

## **British Standard Conveyor Chain**



### **"INNOVATION IN MOTION"**



















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# A British Standard Conveyor Chain

"A new era in British Standard Conveyor Chain Performance" With the demands placed on industry today to compete at an international level, Engineers and Plant Managers are looking for maximum reliability in their equipment to increase productivity and performance.

Our focus at Tsubaki is to add value to our customers by capitalizing on our technical strengths in Power Transmission and Materials Handling and to deliver the reliability and performance to met these demands.

We've travelled the globe to bring you an outstanding chain, which exceeds industry quality standards, for superior reliability and performance in your applications.



#### Quality

- All parts are shot peened for greater fatigue strength and durability
- Statically Pre Loaded to reduce initial wear
- Curved edge link plates for consistent tolerance control
- Pre- Lubricated during manufacturing and assembly with Fuchs<sup>™</sup> Grease
- Tsubaki Specified Standards on Materials and Processing

All this backed by the knowledge of dealing with the Tsubaki guarantee of quality, performance and engineering expertise.

# Quality features built into the product, means real benefits for performance and reliability

Statically Loaded

"Our British Standard Conveyor Chain is manufactured to Tsubaki's exacting specifications at a quality endorsed ISO globally certified facility also carrying the certification of the 'API' American Petroleum Institute Corporate Seal. This guarantee of quality to exceed the industry standard means a superior product throughout the entire process of design to manufacture."

Blanked Curved Fiates

Shot peened for greater fatigue strength and durability. Means a longer working life, less down time and higher performance.

Shot Peened to pents

This process applies 1/3 of the rated breaking load to the chain ensuring component Alignment & Geometry Squareness which reduces initial wear and take up during the first stages of operation. Blanked link plates for greater consistence in dimensional tolerances. Curved link plates prevent edges of links rising during engagement with the sprockets for ease of product transfer. Easier and safer handling for maintenance and installation. FUCHS<sup>™</sup> grease ISO 9001:2000 Certified with over 75 years of service to the industry.

Librication

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### **British Standard Solid Pin Conveyor Chain**

Minimum	F (	Pitch ('P')	Width between	Roller Dia	Bush Dia	Soild pin Dia	Solid pin length	Connecting pin length	Inne	er Plate	Outer Plate		Avg.
strength in lbs	INCH	METRIC	Inner Plates (Min) ('W')	('D1')	('D')	('d')	(Max) ('L1')	(Max)	Height ('H1')	Thickness ('T1')	Height ('H2')	Thickness ('T2')	Wt/Mtr in (Kg)
7500	2.0 2.5 3.0 4.0 5.0 6.0 2.0 3.0 4.0 5.0 6.0	50.80 63.50 76.20 101.60 127.00 152.40 50.80 76.20 101.60 127.00 152.40	(w) 15.00 19.00	<ul><li>(D1)</li><li>31.80</li><li>47.60</li></ul>	18.00	14.00	46.00	42.60	25.40	3.80	25.40	3.80	4.07 3.59 3.29 2.88 2.65 2.49 8.14 7.77 6.56 5.85 5.34
	7.0 8.0 9.0 4.0	177.80 203.20 228.60 101.60											5.00 4.78 4.53 14.50
30000	5.0 6.0 7.0 8.0 9.0 12.0	127.00 152.40 177.80 203.20 228.60 304.80	25.40	66.67	33.20	26.90	60.00	65.40	51.00	7.10	51.00	5.10	12.65 11.40 10.52 9.87 9.34 8.31
45000	5.0 6.0 7.0 8.0 9.0 12.0	127.00 152.40 177.80 203.20 228.60 304.80	38.10	88.90	38.10	31.80	82.00	88.20	61.00	8.90	61.00	7.60	24.69 24.69 22.31 20.55 19.21 16.49
60000	6.0 7.0 8.0 9.0 12.0	152.40 177.80 203.20 228.60 304.80	38.10	88.90	38.10	23.00	82.00	86.90	61.00	8.90	61.00	7.60	23.73 21.96 20.26 18.94 16.28
90000	6.0 9.0 12.0	152.40 228.60 304.80	38.10	88.90	38.10	29.40	94.00	98.60	63.50	13.00	63.50	10.00	29.61 23.78 20.87



#### 7 British Standard Hollow Pin Conveyor Chain

Minimum tensile	P (	itch 'P')	Width between	fidth Roller Bush Dia Hollow Hollow H ween Dia pin bore pin Dia		Hollow pin	Connecting pin length (Max)	Inner Plate		Oute	r Plate	Avg.		
strength	INCH	METRIC	Inner Plates (Min)			Dia (Min)		length (Max)		Height Thickness		Height	Thickness	Wt/Mtr in (Ka)
in lbs	INCH	WILTHIG	('W')	('D1')	('D')	('C')	('d')	('L1')	('L2')	('H1')	('T1')	('H2')	('T2')	(
	2.0	50.80												3.68
	2.5	63.50					14.00	0 36.50	38.90		3.80			3.29
6000	3.0	76.20	15.00	31.80	18.00	10.10				25.40		25.40	3.80	3.02
	4.0	101.60										20110	0.00	2.71
	5.0	127.00												2.51
	6.0	152.40												2.38
	2.0	20.00 76.20												0.49 7.28
	4.0	101.60				13.20	0 19.00		47.50	38.10	5.10	38.10	3.80	6.21
	5.0	127.00		.00 47.60	23.60									5.57
12000	6.0	152.40	19.00					45.60						5.13
	7.0	177.80												4.83
	8.0	203.20												4.61
	9.0	228.60												4.42
	4.0	101.60												13.16
	5.0	127.00												11.58
	6.0	152.40												11.27
24000	7.0	177.80	25.40	66.67	33.20	20.10	26.90	57.00	60.50	51.00	7.10	51.00	5.10	9.77
	8.0	203.20												9.21
	9.0	228.60												8.78
-	12.0	304.80												7.90
	5.0	127.00												25.47
	0.0	152.40												22.02
36000	8.0	203.20	38.10	88.90	38.10	23.10	31.80	79.50	84.00	61.00	8.90	61.00	7.60	19.05
	9.0	228 60												17.87
	12.0	304.80												15.49
	12.0	304.00												13.43

Welded attachments available upon reques
\* Not Interchangeable With Other Brands\*



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### **British Standard Solid Pin Bush Chain**

Minimum	P (	itch 'P')	Width between	Bush Dia	Soild pin Dia	Solid pin length	Inne	er Plate	Oute	Avg. Wt/Mtr					
strength	INCU	METRIC	Inner Plates (Min)			(Max)	Height	Thickness	Height	Thickness	in (Kg)				
in Ibs	INCH	WETRIC	('W')	('D')	('d')	('L1')	('H1')	('T1')	('H2')	('T2')					
	2.0	50.80	15.00	15.00	15.00									4.07	
	2.5	63.50											3.59		
7500	3.0	76.20				15.00	15.00	18.00	14 00	38.00	25 40	3.80	25 40	3.80	3.29
7500	4.0	101.60						15.00	10.00	10.00	15.00	10.00	14.00	50.00	20.40
	5.0	127.00									2.65				
	6.0	152.40									2.49				
	2.0	50.80									8.14				
	3.0	76.20								3.80	7.77				
	4.0	101.60						5.10			6.56				
15000	5.0	127.00	19.00	23.60	19.00	46.00	38.10		38.10		5.85				
	6.0	152.40		20.00							5.34				
	7.0	177.80									5.00				
	8.0	203.20									4.78				
	9.0	228.60									4.53				
	4.0	101.60									14.50				
	5.0	127.00									12.65				
	6.0	152.40									11.40				
30000	7.0	177.80	25.40	33.20	26.90	60.00	51.00	7.10	51.00	5.10	10.52				
	8.0	203.20									9.87				
	9.0	228.60									9.34				
	12.0	304.80									8.31				
	5.0	127.00									24.69				
	0.0	152.40									24.69				
45000	7.0	177.00	38.10	38.10	31.80	82.00	61.00	8.90	61.00	7.60	22.31				
	0.0	203.20									20.00				
	9.0	220.00									19.21				
	6.0	152 40									23.73				
	7.0	177.80									21.96				
60000	8.0	203.20	38.10	38 10	23.00	82.00	61.00	8 90	61.00	7 60	20.26				
00000	9.0	228.60	00110	00.10	20.00	02.00	01.00	0.00	01.00	1.00	18.94				
	12.0	304.80									16.28				
	6.0	152.40									29.61				
90000	9.0	228.60	38.10	38.10	29.40	94.00	63.50	13.00	63.50	10.00	23.78				
	12.0	304.80									20.87				

Welded attachments available upon request. Bolted connectors available on request. Non Standard attachments available. All chains available in stainless steel and plated materials versions. \* Not Interchangeable With Other Brands'





### **9** British Standard Deep Side Plate Conveyor Chain

Minimum tensile strength	Pitch ('P')		Width between Inner Plates (Min)	Roller Dia Bush S Dia		Solid pin Dia	Solid pin Dia length (Max)		Connecting pin Inner Plate length (Max)		Outer Plate		Avg. Wt/Mtr	
in lbs	INCH	METRIC	('W')	('D1')	('D')	('d')	('L1')	('L2')	Height ('H1')	Thickness ('T1')	Height ('H2')	Thickness ('T2')	in (Kg)	
	2.0	50.80											4.97	
	2.5	63.50	15.00	15.00										4.46
7500	3.0	76.20			31.80	18.00	14.00	38.00	42 60	38 70	3.80	26.00	3.80	4.14
1000	4.0	101.60	10.00	01.00	10.00	14.00	00.00	42.00	00.70	0.00	20.00	0.00	3.71	
	5.0	127.00											3.45	
	6.0	152.40											3.29	
	2.0	50.80											7.31	
	3.0	76.20											8.59	
	4.0 101.60											7.37		
15000	5.0	127.00	19.00	47.60	23.60	19.00	46.00	49.80	51.05	5.10	32.00	3.80	6.64	
	6.0	152.40											6.15	
	7.0	177.80											5.80	
	0.0	203.20											5.04	
	9.0	101.60											16.3/	
	5.0	127.00											14.45	
	6.0	152.40				26.90							13.18	
30000	7.0	177.80	25.40	66.67	33.20		60.00	65.40	70.50	7.10	45.00	5.10	12.27	
	8.0	203.20											11.60	
	9.0	228.60											11.08	
	12.0	304.80											10.01	
	5.0	127.00											AOR	
	6.0	152.40											AOR	
45000	7.0	177.80	20.10	00.00	20.10	21.00	00.00	00.00	75 50	0.00	45.00	7.60	AOR	
45000	8.0	203.20	38.10	88.90	38.10	31.80	82.00	88.20	75.50	8.90	45.00	7.60	AOR	
	9.0	228.60											AOR	
	12.0	304.80											AOR	

Welded attachments available upon request. Non Standard attachments available. All chains available in stainless steel and plated materials versions. \* Not Interchangeable With Other Brands\*



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#### **British Standard Attachment Type**

Minimum	Pitch ('P')		Attachment Type Inner/	Platform Height	Transverse Pitch	Width Overall Attach Plate	Attachment Thickness	Centre Hole Dia	Outer Hole Dia	Hole Pitch (MM)	Platform Length
tensile strength in lbs	INCH	METRIC	('A3 & K3')	('A')	(IVIIVI) ('B')	(MM) ('C')	(MM) ('D')	(IVIIVI) ('E')	('F')	('G')	(IVIIVI) ('K')
6000 / 7500	3.0	76.20	A3 & K3	19.00	76.20	106 / 115	3.8	10.50	9.20	22.20	43.00
	4.0	101.60	A3 & K3	19.00	76.20	106 / 115	3.8	10.50	9.20	31.80	64.00
	6.0	152.40	A3 & K3	19.00	76.20	106 / 115	3.8	10.50	9.20	57.20	114.00
	3.0	76.20	A3 & K3	31.80	89.00	130 / 136	5.1 / 3.8	13.70	10.50	31.80	63.50
12000 / 15000	4.0	101.60	A3 & K3	31.80	89.00	130 / 136	5.1 / 3.8	13.70	10.50	31.80	63.50
	6.0	152.40	A3 & K3	31.80	89.00	130 / 136	5.1 / 3.8	13.70	10.50	57.20	114.50
24000 / 30000	6.0	152.40	A3 & K3	38.00	108.00	146 / 157	7.1 / 5.7	15.30	12.20	57.20	107.00

Note: For 2" pitch conveyor chain attachment styles A1, K1, A2 and K2 will be provided.

Welded attachments available upon request. Non Standard attachments available. All chains available in stainless steel and plated materials versions. \* Not Interchangeable With Other Brands\*

A3 and K3 standard stock design. Intergrated one piece design for strength and integrity. SA, SK and G style attachments available. Special Welded attachments available.











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### **British Standard Scraper Chain**

Minimum tensile	P (	itch 'P')	Width between	Bush Dia	Soild pin Dia	G J		L	Integral Scraper		Welded Scraper		Avg. Wt/ Mtr
strength in lbs	INCH	METRIC	Inner Plates (Min) ('W')	('D')	('d')	*	*	*	Height ('H1') *	Thickness F *	Height ('H2') *	Thickness F *	in (Kg) Base Chain only
	2.0	50.80											4.07
	2.5	63.50											3.59
7500	3.0	76.20	15.00	18.00	1/ 00	*	*	*	*	*	*	*	3.29
7500	4.0	101.60	15.00	10.00	14.00								2.88
_	5.0	127.00											2.65
	6.0	152.40											2.49
	2.0	50.80											8.14
	3.0	76.20			19.00								7.77
	4.0	101.60											6.56
15000	5.0	127.00	10.00	22.60		*	*	*	*	*	*	*	5.85
13000	6.0	152.40	19.00	23.00									5.34
	7.0	177.80											5.00
	8.0	203.20											4.78
	9.0	228.60											4.53
	4.0	101.60											14.50
	5.0	127.00											12.65
	6.0	152.40											11.40
30000	7.0	177.80	25.40	33.20	26.90	*	*	*	*	*	*	*	10.52
	8.0	203.20											9.87
	9.0	228.60											9.34
	12.0	304.80											8.31

All Chains supplied with trivet conns unless otherwise requested. Support Bars and Attachments available upon request. \* Dimensions G, J, L, H1 & H2 to be confirmed by customer.







#### **British Standard Conveyor Chain Maintenance Check Points**



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<b>Check Points</b>	Comments
Centreing	A high precision guide rail is essential to ensure proper centreing of the conveyor. If centreing is not accurate (with no side rail), the conveyor chain will wobble and weave resulting in shorter conveyor chain life.
Sprocket Alignment	When two or more sprockets are installed in a row, be sure to align the position of the sprocket teeth. If the sprocket teeth are not properly aligned, the working load will not be equally divided and will cause the chain to twist.
Take up	If take-ups on both sides are uneven, the conveyor chain will not engage smoothly with the sprocket/s.
Initial Chain Tension	Maintain adequate chain slack. If chain tension is too high, loss of power will occur. This is a dangerous situation. If too loose, the chain will climb the sprocket/s.
Trial Run / Commissioning	Trial run after installation should be made under no load conditions by switching On & Off several times intermittently. After inspection, continuous operation may begin.
Stopping Conveyor	Stop conveyor under no load conditions, or remaining material will impose and overload when the conveyor starts again.
Lubrication	Lubricate conveyor chain periodically, except conveyor chain like Flow Conveyor which runs without lubrication. Lubrication of reducer, bearings and driving roller chain is essential.
Securing Conveyor Parts	Parts fastened to the conveyor such as buckets, aprons, slats, etc, are apt to loosen due to vibration. Pay careful attention to fastening nuts and bolts and check tension periodically.
Amounts of Chain Slack	Regularly check and adjust the amount of chain slack.
Temperature and Prevention of Freezing	When differences in temperatures (summer and winter or between day and night in the winter) are very severe, conveyor damage may occur. Under these circumstances, operate the conveyor carefully taking any variations in temperature into account.
Conveyor Record of Use and Maintenance	After installing the conveyor, prepare a record of the expected capacity to be conveyed, conveyor speed, r.p.m of main shaft, electric current, voltage, working hours, actual conveying capacity, inspection date, lubricating date, details of trouble etc. This will serve as protection against unexpected accidents. This record will also be convenient for maintenance and repairs.

### 13 **British Standard Conveyor Sprockets**

Leading Drive Performance relies on the whole system not just various components of the drive system.

The Chain and Sprockets work as one, this is why Tsubaki not only delivers a superior chain, but bring to the market the best in sprocket performance.

With our capabilities to design and select the right sprocket for your application, Tsubaki makes the right choice easy.





- Reduced downtime for maintenance
- Lower replacement costs
- Increased productivity
- Increased chain life performance
- Increased profits

**TYPE A:** Plain Bore (No hub extension) Plain Bore (One side hub extension) **TYPE B: TYPE C:** Plain Bore (Two side hub extension) Plain Bore (Split hub option) TYPE D:

All sprockets are made to order and finished in the bore and keyway size of your application. (Taper Lock assemblies are available)



















#### **Additional Services and Features**

Additional Service Qualified Engineering Support Infield Service Support Infield Technical Support Special Chain Features Bolted Connecting Links Circlip Hollow Pin Connectors Rivet Connecting Links

#### **Special Materials and Coatings**

Stainless Steel Zinc Plated Galvanized Plated Nickel Plated MolyBonded<sup>™</sup> Coated ZAC - Coated

#### **Tsubaki Engineering Data**

Careful and accurate installation of both the chain and sprockets is required for a smooth operating conveyor chain/s to ensure maximum life of the system.

- 1. Adjust shafts with a level. The inclination should be 1/300
- 2. Align the drive shaft and the driven shaft in parallel. The parallelism should be within 1 mm
- 3. Align the axial alignment of the two sprockets (drive and driven) within the tolerance below Shaft distance up to 1m: 1mm

1m to 10m:(distance between two shafts)/1,000 (mm)Over 10m10mm

4. Fix the sprockets to the shaft using keys, collars, set bolts etc.

### 15 TSUBAKI Product Range





















#### **Roller Chain Products:**

- Metric Conveyor Chain
- ANSI Roller Chain
- BS Roller Chain
- Double Pitch Conveyor Chain
- Attachment Chains
- Plastic Chains
- Corrosion Resistance Chains
- Bearing Roller Chain
- Bearing Bush Chain
- Fork Lift Leaf Chain
- Super Series Chains
- HT Chains
- RO Heavy Drive Chains

#### **Power Transmission Products:**

- BS Cam Clutches
- MG Cam Clutches
- Torque Limiter Devices
- Electronic Shear Pins
- Sprockets ANSI & BS
- Hypoid Gear Motor
- Power Cylinders
- Couplings
- Cableveyor
- Power Locks
- Shaft Mounts
- Miter Boxes
- Gear Motors



#### USE CARE TO PREVENT INJURY COMPLY WITH THE FOLLOWING TO AVOID SERIOUS PERSONAL INJURY

- GUARDS MUST BE PROVIDED ON ALL POWER TRANSMISSION AND CONVEYOR APPLICATIONS IN ACCORDANCE WITH PROVISIONS OF ANSI/ASME B 15.1 1992 "SAFETY 1. STANDARDS FOR MECHANICAL POWER TRANSMISSION APPARATUS" AND ANSI/ASME B 20.1-1990 SAFETY STANDARDS FOR CONVEYORS AND RELATED EQUIPMENT", OR OTHER APPLICABLE STANDARDS. WHEN REVISIONS OF THESE STANDARDS ARE PUBLISHED, THE UPDATED EDITION SHALL APPLY
- DISCONNECT POWER. ALWAYS LOCK OUT POWER SWITCH BEFORE INSTALLING, REMOVING, OR SERVICING UNIT OR LUBRICATING CHAIN. COMPLY WITH OCCUPATIONAL 2. HEALTH AND SAFETY STANDARDS 1910.147 " THE CONTROL OF HAZARDOUS ENERGY (LOCK OUT/TAG OUT)"
- 3. WHEN CONNECTING OR DISCONNECTING CHAIN:
  - \*. EYE PROTECTION IS REQUIRED. WEAR SAFETY GLASSES, PROTECTIVE CLOTHING GLOVES AND SAFETY SHOES \*. SUPPORT THE CHAIN TO PREVENT UNCONTROLLED MOVEMENT OF CHAIN AND PARTS

  - \*. USE OF PRESSING EQUIPMENT IS RECOMMENDED. TOOLS MUST BE IN GOOD CONDITION AND PROPERLY USED. \*. DETERMINE CORRECT DIRECTION FOR PIN/RIVET REMOVAL OR INSERTION.
  - ALWAYS TEST RUN EQUIPMENT AND COMMISSION PRIOR TO OPERATION.







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