

BS Chains for Corrosive Environments

Whether your operation requires a sanitary environment, is exposed to corrosive chemicals, is heated to extreme temperatures, runs through a freezer, is exposed to the outdoors or is affected by excessive moisture: our specially designed and tested chains will outlast your current chains and contribute to a cost effective application.

Corrosion Resistant Chain (Stainless Steel base)

BS PC Engineering Plastic Combination Chain

The pins and pin link plates of these chains are made of SUS304 (spring clips SUS301). Engineering plastic (white) is used for the inner link. This combination makes it a lube-free, low noise (5 dB lower than BS standard roller chain) and lightweight chain (50% lighter than BS standard roller chain). Working temperature range: -10°C to +80°C. For details on corrosion resistance, please check out the table in the back of this catalogue.

BS SS Stainless Steel Chain

All basic components of this chain are made of Stainless Steel SUS304 (except the spring clips, which are made of SUS301). This chain can be used in special environments such as underwater, acidic and alkaline applications. It can also be used in high and low temperatures (-20°C to +400°C). SUS304 is only marginally magnetic, which is the result of the cold-forging process. For details on corrosion resistance, please check out the table in the back of this catalogue.

Corrosion Protected Chain (Carbon Steel base)

BS N.E.P. New Environmental Plating Chain

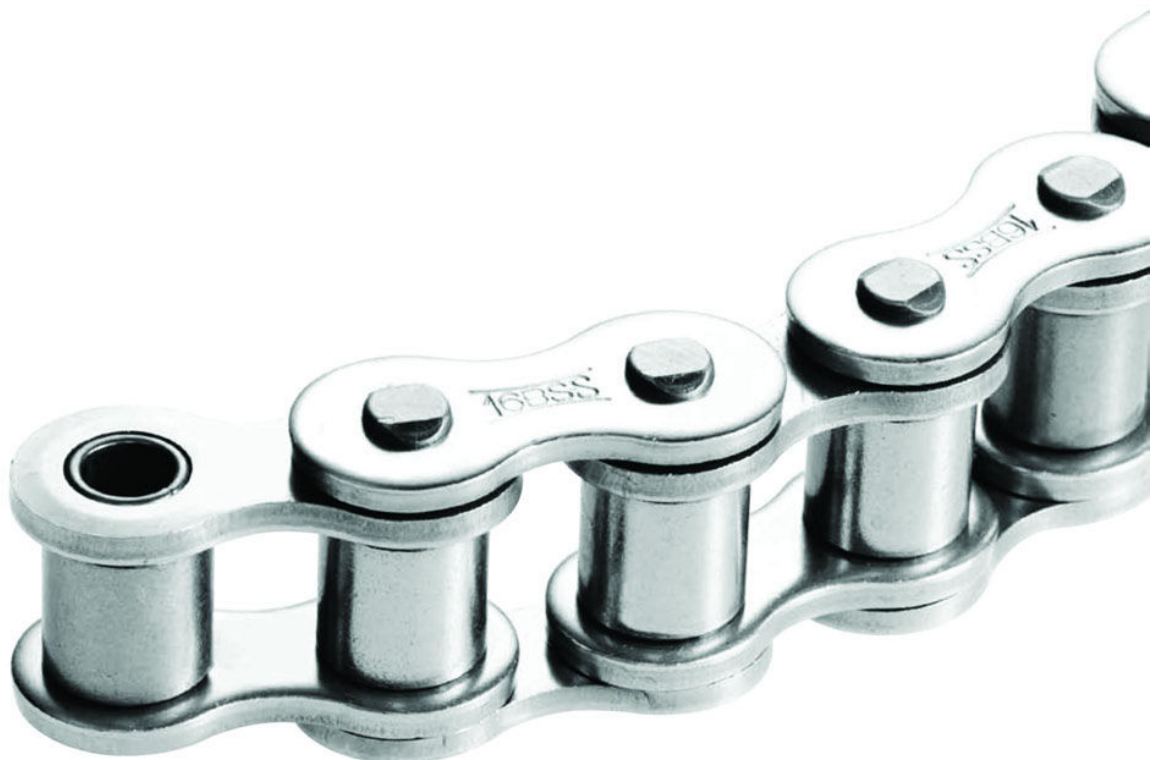
BS N.E.P. Chain is a TSUBAKI BS chain that has undergone a special surface treatment. The link plates, bushes and bearing pins have a special three stage layer applied in order to provide the maximum protection from the operating or environmental conditions. (Spring clips are SUS301). N.E.P. Rollers have a special coating designed to resist the corrosive conditions as well as the severe dynamic contact between roller and sprocket.

This chain is suitable for use in environments exposed to sea-water, acid-rain and other adverse weather conditions. This chain does not contain any chemically hazardous substances such as Hexavalent Chromium, Lead, Cadmium and Mercury as regulated by RoHS. The kilowatt ratings are the same as those of the corresponding BS chain with a working temperature range: -10°C to +150°C. Above +60°C a special high-temperature lubrication is required. Of course, BS LAMBDA N.E.P. chain is also available.

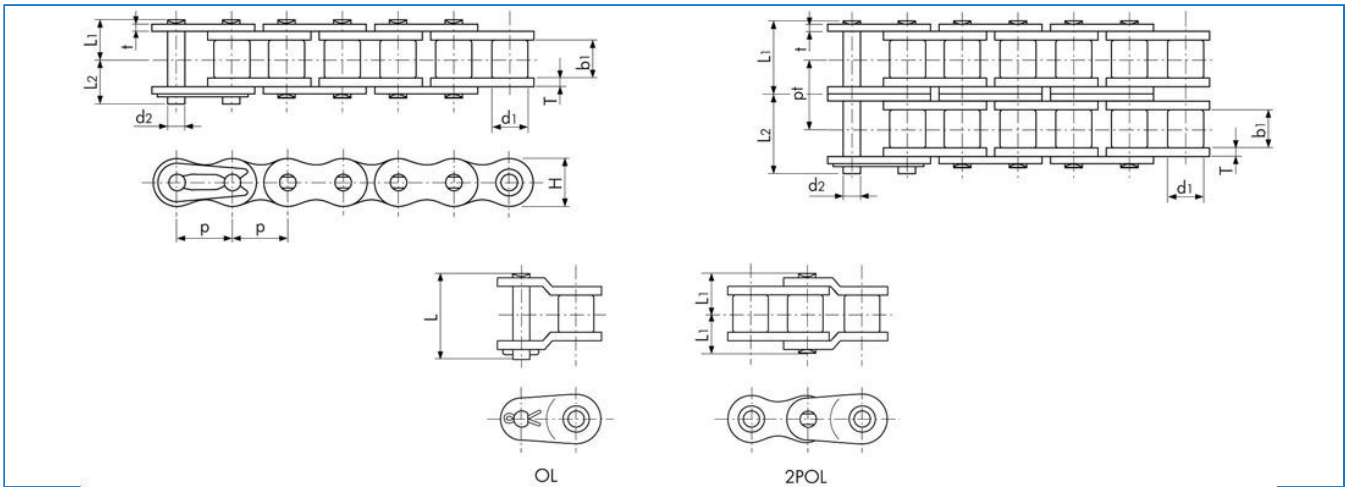
BS NP Nickel-Plating Chain

BS NP Chain is a TSUBAKI BS chain that has been plated with Nickel. NP Chain has a light corrosion resistance and an attractive appearance. NP Chain is suitable for outdoor conditions exposed to water. There is a 15% reduction in Maximum Allowable Load compared to the corresponding BS chain, so please take this into account when making your chain selection. It has a working temperature range of: -10°C to +60°C. Of course, BS LAMBDA NP chain is also available.

√RoHS = Restriction of Hazardous Substances



BS Chains for Corrosive Environments



BS N.E.P. Chain

Dimensions in mm

TSUBAKI Chain No.	Pitch	Roller Diameter	Inner With	Pin			Link Plate			Transerve Pitch	Min. Tensile Strength acc. to ISO 606	Min. Tensile Strength acc. to Tsubaki	Av. Tensile Strength acc. to Tsubaki	Approx. Mass	
				Diameter	Length		Thickness		Height						
					L1	L2	L	T							t
P	d1	b1	d2	L1	L2	L	T	t	H (max)	pt	kN	kN	kN	kg/ m	
RF06B- NEP-1	9,525 (3/8")	6.35	5.72	3.28	6.35	7.65	14.2	1.30	1.00	8.20	-	8.9	9	9.9	0.39
RF06B- NEP-2					11.43	12.57	-				10.24	16.9	17	18.7	0.75
RS08B- NEP-1	12,70 (1/2")	8.51	7.75	4.45	8.4	10	18.4	1.60	1.60	11.80	-	17.8	19	20.9	0.7
RS08B- NEP-2					15.3	16.9	33.6				13.92	31.1	32	35.2	1.35
RS10B- NEP-1	15,875 (5/8")	10.16	9.65	5.08	9.55	11.25	21.1	1.50	1.50	14.70	-	22.2	23	25.3	0.95
RS10B- NEP-2					17.85	19.55	39.4				16.59	44.5	44.5	49	1.85
RS12B- NEP-1	19,05 (3/4")	12.07	11.68	5.72	11.2	13.1	24.8	1.80	1.80	16.10	-	28.9	31	34.1	1.25
RS12B- NEP-2					20.85	22.75	46.3				19.46	57.8	61	67.1	2.5
RS16B- NEP-1	25,40 (1")	15.88	17.02	8.28	17.75	19.95	38.9	4.00	3.20	21.00	-	60	70	77	2.7
RS16B- NEP-2					33.55	35.75	73.8				31.88	106	128	141	5.4
RS20B- NEP-1	31,75 (1 1/4")	19.05	19.56	10.19	19.9	23.1	46.95	4.40	3.40	26.00	-	95	98.1	108	3.85
RS20B- NEP-2					38.25	41.45	84.85				36.45	170	197	217	7.65
RS24B- NEP-1	38,10 (1 1/2")	25.4	25.4	14.63	26.65	31.85	62	6.00	5.60	33.44	-	160	167	184	7.45

N.E.P. Chain

Corrosion resistance with the strength of carbon steel

- No harmful substances- in line with RoHS guidelines
- Designed with the best combinations of materials

Superior corrosion resistance

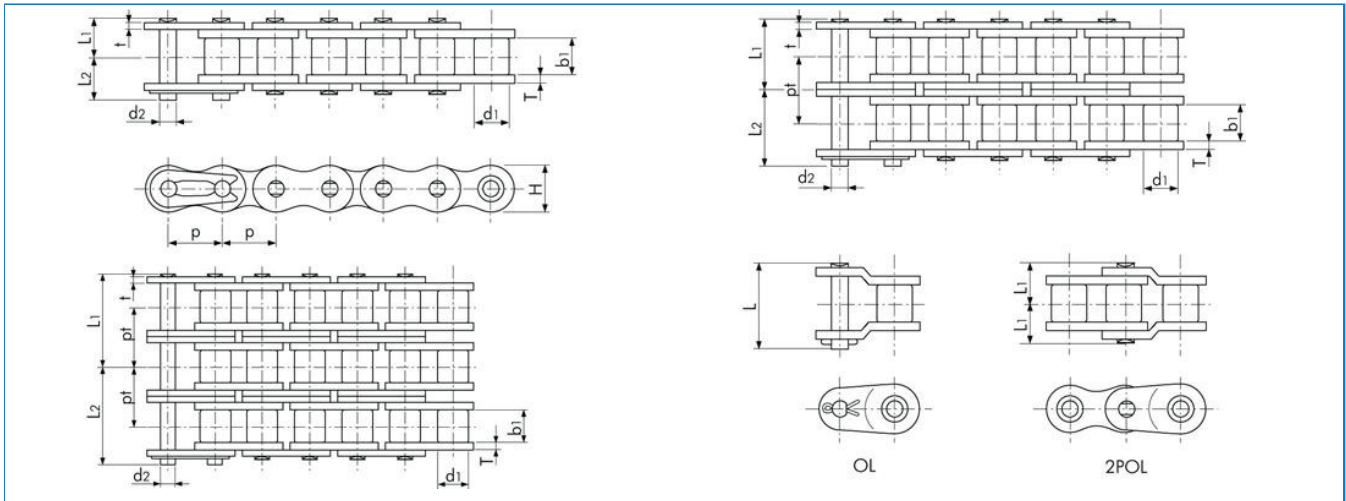
CONSIDERATION FOR THE ENVIRONMENT

Tsubaki appreciates the effects engineering products have on environment. N.E.P. chain has been designed within guidelines of the RoHS regulations. The advanced corrosion resistance coating of N.E.P. chain contains no harmful substances such as Hexavalent Chromium

Note:

1. Connecting links are clip type for sizes up to RS16B- NEP, and cotter type for sizes RS20B- NEP to RS24B- NEP.
2. RF06B- NEP chain has flat- shaped link plates.
3. Intermediate plate of multi strand RF06B- NEP-2 and RS08B- NEP-2 chain is a solid plate.
4. Center sink riveting is applied to RS08B- NEP-1 to RS16B- NEP-1 single strand chain.
5. Double stake riveting is applied to all other sizes including multi- strand chain.
6. When a single pitch offset link is used, please calculate a 35% reduction of the fatigue strength.

BS Chain for Corrosive Environments



BS SS Chain

Dimensions in mm

TSUBAKI Chain No.	Pitch	Roller Diameter	Inner With	Pin			Link Plate			Transverse Pitch	Max. Allowable Load acc. to Tsubaki	Approx. Mass	
				Diameter	Length		Thickness	Height					
					L1	L2			L				
P	d1	b1	d2	L1	L2	L	T	f	H (max)	pt	kN	kg/ m	
RF06B- SS-1	9,525 (3/8")	6.35	5.72	3.28	6.5	7.25	15.45	1.30	1.00	8.20	-	0.28	0.39
RF06B- SS-2					11.6	12.3	28.85				10.24	0.75	
RS08B- SS-1	12,70 (1/2")	8.51	7.75	4.45	8.35	10.05	20.05	1.50	1.50	12.00	-	0.5	0.7
RS08B- SS-2					15.3	17	34.6				13.92	1	1.35
RS08B- SS-3					22.25	23.95	48.6				13.92	1.5	2
RS10B- SS-1	15,875 (5/8")	10.16	9.65	5.08	9.55	11.25	22.9	1.50	1.50	14.70	-	0.67	0.95
RS10B- SS-2					17.85	19.55	39.4				16.59	1.34	1.85
RS10B- SS-3					26.2	27.8	56				16.59	2.01	2.8
RS12B- SS-1	19,05 (3/4")	12.07	11.68	5.72	11.1	13	26.7	1.80	1.80	16.10	-	0.89	1.25
RS12B- SS-2					20.9	22.7	46.1				19.46	1.78	2.5
RS12B- SS-3					30.65	32.6	65.6				19.46	2.67	3.8
RS16B- SS-1	25,40 (1")	15.88	17.02	8.28	17.75	19.95	38.9	4.00	3.20	21.00	-	2.1	2.7
RS16B- SS-2					33.55	35.75	73.8				31.88	4.2	5.4
RS20B- SS-1	31,75 (1 1/4")	19.05	19.56	10.19	20.1	23.1	48.4	4.50	3.50	26.00	-	2.95	3.85

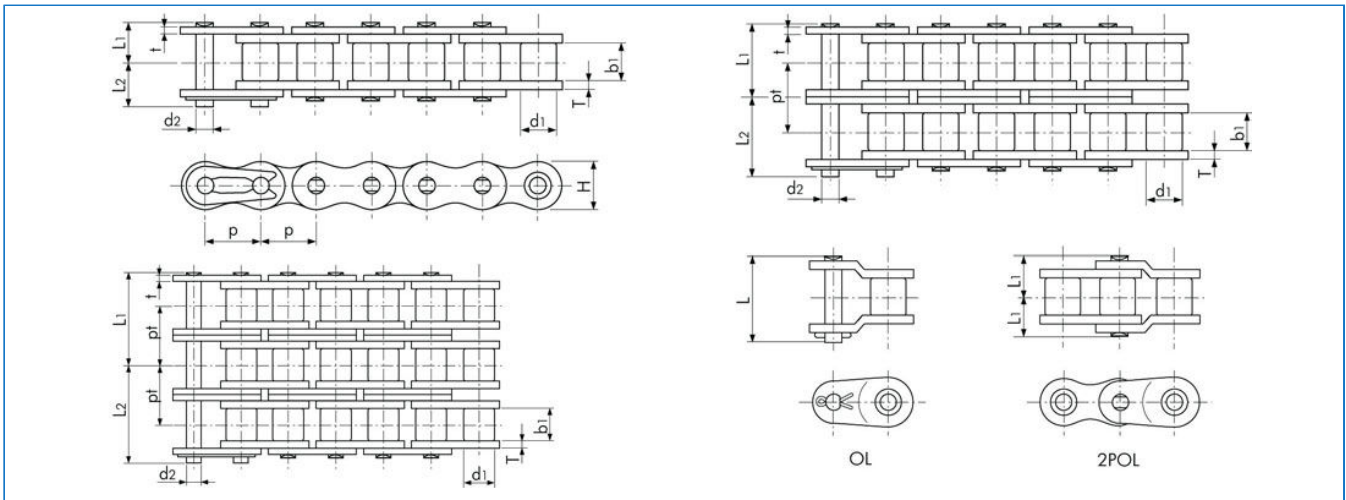
SUS Stainless Steel Roller Chain

Roller chain composed of SUS304 (Clips are SUS301). This chain is more corrosion resistant than RS Roller Chain and WP Roller Chain. It can be used in special environments such as corrosive conditions under water and in acids/ alkalis. It can also be used in high and low temperatures (-200C to 4000C/-40F to +7520F). Please refer to the chain selection pages for more details on corrosion resistance. There is almost no magnetism regarding SUS304 stainless steel itself. However, there may be slight magnetism under cold working processes.

Note:

1. Connecting links are clip type for sizes up to rs16B- ss, and cotter type for sizes rs12B- ss to rs20B- ss.
2. RF06B- ss chain has flat shaped link plates.
3. center sink pins are not available. double stake riveting is applied.
4. For details on corrosion resistance selection, please consult our corrosion resistance guide in this catalogue.
5. Double stake riveting is applied to all other sizes including multi- strand chain.
6. When a single pitch offset link is used, please calculate a 35% reduction of the fatigue strength

BS Chain for Corrosive Environments



BS NP Chain

Dimensions in mm

TSUBAKI Chain No.	Pitch P	Roller Diameter d1	Inner With b1	Pin			Link Plate			Transerve Pitch pt	Min. Tensile Strength acc.to ISO 606 kN	Min. Tensile Strength acc.to Tsubaki kN	Av. Tensile Strength acc.to Tsubaki kN3	Approx. Mass kg/ m	
				Diameter d2	L1	L2	L	Thickness T	t						Height H (max)
RF06B- NP-1					6.35	7.65	14.2				-	8.9	9	9.9	0.39
RF06B- NP-2	9,525 (3/8")	6.35	5.72	3.28	11.43	12.57	-	1.30	1.00	8.20	10.24	16.9	17	18.7	0.75
RF06B- NP-3					16.9	17.5	-				10.24	24.9	24.9	27.4	1.11
RS08B- NP-1					8.4	10	18.4				-	17.8	19	20.9	0.7
RS08B- NP-2	12,70 (1/2")	8.51	7.75	4.45	15.3	16.9	33.6	1.60	1.60	11.80	13.92	31.1	32	35.2	1.35
RS08B- NP-3					22.25	23.85	47.6				13.92	44.5	47.5	52.3	2
RS10B- NP-1					9.55	11.25	21.1				-	22.2	23	25.3	0.95
RS10B- NP-2	15,875 (5/8")	10.16	9.65	5.08	17.85	19.55	39.4	1.50	1.50	14.70	16.59	44.5	44.5	49	1.85
RS10B- NP-3					26.15	27.85	56.1				16.59	66.6	66.8	73.5	2.8
RS12B- NP-1					11.2	13.1	24.8				-	28.9	31	34.1	1.25
RS12B- NP-2	19,05 (3/4")	12.07	11.68	5.72	20.85	22.75	46.3	1.80	1.80	16.10	19.46	57.8	61	67.1	2.5
RS12B- NP-3					30.6	32.5	66				19.46	86.7	92	101	3.8
RS16B- NP-1	25,40 (1")	15.88	17.02	8.28	17.75	19.95	38.9	4.00	3.20	21.00	-	60	70	77	2.7
RS16B- NP-2					33.55	35.75	73.8				31.88	106	128	141	5.4
RS20B- NP-1	31,75 (1 1/4")	19.05	19.56	10.19	19.9	23.1	46.95	4.40	3.40	26.00	-	95	98.1	108	3.85
RS20B- NP-2					38.25	41.45	84.85				36.45	170	197	217	7.65
RS24B- NP-1	38,10 (1 1/2")	25.4	25.4	14.63	26.65	31.85	62	6.00	5.60	33.40	-	160	167	184	7.45
RS24B- NP-2					50.8	56	112.95				48.36	280	335	370	14.65
RS28B- NP-1	44,45 (1 3/4")	27.94	30.99	15.9	32.45	37.45	74.5	7.50	6.30	36.40	-	200	200	220	9.45
RS28B- NP-2					62.15	67.15	136.85				59.56	360	374	411	18.8
RS32B- NP-1	50,80 (2")	29.21	30.99	17.81	32.1	37.7	73.5	7.00	6.30	42.20	-	250	255	281	10.25
RS32B- NP-2					61.25	66.85	135.25				58.55	450	485	534	21.1

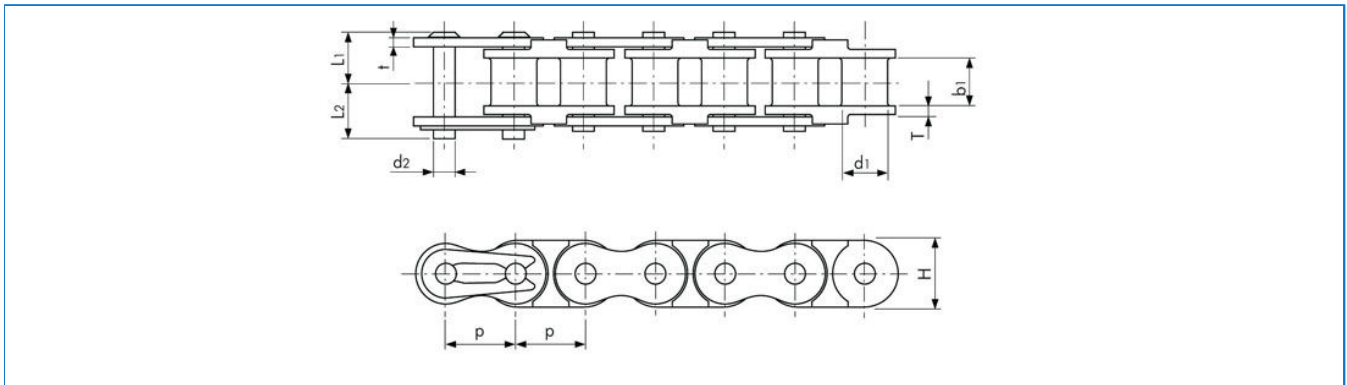
NP Nickel- Plated Roller Chain* 1

RS Roller Chain that has been plated with Nickel. NP chain has an attractive appearance and light corrosion resistance, so it is suitable for outdoor conditions exposed to water. There is a 15% reduction in Max Allowable Load compared to RS Roller Chain, Working Temperature range: -100C to 600C(+140F to +1400F).

Note:

1. Connecting links are clip type for sizes up to RS16B- NP, and cotter type for sizes RS16B- NP to RS32B- NP.
2. RF06B- NP chain has flat- shaped link plates.
3. Intermediate plate of multi strand RF06B- NP-2 and RS08B- NP-2 chain is a solid plate.
4. Center sink riveting is applied to RS08B- NP-1 to RS16B- NP-1 single strand chain.
5. Double stake riveting is applied to all other sizes including multi- strand chain.
6. When a single pitch offset link is used, please calculate a 35% reduction of the fatigue strength.

BS Chain for Corrosive Environments



BS PC Chain

Dimensions in mm

TSUBAKI Chain No.	Pitch	Bush Diameter	Inner With	Pin		Link Plate			Max. Allowable Load acc. to Tsubaki	Approx. Mass	
				Diameter	Length	Thickness	Height				
	P	d1	b1	d2	L1	L2	T	t	H (max)	kN	kg/ m
RF06B- PC-1	9.525 (3/8")	6.35	5.72	3.28	6.50	7.25	1.30	1.00	8.60	0.20	0.23
RF08B- PC-1	12.70 (1/2")	8.51	7.75	4.45	8.35	10.05	1.60	1.50	12.00	0.46	0.40
RF10B- PC-1	15.875 (5/8")	10.16	9.65	5.08	9.55	11.25	1.50	1.50	14.70	0.53	0.51
RF12B- PC-1	19.05 (3/4")	12.07	11.68	5.72	11.10	13.00	1.80	1.80	16.10	0.70	0.67

Key features of BS- PC chain

- Low weight design
- Very low noise
- Lube free operation Longer wear life (compared to SS chain)
- Adaptable to virtually every application
- Wide range of configurations

Picture ref. Chains Framemaker page 10

Note:

1. Make sure to check the chain tension again when replacing Stainless Steel Chain with PC Chain.
2. Offset links are not available.
3. For details on corrosion resistance selection, please consult our Corrosion Resistance Guide in this catalogue.