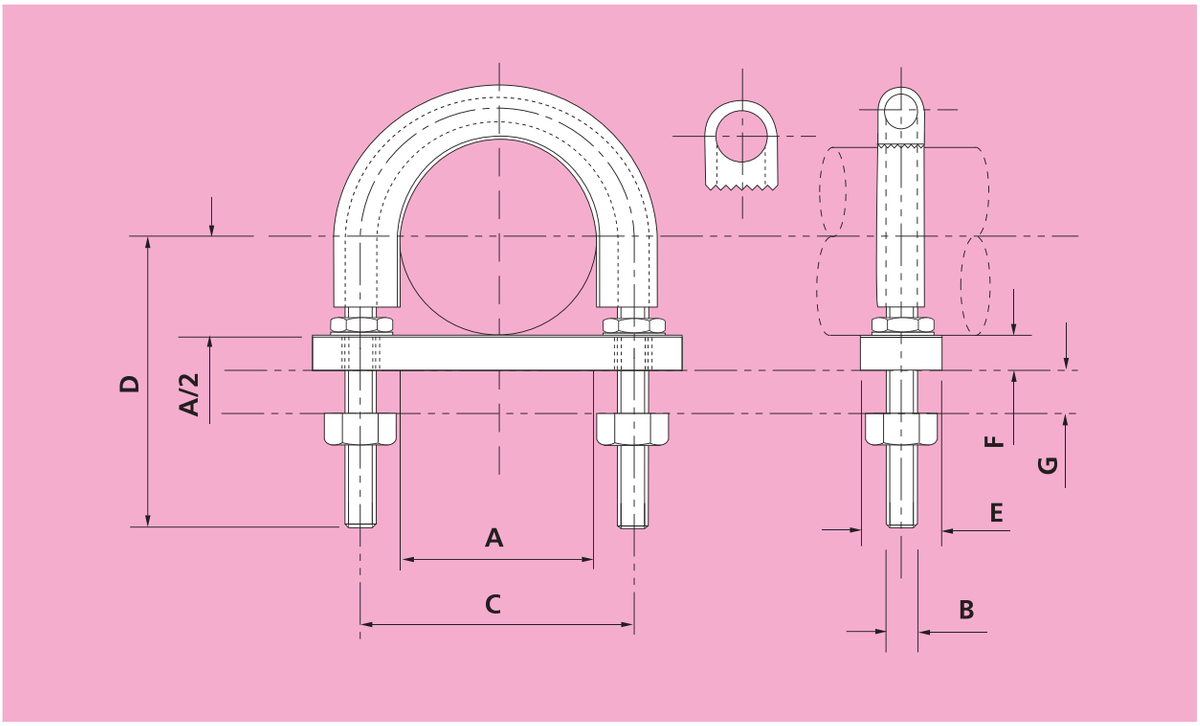
802 COMLIN GRIP TYPE LINED U-BOLT
FOR COPPER & CUPRO-NICKEL PIPES -60°C TO +300°C

PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
802-016	16	6	32	60	20	8	32	60
802-025	25	6	41	65	20	8	33	65
802-030	30	6	46	65	20	8	30	62
802-038	38	10	64	70	25	10	21	70
802-045	45	10	71	80	25	10	28	78
802-057	57	10	83	90	25	10	32	82

PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
802-076	76	12	102	100	25	10	28	86
802-089	89	12	115	110	25	10	32	90
802-108	108	12	134	120	25	10	32	90
802-159	159	16	201	165	35	15	39	118
802-219	219	16	261	200	35	15	44	123

ORDER BY: PART NUMBER '802-aaa-b-c-d'
AVAILABLE IN GRADES FR80 & HTFR65.

901 COMLIN NON-GRIP TYPE LINED U-BOLT FOR STAINLESS STEEL & GALVANISED PIPES -60°C TO +150°C



PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
901-021	21	6	37	60	20	8	30	60
901-027	27	6	43	65	20	8	32	64
901-034	34	6	50	65	20	8	28	60
901-043	43	10	69	70	25	10	19	69
901-049	49	10	75	80	25	10	26	76
901-061	61	10	87	90	25	10	30	80
901-072	72	12	98	95	25	10	25	83
901-089	89	12	115	100	25	10	22	80
901-115	115	12	141	110	25	10	19	77
901-140	140	12	166	135	25	10	31	89

PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
901-168	168	16	210	180	35	15	49	128
901-219	219	16	261	200	35	15	44	123
901-245	245	16	287	210	35	15	41	120
901-273	273	16	315	225	35	15	42	121
901-324	324	16	366	250	35	15	41	120
901-356	356	16	398	265	35	15	40	119
901-407	407	16	449	300	35	15	50	129

ORDER BY: PART NUMBER '901-aaa-b-c'
AVAILABLE IN GRADE FR80LF ONLY

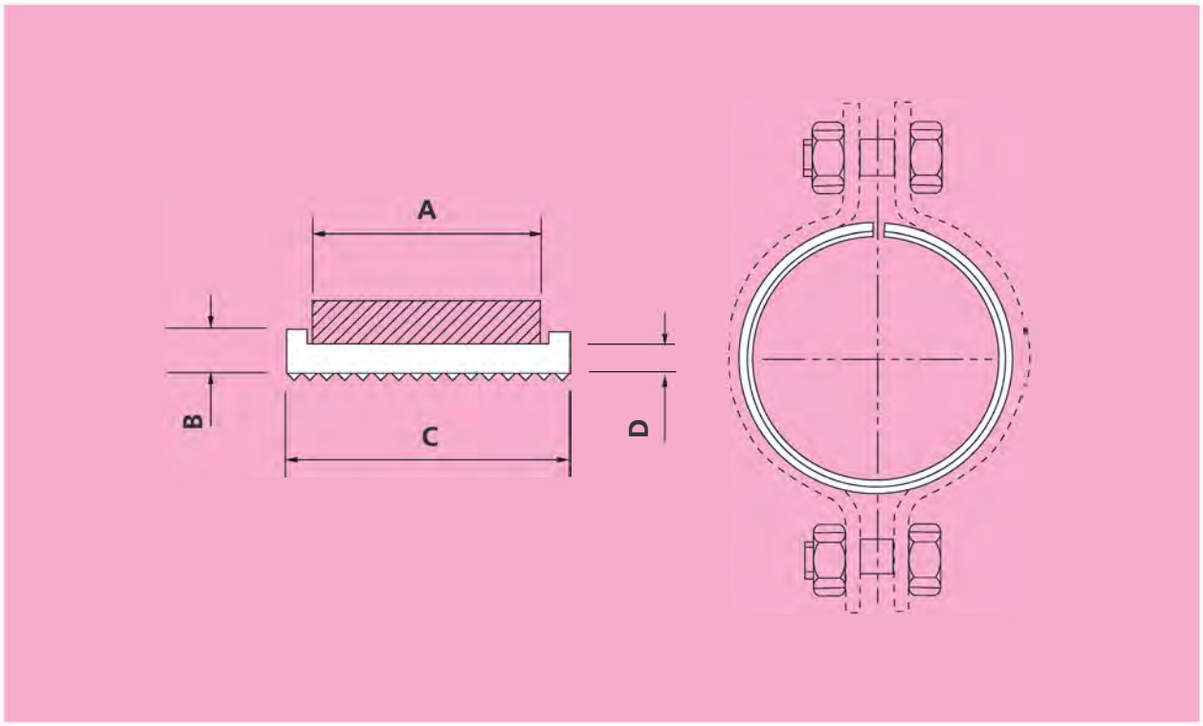
902 COMLIN NON-GRIP TYPE LINED U-BOLT FOR COPPER & CUPRO-NICKEL PIPES -60°C TO +150°C

PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
902-016	16	6	32	60	20	8	32	60
902-025	25	6	41	65	20	8	33	65
902-030	30	6	46	65	20	8	30	62
902-038	38	10	64	70	25	10	21	70
902-045	45	10	71	80	25	10	28	78
902-057	57	10	83	90	25	10	32	82

PART NUMBER	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	THD Length
902-076	76	12	102	100	25	10	28	86
902-089	89	12	115	110	25	10	32	90
902-108	108	12	134	120	25	10	32	90
902-159	159	16	201	165	35	15	39	118
902-219	219	16	261	200	35	15	44	123

ORDER BY: PART NUMBER '902-aaa-b-c'
AVAILABLE IN GRADE FR80LF ONLY

816 AND 817 COMLIN CLAMP STRIP -60°C to +300°C



ORDER BY: PART NUMBER, LENGTH AND COMLIN GRADE.
AVAILABLE EITHER CUT TO REQUIRED LENGTH OR ANY LENGTH UP TO 25 METRES.

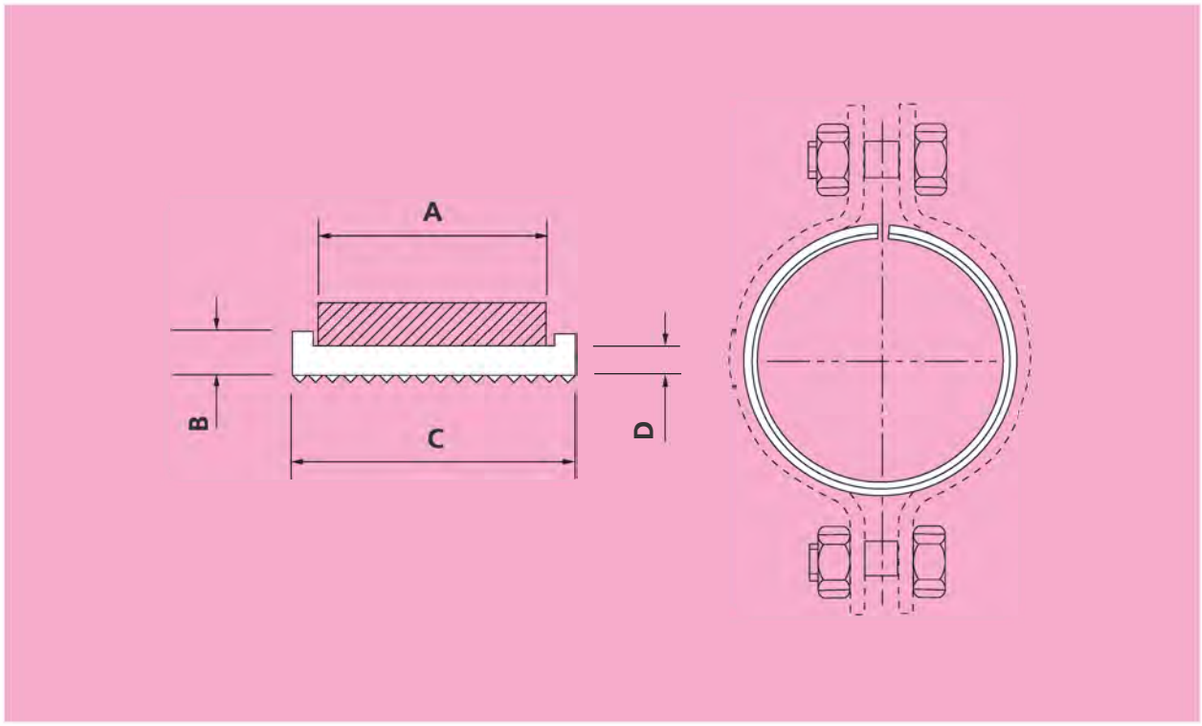
PART NUMBER	DIMENSIONS (mm)				
	A	B	C	D	E
816-30	25	5	40	3	30
816-40	35	5	50	3	40
816-45	40	5	55	3	45
816-50	45	5	60	3	50
816-60	55	5	70	3	60
816-65	60	5	80	3	65
816-70	65	5	85	3	70
816-75	70	5	90	3	75
816-80	75	5	95	3	80
816-90	85	6	105	3	90
816-100	95	6	115	3	100
816-110	105	6	125	3	110
816-130	125	6	145	3	130
816-140	135	6	155	3	140
816-150	150	6	165	3	155

PART NUMBER	DIMENSIONS (mm)				
	A	B	C	D	E
817-30	25	7.5	45	5	30
817-40	35	8.5	57	6	40
817-50	45	8.5	67	6	50
817-60	55	8.5	77	6	60
817-70	65	8.5	85	6	70
817-90	85	14.5	105	9.5	90
817-110	105	14.5	125	9.5	110
817-130	125	14.5	145	9.5	130
817-150	150	17.5	165	12.5	155

Recommended Length of Clamp Strip vs Pipe Size

	DIMENSIONS (mm)										
Pipe	816	817	817	817	817	817	817	817	817	817	817
O/D	ALL	20	30	40	50	60	70	90	110	130	150
26.9	88	88	90	91	91	91	91	94	94	94	98
33.7	109	109	111	112	112	112	112	116	116	116	119
42.4	136	136	138	139	139	139	139	143	143	143	146
48.3	155.	155	157	158	158	158	158	162	162	162	165
60.3	193	193	195	196	196	196	196	199	199	199	203
76.1	242	242	244	245	245	245	245	249	249	249	252
88.9	282	282	285	286	286	286	286	289	289	289	292
114.3	362	362	364	365	365	365	365	369	369	369	372
139.7	442	442	444	445	445	445	445	449	449	449	452
168.3	532	532	534	535	535	535	535	539	539	539	542
219.1	691	691	694	695	695	695	695	698	698	698	701
244.5	771	771	773	774	774	774	774	778	778	778	781
273.0	861	861	863	864	864	864	864	868	868	868	871
323.9	1021	1021	1023	1024	1024	1024	1024	1028	1028	1028	1031
355.6	1120	1120	1122	1123	1123	1123	1123	1127	1127	1127	1130
406.4	1280	1280	1282	1283	1283	1283	1283	1287	1287	1287	1290
457.0	1439	1439	1441	1442	1442	1442	1442	1446	1446	1446	1449
508.0	1599	1599	1601	1602	1602	1602	1602	1606	1606	1606	1609
610.0	1920	1920	1922	1923	1923	1923	1923	1926	1926	1926	1929
762.0	2397	2397	2399	2400	2400	2400	2400	2404	2404	2404	2407
914.0	2875	2875	2877	2878	2878	2878	2878	2881	2881	2881	2885

916 AND 917 COMLIN LINED CLAMP STRIP -60°C TO +150°C



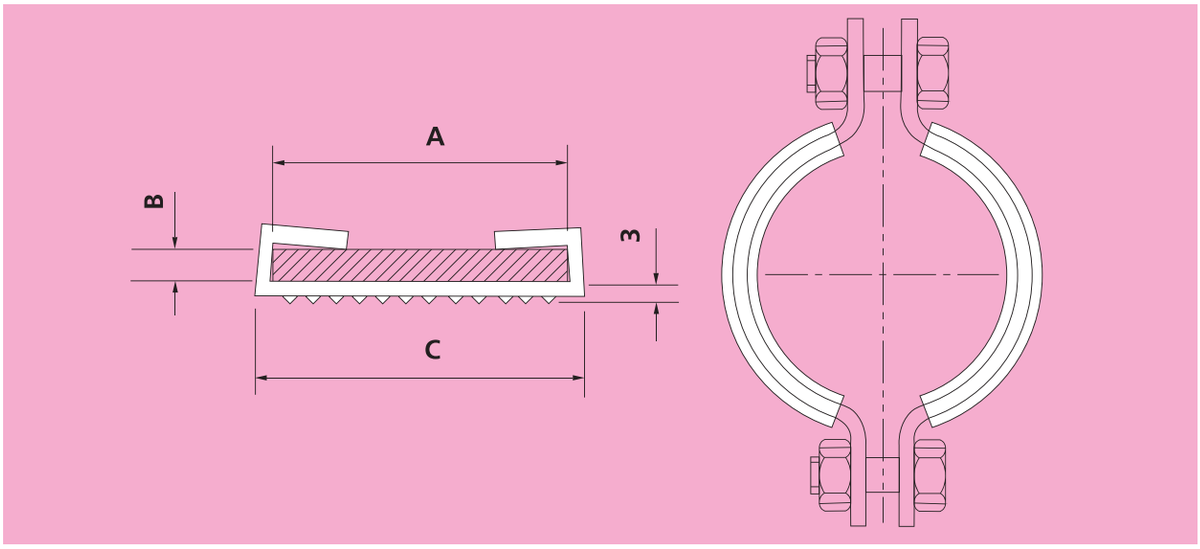
ORDER BY: PART NUMBER & LENGTH
AVAILABLE IN GRADE FR80LF ONLY IN ANY LENGTH UP TO 25 METRES.

PART NUMBER	DIMENSIONS (mm)				
	A	B	C	D	E
916-30	25	5	40	3	30
916-40	35	5	50	3	40
916-45	40	5	55	3	45
916-50	45	5	60	3	50
916-60	55	5	70	3	60
916-65	60	5	80	3	65
916-70	65	5	85	3	70
916-75	70	5	90	3	75
916-80	75	5	95	3	80
916-90	85	6	105	3	90
916-100	95	6	115	3	100
916-110	105	6	125	3	110
916-130	125	6	145	3	130
916-140	135	6	155	3	140
916-150	150	6	165	3	155

PART NUMBER	DIMENSIONS (mm)				
	A	B	C	D	E
917-30	25	7.5	45	5	30
917-40	35	8.5	57	6	40
917-50	45	8.5	67	6	50
917-60	55	8.5	77	6	60
917-70	65	8.5	85	6	70
917-90	85	14.5	105	9.5	90
917-110	105	14.5	125	9.5	110
917-130	125	14.5	145	9.5	130
917-150	150	17.5	165	12.5	155

Recommended Length of Clamp Strip vs Pipe Size

	DIMENSIONS (mm)										
Pipe	916	917	917	917	917	917	917	917	917	917	917
O/D	ALL	20	30	40	50	60	70	90	110	130	150
26.9	88	88	90	91	91	91	91	94	94	94	98
33.7	109	109	111	112	112	112	112	116	116	116	119
42.4	136	136	138	139	139	139	139	143	143	143	146
48.3	155	155	157	158	158	158	158	162	162	162	165
60.3	193	193	195	196	196	196	196	199	199	199	203
76.1	242	242	244	245	245	245	245	249	249	249	252
88.9	282	282	285	286	286	286	286	289	289	289	292
114.3	362	362	364	365	365	365	365	369	369	369	372
139.7	442	442	444	445	445	445	445	449	449	449	452
168.3	532	532	534	535	535	535	535	539	539	539	542
219.1	691	691	694	695	695	695	695	698	698	698	701
244.5	771	771	773	774	774	774	774	778	778	778	781
273.0	861	861	863	864	864	864	864	868	868	868	871
323.9	1021	1021	1023	1024	1024	1024	1024	1028	1028	1028	1031
355.6	1120	1120	1122	1123	1123	1123	1123	1127	1127	1127	1130
406.4	1280	1280	1282	1283	1283	1283	1283	1287	1287	1287	1290
457.0	1439	1439	1441	1442	1442	1442	1442	1446	1446	1446	1449
508.0	1599	1599	1601	1602	1602	1602	1602	1606	1606	1606	1609
610.0	1920	1920	1922	1923	1923	1923	1923	1926	1926	1926	1929
762.0	2397	2397	2399	2400	2400	2400	2400	2404	2404	2404	2407
914.0	2875	2875	2877	2878	2878	2878	2878	2881	2881	2881	2885



818 COMLIN GRIP CLAMP STRIP -60°C TO +300°C

PART NUMBER	A	B	C
818 - 025 x 06	25	6	30
818 - 035 x 06	35	6	40
818 - 050 x 06	50	6	55
818 - 050 x 10	50	10	55
818 - 065 x 10	65	10	70
818 - 080 x 10	80	10	85
818 - 100 x 10	100	10	105
818 -100 x 20	100	20	105

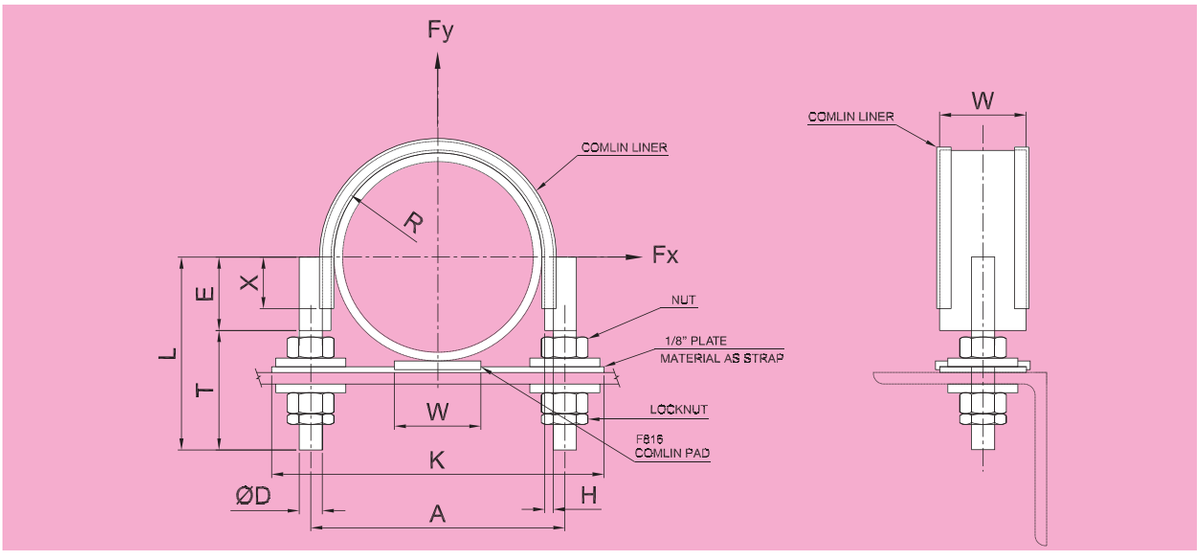
ORDER BY: PART NUMBER, LENGTH & COMLIN GRADE
AVAILABLE IN GRADES FR80 & HTFR65 IN ANY LENGTH UP TO 25 METRES.

918 COMLIN LINED CLAMP STRIP -60°C TO +150°C

PART NUMBER	A	B	C
918 - 025 x 06	25	6	30
918 - 035 x 06	35	6	40
918 - 050 x 06	50	6	55
918 - 050 x 10	50	10	55
918 - 065 x 10	65	10	70
918 - 080 x 10	80	10	85
918 - 100 x 10	100	10	105
918 - 100 x 20	100	20	105

ORDER BY: PART NUMBER & LENGTH
AVAILABLE IN GRADE FR80LF ONLY IN ANY LENGTH UP TO 25 METRES.

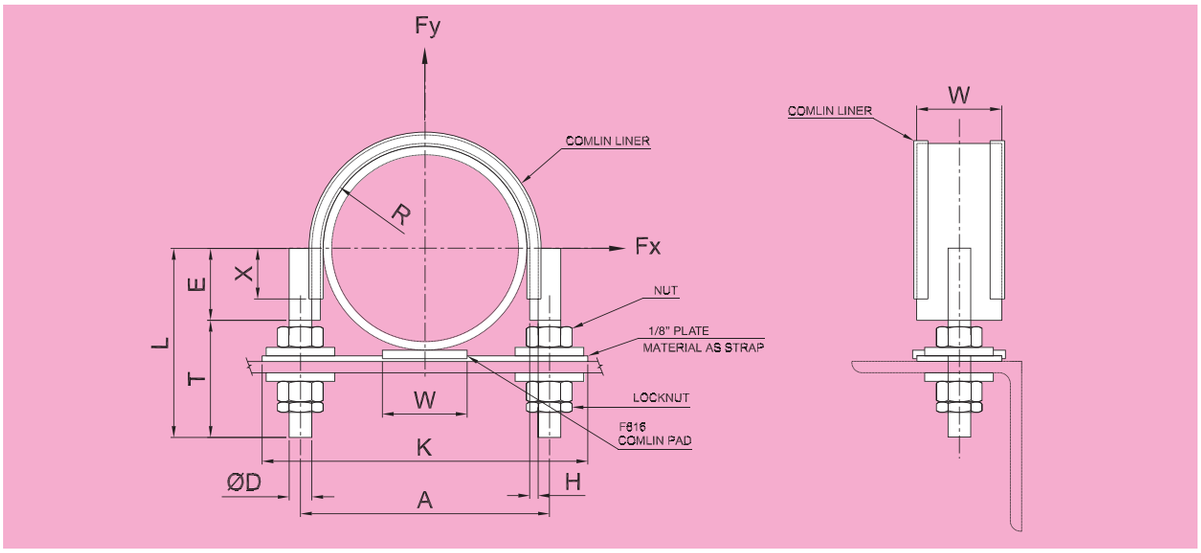
371-CM1 U-STRAP (GRIP TYPE CS WITH COMLIN)



Comlin liner for U-strap = F818 x "W" x "H": Gr.FR80 or HTFR65
4 nuts, 2 locknuts and 4 washers per strap
Material: Carbon Steel

PART	LINE SIZE						STRAP	STUD SIZE				MAX LOAD(kN)		WEIGHT	LINER
NUMBER	mm	in	R	A	K	W	H	D	L	T	E	Fy	Fx	kg	D.L'TH
F371-50	DN50	2"	35	92	130	50	6	10	80	65	15	16	3.5	0.7	140
F371-80	DN80	3"	50	124	165	50	6	12	95	70	25	24	3.0	0.9	207
F371-100	DN100	4"	62	148	190	50	6	12	115	85	30	24	2.5	1.1	255
F371-125	DN125	5"	76	176	225	50	6	12	130	95	35	24	2.0	1.3	309
F371-150	DN150	6"	89	206	260	50	6	16	155	100	55	45	2.5	1.7	390
F371-200	DN200	8"	116	260	310	60	6	16	180	100	80	45	2.0	2.1	524
F371-250	DN250	10"	143	326	380	65	10	20	210	110	100	70	4.0	4.8	649
F371-300	DN300	12"	168	376	430	65	10	20	245	115	130	70	3.5	5.7	788
F371-350	DN350	14"	184	408	460	65	10	20	260	110	150	70	3.0	6.3	878

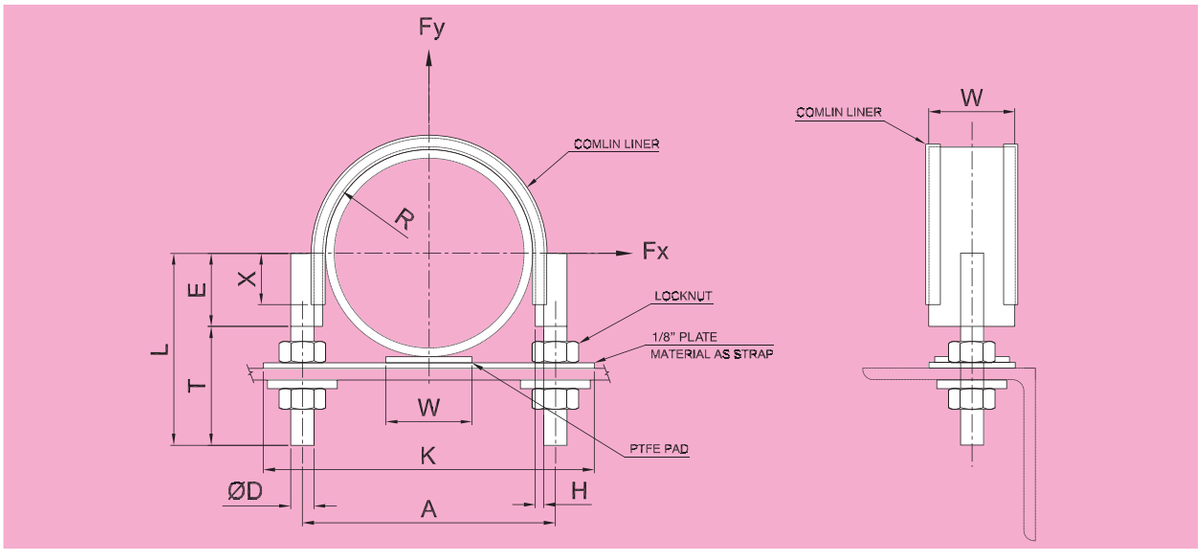
372-CM1 U-STRAP (GRIP TYPE SS WITH COMLIN)



Comlin liner for U-strap = F818 x "W" x "H": Gr.FR80 or HTFR65
4 nuts, 2 locknuts and 4 washers per strap
Material: Stainless Steel Grade 316

PART	LINE SIZE						STRAP	STUD SIZE				MAX LOAD(kN)		WEIGHT	LINER
NUMBER	mm	in	R	A	K	W	H	D	L	T	E	Fy	Fx	kg	D.L'TH
F372-50	DN50	2"	35	92	130	50	6	10	80	65	15	16	3.5	0.7	140
F372-80	DN80	3"	50	124	165	50	6	12	95	70	25	24	3.0	0.9	207
F372-100	DN100	4"	62	148	190	50	6	12	115	85	30	24	2.5	1.1	255
F372-125	DN125	5"	76	176	225	50	6	12	130	95	35	24	2.0	1.3	309
F372-150	DN150	6"	89	206	260	50	6	16	155	100	55	45	2.5	1.7	390
F372-200	DN200	8"	116	260	310	50	6	16	180	100	80	45	2.0	2.1	524
F372-250	DN250	10"	143	326	380	65	10	20	210	110	100	70	4.0	4.8	649
F372-300	DN300	12"	168	376	430	65	10	20	245	115	130	70	3.5	5.7	788
F372-350	DN350	14"	184	408	460	65	10	20	260	110	150	70	3.0	6.3	878

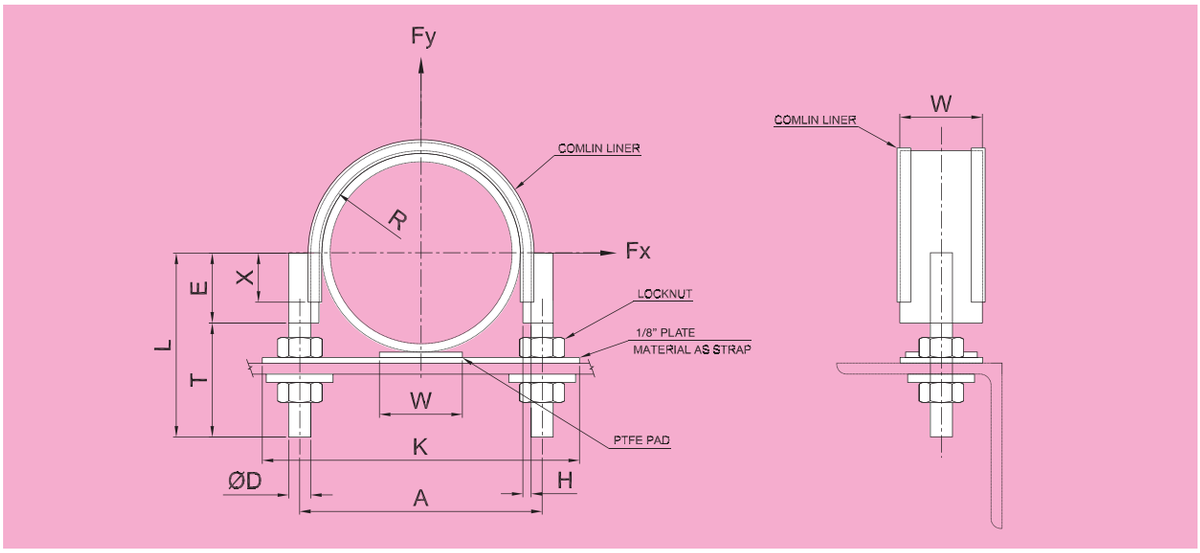
373-CM1 U-STRAP (NON-GRIP TYPE CS WITH COMLIN)



Comlin liner for U-strap = F918 x "W" x "H": Gr.FR80LF. PTFE for lower pad = 25% glass filled PTFE (etched one side)
4 locknuts and 2 washers per strap
Material: Carbon Steel

PART	LINE SIZE						STRAP	STUD SIZE				MAX LOAD(kN)		WEIGHT	LINER
NUMBER	mm	in	R	A	K	W	H	D	L	T	E	Fy	Fx	kg	D.L'TH
F373-50	DN50	2"	35	92	130	50	6	10	80	65	15	16	3.5	0.6	140
F373-80	DN80	3"	50	124	165	50	6	12	95	70	25	24	3.0	0.9	207
F373-100	DN100	4"	62	148	190	50	6	12	115	85	30	24	2.5	1.0	255
F373-125	DN125	5"	76	176	225	50	6	12	130	95	35	24	2.0	1.2	309
F373-150	DN150	6"	89	206	260	50	6	16	155	100	55	45	2.5	1.6	390
F373-200	DN200	8"	116	260	310	50	6	16	180	100	80	45	2.0	2.0	524
F373-250	DN250	10"	143	326	380	65	10	20	210	110	100	70	4.0	4.6	649
F373-300	DN300	12"	168	376	430	65	10	20	245	115	130	70	3.5	5.5	788
F373-350	DN350	14"	184	408	460	65	10	20	260	110	150	70	3.0	6.0	878
F373-400	DN400	16"	209	458	511	80	10	20	285	105	180	70	4.0	8.3	1017
F373-450	DN450	18"	235	514	571	80	10	24	320	130	190	102	4.5	9.6	1118
F373-500	DN500	20"	260	564	621	80	10	24	345	130	215	102	4.0	10.6	1247
F373-600	DN600	24"	311	666	726	100	10	24	400	145	255	102	4.0	15.1	1487

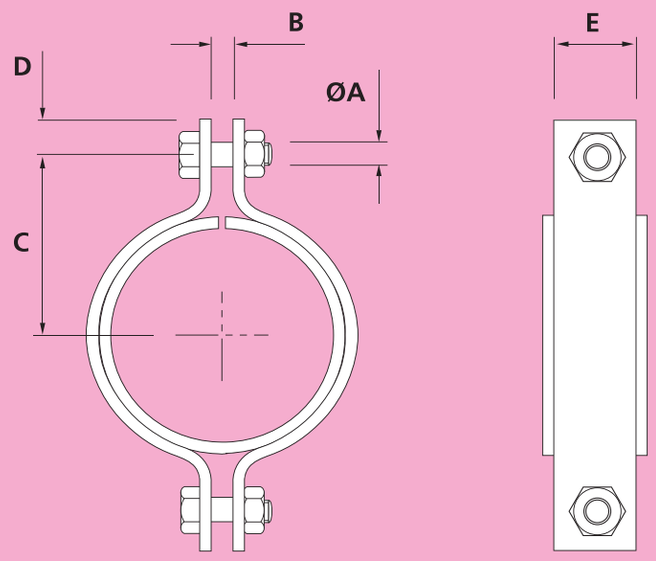
374-CM1 U-STRAP (NON-GRIP TYPE SS WITH COMLIN)



Comlin liner for U-strap = F918 x "W" x "H": Gr.FR80LF. PTFE for lower pad = 25% glass filled PTFE (etched one side)
4 locknuts and 2 washers per strap
Material: Stainless Steel Grade 316

PART	LINE SIZE						STRAP	STUD SIZE				MAX LOAD(kN)		WEIGHT	LINER
NUMBER	mm	in	R	A	K	W	H	D	L	T	E	Fy	Fx	kg	D.L'TH
F374-50	DN50	2"	35	92	130	50	6	10	80	65	15	16	3.5	0.6	140
F374-80	DN80	3"	50	124	165	50	6	12	95	70	25	24	3.0	0.9	207
F374-100	DN100	4"	62	148	190	50	6	12	115	85	30	24	2.5	1.0	255
F374-125	DN125	5"	76	176	225	50	6	12	130	95	35	24	2.0	1.2	309
F374-150	DN150	6"	89	206	260	50	6	16	155	100	55	45	2.5	1.6	390
F374-200	DN200	8"	116	260	310	50	6	16	180	100	80	45	2.0	2.0	524
F374-250	DN250	10"	143	326	380	65	10	20	210	110	100	70	4.0	4.6	649
F374-300	DN300	12"	168	376	430	65	10	20	245	115	130	70	3.5	5.5	788
F374-350	DN350	14"	184	408	460	65	10	20	260	110	150	70	3.0	6.0	878
F374-400	DN400	16"	209	458	511	80	10	20	285	105	180	70	4.0	8.3	1017
F374-450	DN450	18"	235	514	571	80	10	24	320	130	190	102	4.5	9.6	1118
F374-500	DN500	20"	260	564	621	80	10	24	345	130	215	102	4.0	10.6	1247
F374-600	DN600	24"	311	666	726	100	10	24	400	145	255	102	4.0	15.1	1487

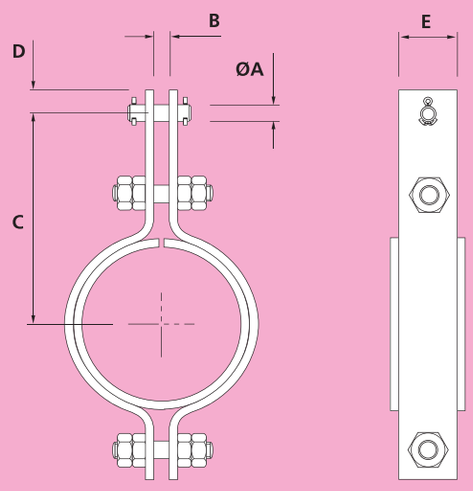
TWO BOLT PIPE CLAMP WITH COMLIN — MAX. TEMPERATURE 300°C



Order by Part Number, Comlin Type and Comlin Grade e.g. PC2-CM2-100-2/817/FR80
Material: Carbon Steel and Comlin. Also available in Stainless Steel.
Pipe Clamps with other Load Capacities are also available.
**** Do not exceed the Maximum Temperature for the Grade of Comlin used.***

PART NUMBER FOR COMLIN TYPE 816, 916, 818 & 918	PART NUMBER FOR COMLIN TYPE 817 &917	PIPE O/D		A	B	C		D	E	WEIGHT	*LOAD CAPACITY AT 300°C
		mm	in	mm	mm	mm	in	mm	mm	kgf	kgf
PC2-CM1-15-0	PC2-CM2-15-0	21.3	0.839	12	15	35	1 3/8	18	35	0.4	390
PC2-CM1-20-0	PC2-CM2-20-0	26.7	1.051	12	15	40	1 9/16	18	35	0.4	390
PC2-CM1-25-0	PC2-CM2-25-0	33.4	1.315	12	15	45	1 3/4	18	35	0.5	390
PC2-CM1-32-0	PC2-CM2-32-0	42.2	1.661	12	15	50	1 15/16	18	35	0.5	390
PC2-CM1-40-0	PC2-CM2-40-0	48.3	1.902	12	15	55	2 3/16	18	35	0.5	390
PC2-CM1-50-0	PC2-CM2-50-0	60.3	2.375	12	15	60	2 3/8	18	35	0.6	390
PC2-CM1-65-2	PC2-CM2-65-2	73	2.875	16	17	70	2 3/4	24	40	1.0	590
PC2-CM1-80-2	PC2-CM2-80-2	88.9	3.500	16	17	80	3 1/8	24	40	1.1	530
PC2-CM1-100-0	PC2-CM2-100-0	114.3	4.500	12	15	90	3 9/16	18	35	0.8	270
PC2-CM1-100-2	PC2-CM2-100-2	114.3	4.500	16	17	100	3 15/16	24	40	1.7	740
PC2-CM1-150-0	PC2-CM2-150-0	168.3	6.625	12	15	120	4 3/4	18	40	1.4	340
PC2-CM1-150-2	PC2-CM2-150-2	168.3	6.625	16	17	125	4 15/16	24	40	2.1	590
PC2-CM1-200-1	PC2-CM2-200-1	219.1	8.625	16	17	155	6 1/8	24	40	2.5	460
PC2-CM1-200-2	PC2-CM2-200-2	219.1	8.625	16	17	160	6 5/16	24	45	3.5	790
PC2-CM1-250-1	PC2-CM2-250-1	273	10.750	16	17	180	7 1/16	24	40	2.9	410
PC2-CM1-250-3	PC2-CM2-250-3	273	10.750	20	20	195	7 11/16	30	60	6.9	1240
PC2-CM1-300-2	PC2-CM2-300-2	323.9	12.750	16	17	210	8 1/4	24	45	4.6	650
PC2-CM1-300-4	PC2-CM2-300-4	323.9	12.750	24	25	240	9 7/16	36	65	14.8	1830
PC2-CM1-350-3	PC2-CM2-350-3	355.6	14.000	20	20	235	9 1/4	30	60	8.3	1080
PC2-CM1-350-5	PC2-CM2-350-5	355.6	14.000	30	29	265	10 7/16	45	90	23.2	3050
PC2-CM1-400-4	PC2-CM2-400-4	406.4	16.000	24	25	280	11	36	65	17.3	1830
PC2-CM1-400-6	PC2-CM2-400-6	406.4	16.000	36	41	295	11 5/8	54	110	32.3	3810
PC2-CM1-450-4	PC2-CM2-450-4	457.2	18.000	24	25	310	12 3/16	36	65	19.1	1830
PC2-CM1-450-6	PC2-CM2-450-6	457.2	18.000	36	41	320	12 5/8	54	110	35.0	3810
PC2-CM1-500-4	PC2-CM2-500-4	508	20.000	24	25	335	13 3/16	36	65	20.7	1830
PC2-CM1-500-7	PC2-CM2-500-7	508	20.000	42	45	365	14 3/8	63	130	50.0	5470
PC2-CM1-550-5	PC2-CM2-550-5	558.8	22.000	30	29	370	14 9/16	45	90	32.3	2920
PC2-CM1-550-7	PC2-CM2-550-7	558.8	22.000	42	45	395	15 9/16	63	130	63.0	5470
PC2-CM1-600-5	PC2-CM2-600-5	609.6	24.000	30	29	395	15 9/16	45	90	34.5	2660
PC2-CM1-600-7	PC2-CM2-600-7	609.6	24.000	42	45	420	16 9/16	63	130	66.9	5470
PC2-CM1-650-5	PC2-CM2-650-5	660.4	26.000	30	29	420	16 9/16	45	90	36.7	2530
PC2-CM1-650-7	PC2-CM2-650-7	660.4	26.000	42	45	445	17 1/2	63	150	81.4	5470
PC2-CM1-700-5	PC2-CM2-700-5	711.2	28.000	30	29	445	17 1/2	45	90	38.9	2420
PC2-CM1-700-7	PC2-CM2-700-7	711.2	28.000	42	45	470	18 1/2	63	150	85.9	5470
PC2-CM1-750-5	PC2-CM2-750-5	762	30.000	30	29	475	18 11/16	45	110	41.1	2350
PC2-CM1-750-8	PC2-CM2-750-8	762	30.000	48	52	515	20 1/4	72	150	112.8	7610
PC2-CM1-800-5	PC2-CM2-800-5	812.8	32.000	30	29	500	19 11/16	45	110	53.1	2780
PC2-CM1-800-8	PC2-CM2-800-8	812.8	32.000	48	52	560	22 1/16	72	150	158.9	10910
PC2-CM1-850-5	PC2-CM2-850-5	863.6	34.000	30	29	525	20 11/16	45	110	55.8	2690
PC2-CM1-850-8	PC2-CM2-850-8	863.6	34.000	48	52	590	23 1/4	72	150	167.2	10910
PC2-CM1-900-6	PC2-CM2-900-6	914.4	36.000	36	41	570	22 7/16	54	110	75.6	3760
PC2-CM1-900-8	PC2-CM2-900-8	914.4	36.000	48	52	615	24 3/16	72	150	174.6	10910
PC2-CM1-950-6	PC2-CM2-950-6	965	38.000	36	41	595	23 7/16	54	130	79.0	3660
PC2-CM1-950-8	PC2-CM2-950-8	965	38.000	48	52	640	25 3/16	72	150	182.0	10910
PC2-CM1-1000-6	PC2-CM2-1000-6	1016	40.000	36	41	620	24 7/16	54	130	97.2	3810
PC2-CM1-1000-8	PC2-CM2-1000-8	1016	40.000	48	52	665	26 3/16	72	150	189.3	10910

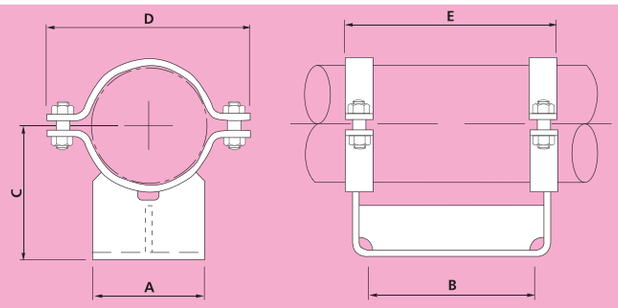
THREE BOLT PIPE CLAMP WITH COMLIN MAX. TEMPERATURE 300°C



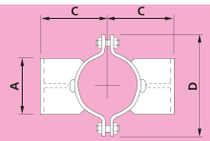
Order by Part Number, Comlin Type and Comlin Grade e.g. PC3-CM2-100-2/817/FR80
Material: Carbon Steel and Comlin. Also available in Stainless Steel.
Pipe Clamps with other Load Capacities are also available.
**** Do not exceed the Maximum Temperature for the Grade of Comlin used.***

PART NUMBER FOR COMLIN TYPE 816, 916, 818 & 918	PART NUMBER FOR COMLIN TYPE 817 &917	PIPE O/D		A	B	C		D	E	WEIGHT	*LOAD CAPACITY AT 300°C
		mm	in	mm	mm	mm	in	mm	mm	kgf	kgf
PC3-CM1-15-0	PC3-CM2-15-0	21.3	0.839	12	15	100	3 15/16	18	35	0.6	390
PC3-CM1-20-0	PC3-CM2-20-0	26.7	1.051	12	15	100	3 15/16	18	35	0.6	390
PC3-CM1-25-0	PC3-CM2-25-0	33.4	1.315	12	15	100	3 15/16	18	35	0.6	390
PC3-CM1-32-0	PC3-CM2-32-0	42.2	1.661	12	15	110	4 5/16	18	35	0.7	390
PC3-CM1-40-0	PC3-CM2-40-0	48.3	1.902	12	15	110	4 5/16	18	35	0.7	390
PC3-CM1-50-0	PC3-CM2-50-0	60.3	2.375	12	15	120	4 3/4	18	35	0.7	390
PC3-CM1-65-2	PC3-CM2-65-2	73	2.875	16	17	130	5 1/8	24	40	1.1	650
PC3-CM1-80-2	PC3-CM2-80-2	88.9	3.500	16	17	150	5 7/8	24	40	1.2	600
PC3-CM1-100-0	PC3-CM2-100-0	114.3	4.500	12	15	180	7 1/16	18	35	1.1	270
PC3-CM1-100-2	PC3-CM2-100-2	114.3	4.500	16	17	180	7 1/16	24	40	2.0	800
PC3-CM1-150-0	PC3-CM2-150-0	168.3	6.625	12	15	210	8 1/4	18	40	1.8	340
PC3-CM1-150-2	PC3-CM2-150-2	168.3	6.625	16	17	210	8 1/4	24	40	2.4	590
PC3-CM1-200-1	PC3-CM2-200-1	219.1	8.625	16	17	280	11	24	40	3.0	510
PC3-CM1-200-3	PC3-CM2-200-3	219.1	8.625	20	20	280	11	30	60	7.0	1320
PC3-CM1-250-2	PC3-CM2-250-2	273	10.750	16	17	320	12 5/8	24	45	4.9	620
PC3-CM1-250-4	PC3-CM2-250-4	273	10.750	24	25	320	12 5/8	36	65	15.0	1590
PC3-CM1-300-3	PC3-CM2-300-3	323.9	12.750	20	20	350	13 3/4	30	60	9.0	1180
PC3-CM1-300-4	PC3-CM2-300-4	323.9	12.750	24	25	350	13 3/4	36	65	16.7	1830
PC3-CM1-350-3	PC3-CM2-350-3	355.6	14.000	20	20	380	14 15/16	30	60	9.8	1100
PC3-CM1-350-5	PC3-CM2-350-5	355.6	14.000	30	29	380	14 15/16	45	90	25.8	3050
PC3-CM1-400-4	PC3-CM2-400-4	406.4	16.000	24	25	420	16 9/16	36	65	20.0	1830
PC3-CM1-400-6	PC3-CM2-400-6	406.4	16.000	36	41	420	16 9/16	54	110	35.9	3810
PC3-CM1-450-4	PC3-CM2-450-4	457.2	18.000	24	25	450	17 11/16	36	65	21.7	1830
PC3-CM1-450-6	PC3-CM2-450-6	457.2	18.000	36	41	450	17 11/16	54	110	38.7	3810
PC3-CM1-500-4	PC3-CM2-500-4	508	20.000	24	25	470	18 1/12	36	65	23.2	1750
PC3-CM1-500-7	PC3-CM2-500-7	508	20.000	42	45	470	18 1/12	63	110	53.3	5470
PC3-CM1-550-5	PC3-CM2-550-5	558.8	22.000	30	29	500	19 11/16	45	90	35.3	2510
PC3-CM1-550-7	PC3-CM2-550-7	558.8	22.000	42	45	500	19 11/16	63	130	66.9	5470
PC3-CM1-600-5	PC3-CM2-600-5	609.6	24.000	30	29	520	20 1/12	45	90	37.4	2360
PC3-CM1-600-7	PC3-CM2-600-7	609.6	24.000	42	45	520	20 1/12	63	130	70.6	5470
PC3-CM1-650-5	PC3-CM2-650-5	660.4	26.000	30	29	560	22 1/16	45	90	40.8	2340
PC3-CM1-650-7	PC3-CM2-650-7	660.4	26.000	42	45	560	22 1/16	63	130	87.0	5470
PC3-CM1-700-5	PC3-CM2-700-5	711.2	28.000	30	29	590	23 1/4	45	90	43.2	2420
PC3-CM1-700-7	PC3-CM2-700-7	711.2	28.000	42	45	590	23 1/4	63	150	91.9	5470
PC3-CM1-750-5	PC3-CM2-750-5	762	30.000	30	29	640	25 3/16	45	110	56.3	2870
PC3-CM1-750-8	PC3-CM2-750-8	762	30.000	48	52	640	25 3/16	72	150	120.4	8160
PC3-CM1-800-5	PC3-CM2-800-5	812.8	32.000	30	29	660	26	45	110	58.8	2790
PC3-CM1-800-8	PC3-CM2-800-8	812.8	32.000	48	52	660	26	72	150	125.6	7610
PC3-CM1-850-5	PC3-CM2-850-5	863.6	34.000	30	29	710	27 15/16	45	110	62.4	2690
PC3-CM1-850-8	PC3-CM2-850-8	863.6	34.000	48	52	710	27 15/16	72	150	176.4	8920
PC3-CM1-900-6	PC3-CM2-900-6	914.4	36.000	36	41	740	29 1/18	54	130	97.9	3810
PC3-CM1-900-8	PC3-CM2-900-8	914.4	36.000	48	52	740	29 1/18	72	150	184.7	8560
PC3-CM1-950-6	PC3-CM2-950-6	965	38.000	36	41	770	30 5/16	54	130	102.2	3810
PC3-CM1-950-8	PC3-CM2-950-8	965	38.000	48	52	770	30 5/16	72	150	192.7	8410
PC3-CM1-1000-6	PC3-CM2-1000-6	1016	40.000	36	41	790	31 1/8	54	130	106.0	3810
PC3-CM1-1000-8	PC3-CM2-1000-8	1016	40.000	48	52	790	31 1/8	72	150	201.8	10000

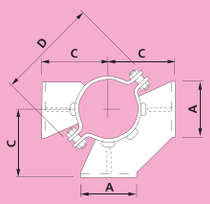
PIPE CLAMP BASE WITH COMLIN — MAX. TEMPERATURE 300°C



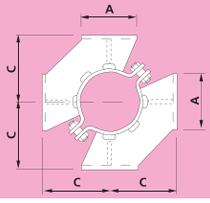
PB1



PB2



PB3



PB4

TYPE PB1 IS FOR USE AS A SLIDING BASE OR WITH SPREADER BEAMS. IF IT IS GUIDED AT THE BASE, THE LOAD CAPACITY IN THE HORIZONTAL DIRECTION IS 30% OF THE STATED VERTICAL LOAD CAPACITY.

TYPE PB2 IS FOR USE AS A GUIDE ON HORIZONTAL OR VERTICAL PIPES, OR WHEN USED WITH THE LEGS VERTICAL AS A VERTICAL RESTRAINT ON HORIZONTAL PIPES IN CASES WHERE THE VERTICAL LOAD CAN ACT UPWARDS.

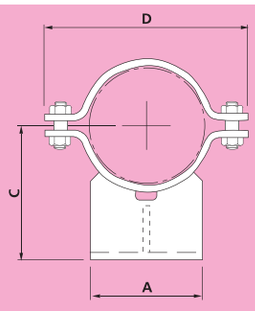
TYPE PB3 IS FOR USE AS A GUIDE ON HORIZONTAL PIPES. THE STATED LOAD CAPACITY IS APPLICABLE TO BOTH VERTICAL AND LATERAL LOADINGS ACTING CONCURRENTLY.

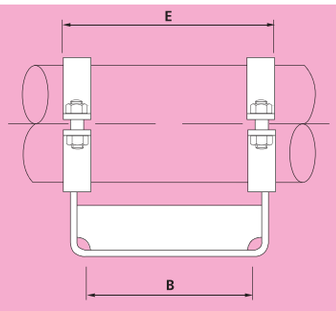
TYPE PB4 IS A TWO WAY GUIDE WHICH CAN BE USED FOR EITHER HORIZONTAL OR VERTICAL PIPES.

Order by Part Number, Comlin Type and Comlin Grade e.g. PB1-CM1-150-4/816/FR80
Material: Carbon Steel and Comlin. Also available in Stainless Steel.
Pipe Clamp Bases with other Load Capacities are also available.
**** Do not exceed the Maximum Temperature for the Grade of Comlin used.***

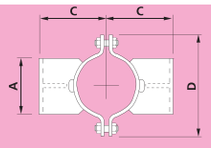
PART NUMBER FOR COMLIN TYPE 816, 916, 818 & 918	PART NUMBER FOR COMLIN TYPE 817 & 917	Pipe O/D		A	B	C		D	E	Max Lagging Thickness	Weight				Load Capacity (See notes)
For Multi-Leg types, replace PB1 with PB2, PB3 or PB4		mm	in	mm	mm	mm	in	mm	mm	mm	PB1 kgf	PB2 kgf	PB3 kgf	PB4 kgf	kgf
PB1-CM1-15-1	PB1-CM2-15-1	21.3	0.839	50	150	90	3 9/16	106	185	75	1.8	3.0	4.2	5.4	360
PB1-CM1-20-1	PB1-CM2-20-1	26.7	1.051	50	150	90	3 9/16	110	185	75	1.8	3.0	4.2	5.4	360
PB1-CM1-25-1	PB1-CM2-25-1	33.4	1.315	50	150	90	3 9/16	120	185	70	1.9	3.1	4.3	5.4	360
PB1-CM1-32-1	PB1-CM2-32-1	42.2	1.661	60	150	100	3 15/16	130	185	75	2.3	3.7	5.2	6.7	360
PB1-CM1-40-1	PB1-CM2-40-1	48.3	1.902	60	150	100	3 15/16	138	185	75	2.3	3.8	5.2	6.7	360
PB1-CM1-50-2	PB1-CM2-50-2	60.3	2.375	70	150	110	4 5/16	150	203	75	2.7	4.4	6.2	7.9	530
PB1-CM1-65-2	PB1-CM2-65-2	73	2.875	70	200	110	4 5/16	166	253	70	3.1	5.2	7.2	9.3	530
PB1-CM1-80-2	PB1-CM2-80-2	88.9	3.500	100	200	160	6 5/16	182	253	115	4.6	7.9	11	15	530
PB1-CM1-90-2	PB1-CM2-90-2	101.6	4.000	100	200	160	6 5/16	196	253	105	4.7	8.0	11	15	530
PB1-CM1-100-3	PB1-CM2-100-3	114.3	4.500	100	200	170	6 11/16	208	253	110	4.8	8.2	12	15	1010
PB1-CM1-125-3	PB1-CM2-125-3	141.3	5.563	110	200	180	7 1/16	236	253	105	5.4	9.2	13	17	1010
PB1-CM1-150-4	PB1-CM2-150-4	168.3	6.625	120	200	200	7 7/8	278	264	115	9.3	15	21	27	1580
PB1-CM1-175-5	PB1-CM2-175-5	193.7	7.625	140	250	240	9 7/16	302	314	140	12	20	29	37	2280
PB1-CM1-200-3	PB1-CM2-200-3	219.1	8.625	150	250	250	9 13/16	320	308	140	9.8	16	23	29	1010
PB1-CM1-200-6	PB1-CM2-200-6	219.1	8.625	150	250	250	9 13/16	364	346	140	24	38	52	65	3650
PB1-CM1-225-3	PB1-CM2-225-3	244.5	9.625	160	250	260	10 1/4	346	308	135	11	18	25	32	1010
PB1-CM1-225-6	PB1-CM2-225-6	244.5	9.625	160	250	270	10 5/8	392	346	145	26	41	57	72	3650
PB1-CM1-250-4	PB1-CM2-250-4	273	10.750	170	250	280	11	384	314	140	16	26	36	47	1580
PB1-CM1-250-7	PB1-CM2-250-7	273	10.750	170	250	280	11	420	346	140	28	45	61	77	5340
PB1-CM1-300-4	PB1-CM2-300-4	323.9	12.750	190	300	320	12 5/8	446	369	155	22	35	49	62	1580
PB1-CM1-300-6	PB1-CM2-300-6	323.9	12.750	190	300	320	12 5/8	474	396	155	35	56	76	97	3650
PB1-CM1-300-8	PB1-CM2-300-8	323.9	12.750	190	300	320	12 5/8	526	410	155	54	80	106	133	7400
PB1-CM1-350-6	PB1-CM2-350-6	355.6	14.000	210	300	340	13 3/8	506	396	160	39	62	86	109	3650
PB1-CM1-350-7	PB1-CM2-350-7	355.6	14.000	210	300	340	13 3/8	506	396	160	39	62	86	109	5340
PB1-CM1-350-9	PB1-CM2-350-9	355.6	14.000	210	300	340	13 3/8	560	425	160	70	111	152	193	9650
PB1-CM1-400-6	PB1-CM2-400-6	406.4	16.000	240	300	360	14 3/16	570	391	155	47	74	101	128	3650
PB1-CM1-400-8	PB1-CM2-400-8	406.4	16.000	240	300	360	14 3/16	610	410	155	67	101	136	170	7400
PB1-CM1-400-10	PB1-CM2-400-10	406.4	16.000	240	300	370	14 9/16	638	465	165	109	171	233	295	13350
PB1-CM1-450-6	PB1-CM2-450-6	457.2	18.000	270	300	390	15 3/8	624	391	160	53	85	116	147	3650
PB1-CM1-450-9	PB1-CM2-450-9	457.2	18.000	270	300	390	15 3/8	664	425	160	91	145	200	255	9650

PIPE CLAMP BASE WITH COMLIN — MAX. TEMPERATURE 300°C

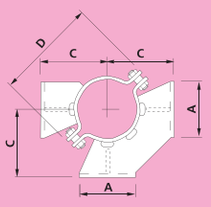




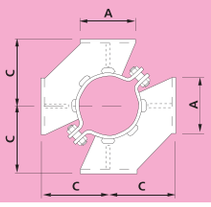
PB1



PB2



PB3



PB4

TYPE PB1 IS FOR USE AS A SLIDING BASE OR WITH SPREADER BEAMS. IF IT IS GUIDED AT THE BASE, THE LOAD CAPACITY IN THE HORIZONTAL DIRECTION IS 30% OF THE STATED VERTICAL LOAD CAPACITY.

TYPE PB2 IS FOR USE AS A GUIDE ON HORIZONTAL OR VERTICAL PIPES, OR WHEN USED WITH THE LEGS VERTICAL AS A VERTICAL RESTRAINT ON HORIZONTAL PIPES IN CASES WHERE THE VERTICAL LOAD CAN ACT UPWARDS.

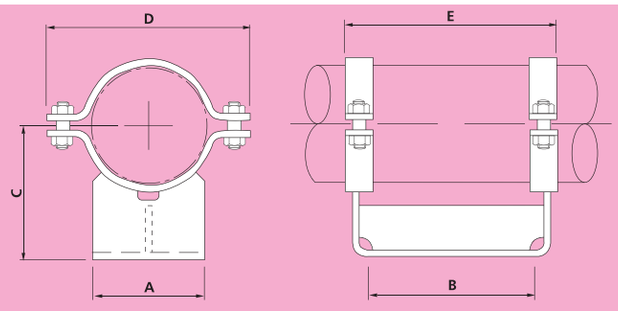
TYPE PB3 IS FOR USE AS A GUIDE ON HORIZONTAL PIPES. THE STATED LOAD CAPACITY IS APPLICABLE TO BOTH VERTICAL AND LATERAL LOADINGS ACTING CONCURRENTLY.

TYPE PB4 IS A TWO WAY GUIDE WHICH CAN BE USED FOR EITHER HORIZONTAL OR VERTICAL PIPES.

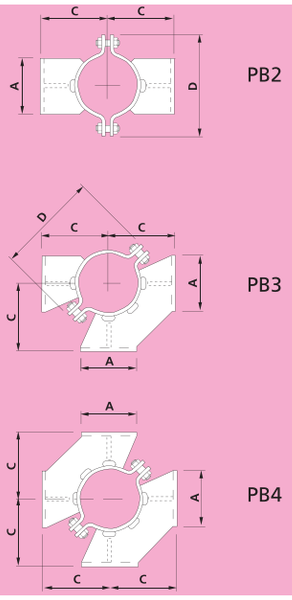
Order by Part Number, Comlin Type and Comlin Grade e.g. PBI-CM1-150-4/816/FR80
Material: Carbon Steel and Comlin. Also available in Stainless Steel.
Pipe Clamp Bases with other Load Capacities are also available.
**** Do not exceed the Maximum Temperature for the Grade of Comlin used.***

PART NUMBER FOR COMLIN TYPE 816, 916, 818 & 918	PART NUMBER FOR COMLIN TYPE 817 & 917	Pipe O/D		A	B	C		D	E	Max Lagging Thickness	Weight				Load Capacity (See notes)
For Multi-Leg types, replace PB1 with PB2, PB3 or PB4		mm	in	mm	mm	mm	in	mm	mm	mm	PB1 kgf	PB2 kgf	PB3 kgf	PB4 kgf	kgf
PB1-CM1-450-11	PB1-CM2-450-11	457.2	18.000	270	300	400	15 3/4	716	500	170	152	241	329	418	18000
PB1-CM1-500-6	PB1-CM2-500-6	508	20.000	300	400	440	17 5/16	694	491	185	67	110	152	195	3650
PB1-CM1-500-9	PB1-CM2-500-9	508	20.000	300	400	450	17 11/16	716	525	195	114	189	263	338	9650
PB1-CM1-500-12	PB1-CM2-500-12	508	20.000	300	400	460	18 1/8	770	600	205	189	308	427	546	23025
PB1-CM1-550-6	PB1-CM2-550-6	558.8	22.000	330	400	460	18 1/8	746	491	180	74	121	168	216	3650
PB1-CM1-550-8	PB1-CM2-550-8	558.8	22.000	330	400	470	18 1/2	768	510	190	103	164	224	285	7400
PB1-CM1-550-10	PB1-CM2-550-10	558.8	22.000	330	400	480	18 7/8	794	565	200	168	275	383	490	13350
PB1-CM1-550-13	PB1-CM2-550-13	558.8	22.000	330	400	490	19 5/16	872	650	210	301	488	675	862	28125
PB1-CM1-600-6	PB1-CM2-600-6	609.6	24.000	360	400	490	19 5/16	820	501	185	98	151	203	256	3650
PB1-CM1-600-8	PB1-CM2-600-8	609.6	24.000	360	400	490	19 5/16	820	510	185	112	179	246	313	7400
PB1-CM1-600-10	PB1-CM2-600-10	609.6	24.000	360	400	500	19 11/16	846	565	195	183	301	420	538	13350
PB1-CM1-600-13	PB1-CM2-600-13	609.6	24.000	360	400	520	20 1/2	924	650	215	330	538	745	953	28125
PB1-CM1-650-6	PB1-CM2-650-6	660.4	26.000	390	400	540	21 1/4	872	501	205	109	168	228	288	3650
PB1-CM1-650-8	PB1-CM2-650-8	660.4	26.000	390	400	540	21 1/4	892	510	205	125	201	277	353	7400
PB1-CM1-650-10	PB1-CM2-650-10	660.4	26.000	390	400	550	21 5/8	898	565	215	203	337	471	605	13350
PB1-CM1-650-13	PB1-CM2-650-13	660.4	26.000	390	400	570	22 7/16	982	670	235	386	619	853	1087	28125
PB1-CM1-700-6	PB1-CM2-700-6	711.2	28.000	420	500	560	22 1/16	924	601	200	125	198	271	343	3650
PB1-CM1-700-8	PB1-CM2-700-8	711.2	28.000	420	500	570	22 7/16	942	610	210	146	239	332	426	7400
PB1-CM1-700-10	PB1-CM2-700-10	711.2	28.000	420	500	580	22 13/16	980	665	220	239	403	566	730	13350
PB1-CM1-700-13	PB1-CM2-700-13	711.2	28.000	420	500	590	23 1/4	1036	770	230	442	722	1002	1281	28125
PB1-CM1-750-6	PB1-CM2-750-6	762	30.000	450	500	590	23 1/4	976	601	205	135	214	294	373	3650
PB1-CM1-750-8	PB1-CM2-750-8	762	30.000	450	500	590	23 1/4	996	610	205	157	257	358	458	7400
PB1-CM1-750-10	PB1-CM2-750-10	762	30.000	450	500	600	23 5/8	1030	685	215	274	451	627	804	13350
PB1-CM1-750-13	PB1-CM2-750-13	762	30.000	450	500	620	24 7/16	1086	770	235	476	781	1086	1390	28125
PB1-CM1-800-6	PB1-CM2-800-6	812.8	32.000	480	500	610	24	1026	601	200	144	230	315	400	3650
PB1-CM1-800-8	PB1-CM2-800-8	812.8	32.000	480	500	620	24 7/16	1046	610	210	169	278	387	496	7400
PB1-CM1-800-10	PB1-CM2-800-10	812.8	32.000	480	500	630	24 13/16	1084	685	220	295	486	678	869	13350
PB1-CM1-800-13	PB1-CM2-800-13	812.8	32.000	480	500	640	25 3/16	1140	770	230	508	835	1162	1490	28125
PB1-CM1-850-6	PB1-CM2-850-6	863.6	34.000	510	500	640	25 3/16	1078	601	205	155	247	339	431	3650
PB1-CM1-850-8	PB1-CM2-850-8	863.6	34.000	510	500	640	25 3/16	1098	610	205	180	297	414	530	7400

PIPE CLAMP BASE WITH COMLIN — MAX. TEMPERATURE 300°C



PB1



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TYPE PB4 IS A TWO WAY GUIDE WHICH CAN BE USED FOR EITHER HORIZONTAL OR VERTICAL PIPES.

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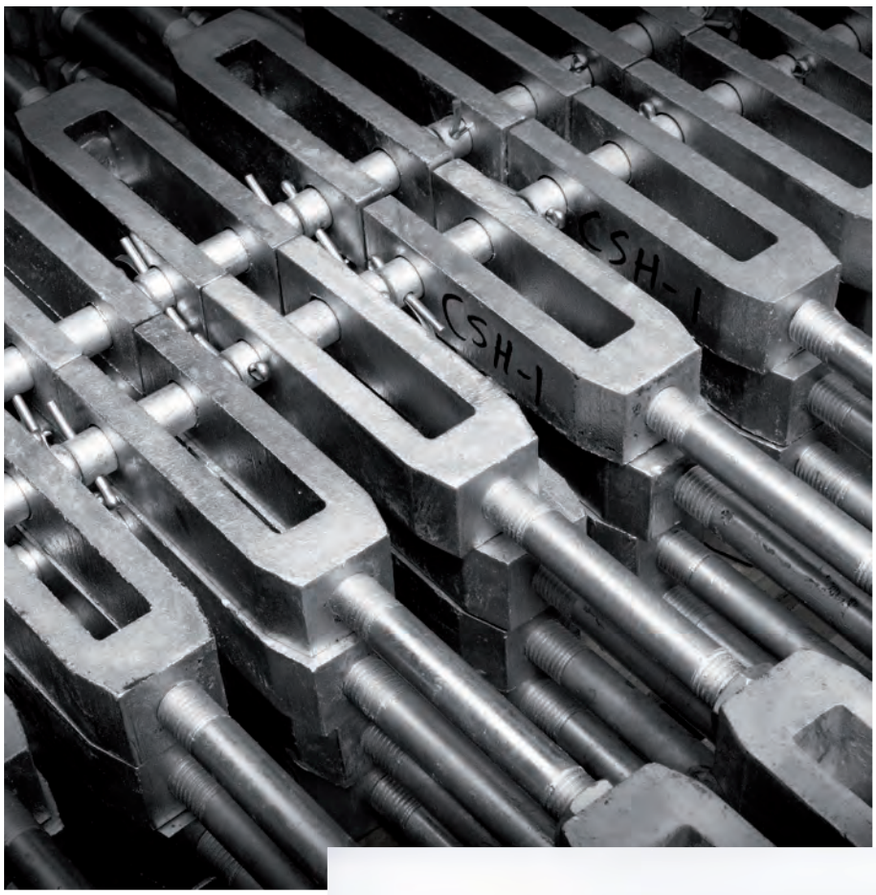
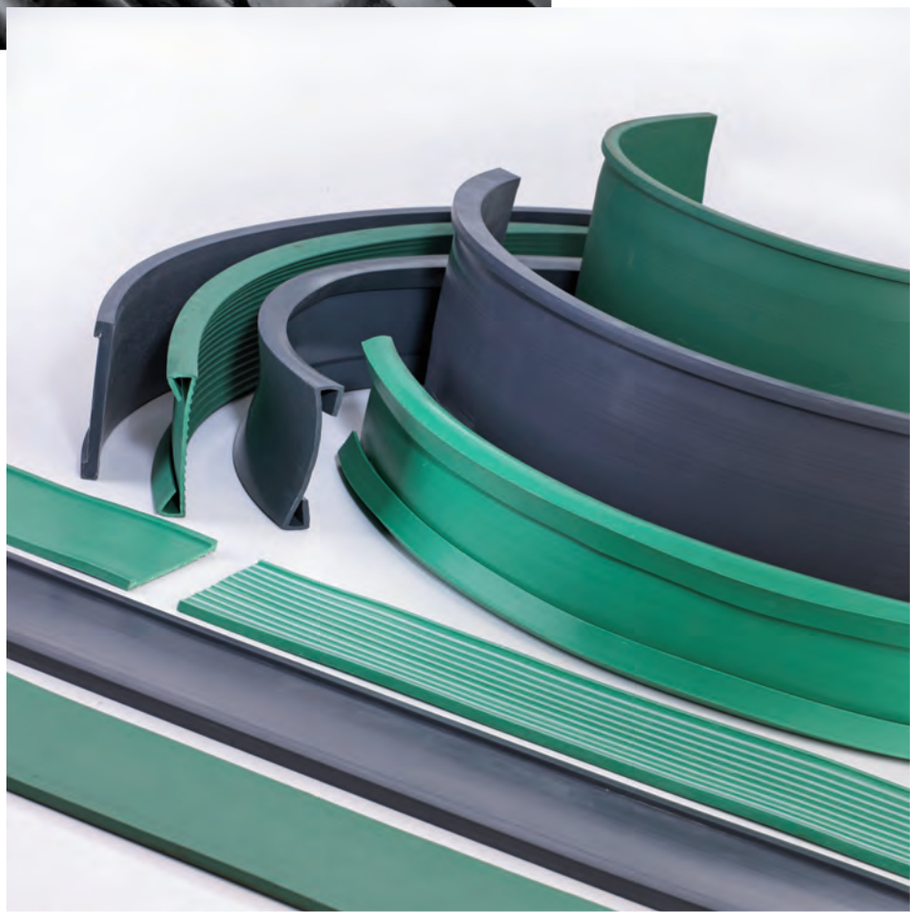
Material: Carbon Steel and Comlin. Also available in Stainless Steel.
Pipe Clamp Bases with other Load Capacities are also available.
**** Do not exceed the Maximum Temperature for the Grade of Comlin used.***

PART NUMBER FOR COMLIN TYPE 816, 916, 818 & 918	PART NUMBER FOR COMLIN TYPE 817 & 917	Pipe O/D		A	B	C		D	E	Max Lagging Thickness	Weight				Load Capacity (See notes)
For Multi-Leg types, replace PB1 with PB2, PB3 or PB4		mm	in	mm	mm	mm	in	mm	mm	mm	PB1 kgf	PB2 kgf	PB3 kgf	PB4 kgf	kgf
PB1-CM1-850-10	PB1-CM2-850-10	863.6	34.000	510	500	650	25 9/16	1134	685	215	314	519	724	929	13350
PB1-CM1-850-13	PB1-CM2-850-13	863.6	34.000	510	500	670	26 3/8	1212	770	235	583	935	1288	1640	28125
PB1-CM1-900-6	PB1-CM2-900-6	914.4	36.000	540	600	670	26 3/8	1128	701	210	175	285	394	504	3650
PB1-CM1-900-8	PB1-CM2-900-8	914.4	36.000	540	600	670	26 3/8	1156	735	210	231	369	507	646	7400
PB1-CM1-900-10	PB1-CM2-900-10	914.4	36.000	540	600	680	26 3/4	1186	785	220	356	598	840	1082	13350
PB1-CM1-900-13	PB1-CM2-900-13	914.4	36.000	540	600	690	27 3/16	1294	870	230	655	1065	1474	1884	28125
PB1-CM1-950-6	PB1-CM2-950-6	965.2	38.000	570	600	690	27 3/16	1182	701	205	185	302	418	535	3650
PB1-CM1-950-8	PB1-CM2-950-8	965.2	38.000	570	600	690	27 3/16	1206	735	205	244	391	538	685	7400
PB1-CM1-950-10	PB1-CM2-950-10	965.2	38.000	570	600	700	27 9/16	1236	785	215	377	634	891	1148	13350
PB1-CM1-950-13	PB1-CM2-950-13	965.2	38.000	570	600	720	28 3/8	1346	870	235	696	1134	1573	2011	28125
PB1-CM1-1000-6	PB1-CM2-1000-6	1016	40.000	600	600	720	28 3/8	1234	701	210	197	321	446	570	3650
PB1-CM1-1000-8	PB1-CM2-1000-8	1016	40.000	600	600	720	28 3/8	1260	735	210	259	416	573	730	7400
PB1-CM1-1000-10	PB1-CM2-1000-10	1016	40.000	600	600	730	28 3/4	1312	785	220	432	706	980	1254	13350
PB1-CM1-1000-13	PB1-CM2-1000-13	1016	40.000	600	600	740	29 1/8	1398	870	230	733	1197	1661	2125	28125



Part of a large contract for a reformer furnace project



WHAT SLIDE BEARINGS DO

When structures get hot, they expand — and this expansion has to be accommodated within the design of the structure.
For example, bridges and buildings expand and contract as a result of changes in ambient temperature and pipelines expand or contract when the temperature of the fluid they are transporting changes.
Failure to allow such items to expand can produce in them unacceptably high stresses and may also overload the equipment or structure to which they are attached.
An extremely effective way of accommodating such expansion is to allow one item to move in relation to another — and this can easily be achieved by using slide bearings to separate the expanding item from the supporting structure.
However, it is important that the bearing is designed so that the frictional force between the item and the structure is kept to a minimum, to prevent the development of high loads and stresses.

WHY USE EASISLIDE BEARINGS?

- They incorporate PTFE or other low friction materials.
- The bearings are designed to achieve optimum performance, by careful specification of the bearing pad dimensions to achieve the ideal compressive stress.
- Capable of operating completely dry, they require no lubrication.
- Able to withstand a wide range of environmental conditions — operating at temperatures from minus 200°C to plus 400°C and are resistant to a wide range of organic and inorganic chemicals.
- Can tolerate some embedment of small particles in the bearing pad without causing failure.
- Compact design — which means they often fit into areas unsuitable for other types of bearing.
- Designed for easy on-site installation.
- Long and maintenance free life.
- Already operating successfully in a wide range of installations worldwide.

EASISLIDE LOW FRICTION BEARINGS

Bergen Pipe Supports offers a comprehensive range of slide bearings suitable for many industrial applications. We supply bearings in a range of materials to standard designs and we also design and supply non-standard bearings to suit particular applications.

PTFE/STAINLESS STEEL BEARINGS

Polished(1) stainless steel upper face and PTFE lower face both attached to carbon steel backing plates.

PTFE sliding on polished(1) stainless steel gives optimum low friction performance, with reduced frictional loadings permitting more efficient structural design. For bearing pressures above 1MPa, coefficient of friction values will typically be <0.05 for virgin PTFE and <0.07 for filled grades. Coefficient of friction reduces with increasing bearing pressure.
On PTFE/stainless steel bearings, the stainless steel surface is made larger than the PTFE by an amount exceeding the lateral movements. This means that the PTFE surface is always in full contact with the stainless steel, ensuring no increase in bearing pressure or damage to the PTFE surface caused by the edge of the harder stainless steel plate pressing into the PTFE.
It is usual to install PTFE/stainless steel bearings with the larger stainless steel plate uppermost so that dust cannot settle on the larger plate, though design considerations may necessitate installation with the PTFE at the top.
PTFE does tolerate some embedment of small particles without significant effect on performance.

PTFE/STAINLESS STEEL BEARINGS — RECOMMENDED MAXIMUM BEARING PRESSURE

PTFE will suffer from creep under high loading, this effect increasing at higher temperatures. Pipe Support Group's maximum recommended bearing pressures are shown on the following graph.

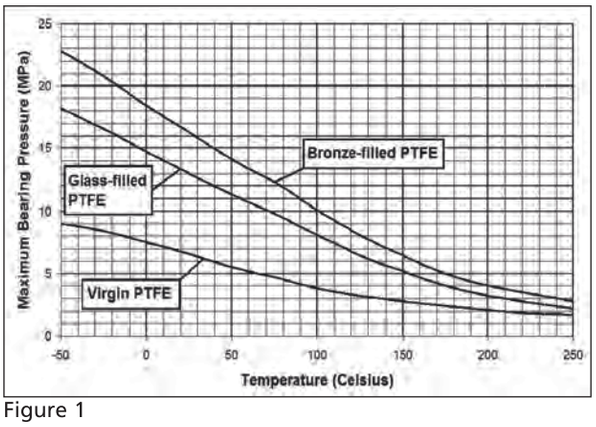


Figure 1

For PTFE bearings where the PTFE is affixed to the backing plate solely by bonding, a maximum PTFE service temperature of 120°C is recommended. Where the PTFE is contained in a machined recess in the backing plate, a maximum temperature of 250°C is applicable. Note that if EasiSlide bearings are fitted below pipe shoes on insulated pipework, there will be a temperature drop through the shoe and insulation; the bearing will not be at the same temperature as the pipe.

PTFE/STAINLESS STEEL BEARINGS — STANDARD BEARINGS

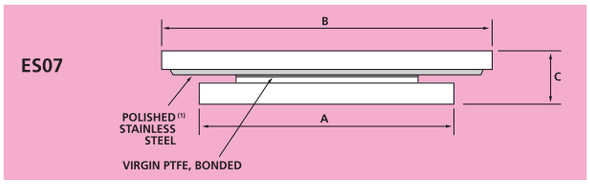
For the standard designs, the bottom plate is square. The top plate may be square or rectangular, depending on required movement in the co-ordinate directions. For efficient selection of travel range, the relative positions of top and bottom plates can be offset on installation. Backing plates are carbon steel as standard but can be supplied in stainless steel if requested.

Travel Range 1 = +/- 12.5mm Movement
Travel Range 2 = +/- 25mm Movement
Travel Range 3 = +/- 37.5mm Movement

Bearings can be supplied with different thickness "C" if requested. Care should be taken that the backing structure has adequate strength and rigidity.

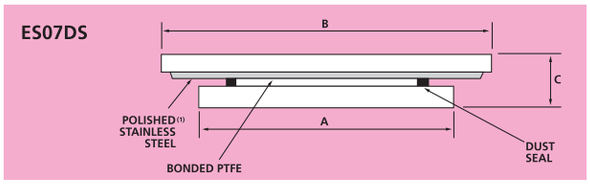
STANDARD BEARINGS WITH BONDED PTFE

ES07 BEARING
Bonded Virgin PTFE/Stainless Steel



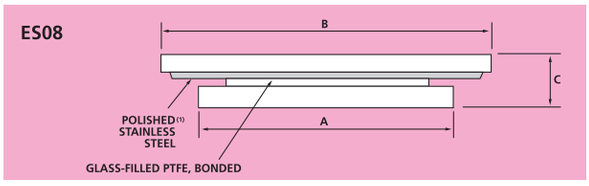
Size	Recommended Loading at 25°C (kg)(2) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
250	50	250	40	15	65	90	115
500	100	500	55	21	75	100	125
1000	200	1000	70	25	85	110	135
2000	400	2000	100	29	105	130	155
4000	800	4000	125	35	125	150	175
8000	1600	8000	180	45	165	190	215
16000	3200	16000	230	55	205	230	255
32000	6400	32000	300	55	275	300	325
64000	12800	64000	400	55	375	400	425

ES07DS BEARING
Bonded Virgin PTFE/Stainless Steel with Dust Seal



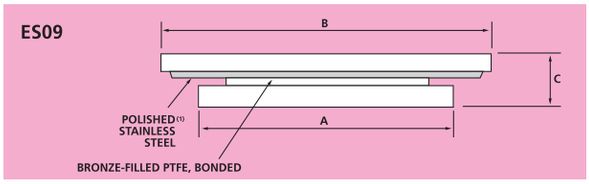
Size	Recommended Loading at 25°C (kg)(2) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
250	50	250	60	15	85	110	135
500	100	500	75	21	95	120	145
1000	200	1000	90	25	105	130	155
2000	400	2000	120	29	125	150	175
4000	800	4000	145	35	145	170	195
8000	1600	8000	200	45	185	210	235
16000	3200	16000	260	55	235	260	285
32000	6400	32000	330	55	305	330	355
64000	12800	64000	430	55	405	430	455

ES08 BEARING
Bonded Glass-Filled PTFE/Stainless Steel



Size	Recommended Loading at 25°C (kg) (2) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
480	50	480	40	15	65	90	115
960	100	960	55	21	75	100	125
1900	200	1900	70	25	85	110	135
3800	400	3800	100	29	105	130	155
7600	800	7600	125	35	125	150	175
15000	1600	15000	180	45	165	190	215
30000	3200	30000	230	55	205	230	255
60000	6400	60000	300	55	275	300	325
120000	12800	120000	400	55	375	400	425

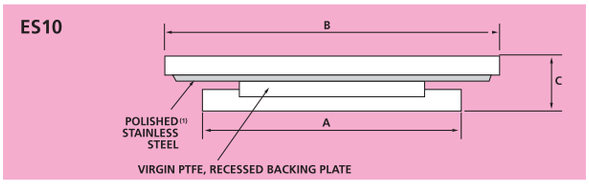
ES09 BEARING
Bonded Bronze-Filled PTFE/Stainless Steel



Size	Recommended Loading at 25°C (kg) (2) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
600	50	600	40	15	65	90	115
1200	100	1200	55	21	75	100	125
2400	200	2400	70	25	85	110	135
4800	400	4800	100	29	105	130	155
9600	800	9600	125	35	125	150	175
19000	1600	19000	180	45	165	190	215
38000	3200	38000	230	55	205	230	255
76000	6400	76000	300	55	275	300	325
152000	12800	152000	400	55	375	400	425

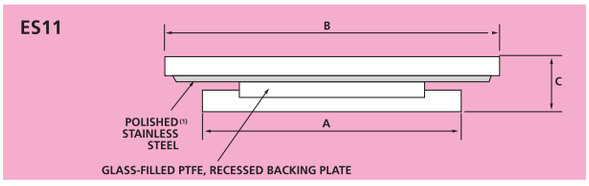
STANDARD BEARINGS WITH PTFE IN A MACHINED RECESS

ES10 BEARING
Virgin PTFE in Recessed Backing Plate/Stainless Steel



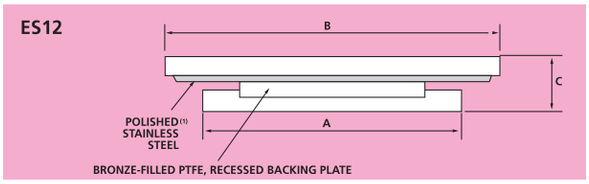
Size	Recommended Loading at 25°C (kg) (3) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
250	50	250	40	18	65	90	15
500	100	500	55	23	75	100	125
1000	200	100	70	27	85	110	135
2000	400	2000	100	32	105	130	155
4000	800	4000	125	40	125	150	175
8000	1600	8000	180	50	165	190	215
1600	3200	16000	230	60	205	230	255
32000	6400	32000	300	60	275	300	325
64000	12800	64000	400	60	375	400	425

ES11 BEARING
Glass-Filled PTFE in Recessed Backing Plate/Stainless Steel



Size	Recommended Loading at 25°C (kg) (3) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
480	50	480	40	18	65	90	115
960	100	960	55	23	75	100	125
1900	200	1900	70	27	85	110	135
3800	400	3800	100	32	105	130	155
7600	800	7600	125	40	125	150	175
15000	1600	15000	180	50	165	190	215
30000	3200	30000	230	60	205	230	255
60000	6400	60000	300	60	275	300	325
120000	12800	120000	400	60	375	400	425

ES12 BEARING
Bronze-Filled PTFE in Recessed Backing Plate/Stainless Steel



Size	Recommended Loading at 25°C (kg) (3) (4)		A (Sq.)	C	B (mm)		
					Movement		
	Min	Max	mm	mm	Range 1	Range 2	Range 3
600	50	600	40	18	65	90	115
1200	100	1200	55	23	75	100	125
2400	200	2400	70	27	85	110	135
4800	400	4800	100	32	105	130	155
9600	800	9600	125	40	125	150	175
19000	1600	19000	180	50	165	190	215
38000	3200	38000	230	60	205	230	255
76000	6400	76000	300	60	275	300	325
152000	12800	152000	400	60	375	400	425

Notes

(1) Polished to a surface finish according EN10088-2 class 2B (Equivalent to ASTM A480 No.2B)
(2) Recommended for use up to a maximum temperature of 120°C
(3) Recommended for use up to a maximum temperature of 250°C
(4) For temperatures greater than 25°C, reduce the maximum loading as per Figure 1

Typical Designation

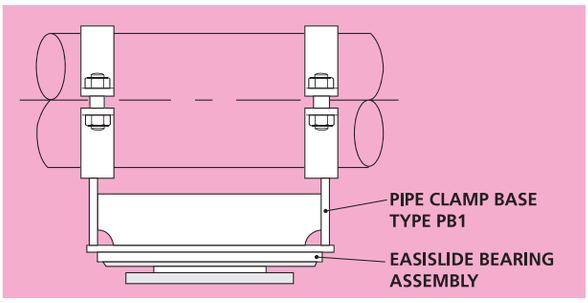
ES08-15000 – RANGE 1 X RANGE 3

PTFE Bearings – Applications and Non-Standard Designs

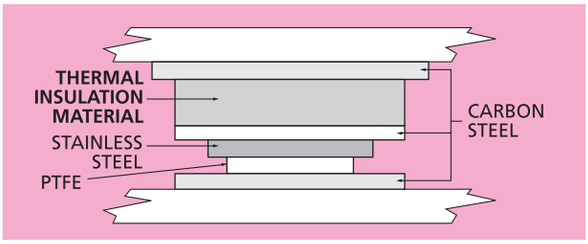
Non-Standard EasiSlide Bearings on Cym Dyli HEP Station, Gwynedd, Wales.

Use with Pipe shoes

ES07 to ES12 Slide Bearings are compatible with pipe clamp bases Types PB1-PB4



Use with Load-Bearing Thermal Insulation



For high temperature application, when using PTFE bearings, it is necessary to use load bearing thermal insulation to reduce the temperature at the bearing face. This is an alternative to using high temperature slide bearings – see next page.

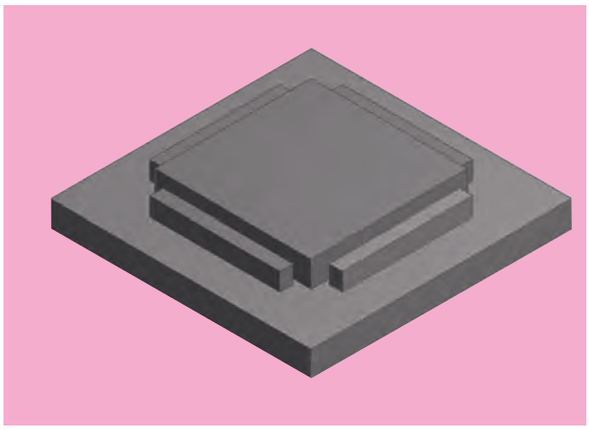
Design for Large Movement

We can supply non-standard designs of types ES07 to ES12 to allow for movements greater than Range 3 (+/-37.5mm).

For pipework applications with very large horizontal movements, the standard design of PTFE/stainless steel bearing with the large upper plate may not be practical. Large lateral movement could cause the pipe shoe to twist around the pipe, or a twisting moment can be applied to the pipe which is also undesirable. In these circumstances, it may be preferable to install the bearing with the smaller PTFE-bearing plate at the top. PTFE on PTFE designs with overlapping strips of PTFE can also be considered. Note that an increased coefficient of friction will apply for PTFE-on-PTFE bearings and a lower bearing pressure should be used.

HIGH TEMPERATURE SLIDE BEARINGS

STANDARD DESIGN – ES13



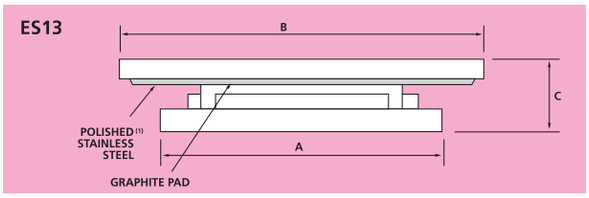
ES13 Lower Plate

The ES13 standard high temperature bearing uses a Grade PSG03 graphite pad positively located on the lower plate. The upper plate comprises a polished[1] stainless steel plate welded to a backing plate. The size of the stainless steel plate is such that the graphite pad is always in full contact. The bottom plate is square. The top plate may be square or rectangular, depending on required movement in the co-ordinate directions. For efficient selection of travel range, the relative positions of top and bottom plates can be offset on installation. Backing plates are carbon steel as standard but can be supplied in stainless or alloy steel if requested.

The standard ES13 slide bearing is designed for a maximum bearing face temperature of 400°C (752°F). For conventional high temperature piping installations using pipe clamp bases types PB1 to PB4, the temperature drop through the clamp base should result in a bearing face temperature less than 400°C.

For ES13 bearings, a coefficient of friction of approximately 0.15 should be expected.

ES13 BEARING
Lower Plate with Graphite Pad/Polished[1] Stainless Steel Upper Plate



Size	Recommended Max. Loading (at 400°C)	A (Sq.)	C	B (mm)		
				Movement		
	kg	mm	mm	Range 1	Range 2	Range 3
2200	2200	75	33	75	100	125
3500	3500	85	37	85	110	135
5000	5000	95	43	95	120	145
9000	9000	115	53	115	140	165
14000	14000	135	53	135	160	185
20000	20000	155	63	155	180	205
27000	27000	175	63	175	200	225
36000	36000	195	63	195	220	245
45000	45000	215	63	215	240	265
56000	56000	235	63	235	260	285

Travel Range 1 = +/- 12.5mm Movement
Travel Range 2 = +/- 25mm Movement
Travel Range 3 = +/- 37.5mm Movement
Bearings can be supplied with different thickness “C”

if requested. Care should be taken that the backing structure has adequate strength and rigidity.

Notes
(1) Polished to a surface finish according EN10088-2 class 2B (Equivalent to ASTM A480 No.2B)

Typical Designation

ES13-9000 – RANGE 1 X RANGE 2

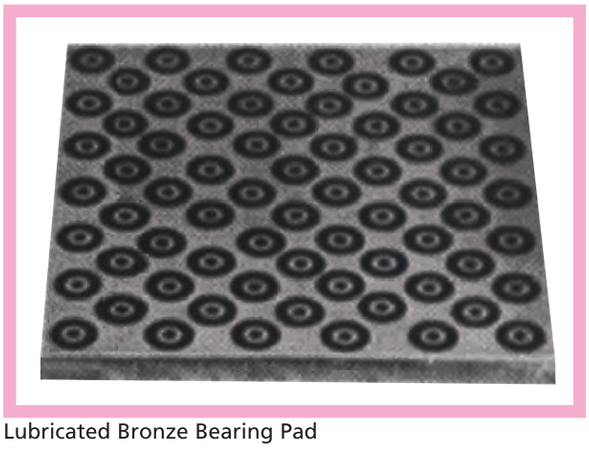
Use with Pipe shoes
ES13 Slide Bearings are compatible with pipe clamp bases Types PB1-PB4

Design for Large Movement
We can supply non-standard designs of type ES13 to allow for movements greater than Range 3 (+/-37.5mm).

High Temperature Slide Bearings — Non-Standard designs
Pipe Supports Group design and supply high temperature slide bearings to customer requirements.

Available Materials include:

- Leaded Bronze
- Lubricated Manganese Bronze
- Graphite-lubricated Cast Iron



Lubricated Bronze Bearing Pad