

INTRODUCTION TO MILL & DRAG CHAIN

One of the backbones of forestry operations, **Welded Steel Chain** operates in some of the most demanding applications. The inherent design provides high tensile and fatigue strength. This brute of a chain must withstand high shock loading, provide resistance to abrasive material and operate in extreme temperatures and climates. Building upon the basic design, **Tsubaki's Mill Chain Sidebars and Barrels** are shot peened for additional fatigue strength. Pins are precision fit for a superior press fit into the side bar.

*Mill chain only

Precision Press Fit Pins*
Increase wear resistance

Shot Peened Sidebars and Barrels*
Provide additional fatigue strength

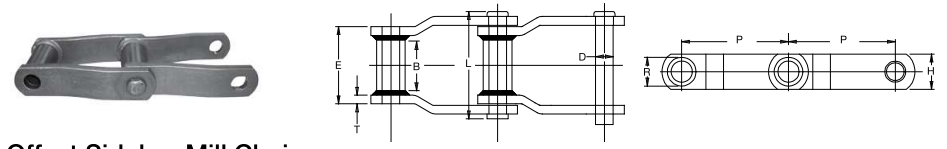


Application: Chip Truck Dumper
Savings: \$18,047.00

Tsubaki solution: After the first year of operation, only 1 link of Tsubaki was taken out vs. 4 links of the previous competitor install over that time period. Full life resulted in 27 months vs. 19 with less maintenance costs.

It really mattered to this Tsubaki customer

OFFSET SIDEBAR MILL CHAIN



Offset Sidebar Mill Chains

All dimensions in inches unless otherwise stated.

Chain Number	Pitch P	Sidebars			Pin Dia. D	Chain Width		Effective Distance Between Welds B	Barrel Dia. R	Average Tensile Strength (lbs.)	Maximum Allowable Load (lbs.)	Approx. Weight (lbs./ft.)
		Thickness T	Height H	Overall L		Length of Bearing E						
WR78	2.609	0.250	1.25	0.50	3.00	2.00	1.00	0.84	30,000	4,500	4.2	
WH78	2.609	0.250	1.25	0.50	3.00	2.00	1.00	0.84	33,000	5,500	4.2	
WR78-4	4.000	0.250	1.25	0.50	3.00	2.00	1.00	0.84	30,000	4,500	3.5	
WR82	3.075	0.250	1.25	0.56	3.24	2.25	1.13	1.00	30,000	5,000	5.0	
WH82	3.075	0.250	1.25	0.56	3.24	2.25	1.13	1.00	36,000	6,000	5.0	
*WR124IBR	4.000	0.375	1.50	0.75	4.25	2.75	1.50	1.25	50,400	8,200	8.0	
WH124	4.000	0.375	1.50	0.75	4.25	2.75	1.50	1.25	57,000	9,500	8.0	
WR111	4.760	0.375	1.75	0.75	4.80	3.36	2.25	1.25	50,400	9,500	9.2	
WH111	4.760	0.375	1.75	0.75	4.80	3.36	2.25	1.25	60,200	12,000	9.2	
WR106	6.000	0.375	1.50	0.75	4.25	2.75	1.50	1.25	50,400	8,200	6.6	
WH106	6.000	0.375	1.50	0.75	4.25	2.75	1.50	1.25	60,200	12,000	6.6	
WR110	6.000	0.375	1.50	0.75	4.81	3.00	1.88	1.25	46,000	6,800	6.6	
WH110	6.000	0.375	1.50	0.75	4.81	3.00	1.88	1.25	60,000	12,000	6.6	
WR132	6.050	0.500	2.00	1.00	6.14	4.41	2.75	1.75	85,500	14,100	14.2	
WH132	6.050	0.500	2.00	1.00	6.14	4.41	2.75	1.75	122,000	20,300	14.2	
WR150	6.050	0.500	2.50	1.00	6.50	4.41	3.00	1.75	100,000	19,000	17.1	
WH150	6.050	0.500	2.50	1.00	6.50	4.41	3.00	1.75	122,000	20,300	17.1	
WR155	6.050	0.625	2.50	1.13	6.41	4.63	2.75	1.75	148,000	22,000	19.8	
WH155	6.050	0.625	2.50	1.13	6.41	4.63	2.75	1.75	185,000	29,000	19.8	
WH157	6.050	0.623	2.50	1.13	6.625	4.63	2.75	1.75	175,350	29,225	20.0	
WH157IBR	6.050	0.623	2.50	1.13	6.625	4.63	2.75	1.75	184,343	29,225	20.0	

*WR124IBR is produced standard with extended wear life pin.

Extra Heavy Duty Offset Sidebar Mill Chains

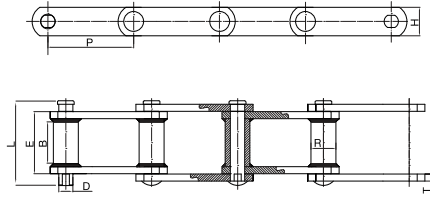
All dimensions in inches unless otherwise stated.

Chain Number	Pitch P	Sidebars			Pin Dia. D	Chain Width		Effective Distance Between Welds B	Barrel Dia. R	Average Tensile Strength (lbs.)	Maximum Allowable Load (lbs.)	Approx. Weight (lbs./ft.)
		Thickness T	Height H	Overall L		Length of Bearing E						
WR78XHD	2.636	0.38	1.25	0.56	3.37	2.00	1.00	1.00	40,000	5,000	6.2	
WH78XHD	2.636	0.38	1.25	0.56	3.37	2.00	1.00	1.00	54,000	6,000	6.2	
WR82XHD	3.075	0.38	1.50	0.75	3.75	2.38	1.13	1.25	32,500	8,400	8.5	
WH82XHD	3.075	0.38	1.50	0.75	3.75	2.38	1.13	1.25	57,100	9,500	8.5	
WR124XHD	4.063	0.50	2.00	1.00	4.87	3.00	1.50	1.75	85,500	14,200	14.8	
WH124XHD	4.063	0.50	2.00	1.00	4.87	3.00	1.50	1.75	122,000	20,400	14.8	
WR106XHD	6.050	0.50	2.00	1.00	4.87	3.00	1.50	1.75	85,000	14,200	12.2	
WH106XHD	6.050	0.50	2.00	1.00	4.87	3.00	1.50	1.75	122,000	20,400	12.2	
WR132XHD	6.050	0.63	2.00	1.00	6.75	4.67	2.75	1.75	120,000	20,000	16.5	
WH132XHD	6.050	0.63	2.00	1.00	6.75	4.67	2.75	1.75	123,650	20,400	16.5	

Notes:

- WR: Offset sidebar style, with heat treated rivets.
- WH: Offset sidebar series, with all parts heat treated.
- WRXHD: Offset sidebar extra heavy duty series, with heat-treated rivets.
- WHXHD: Offset sidebar extra heavy duty series, with all parts heat treated.
- If extended wear life pin is required Tsubaki can supply IBR or IBRS as an option for all chain on this page.
- Riveted type connecting pins are supplied as standard cottered upon request.

STRAIGHT SIDE BAR MILL CHAIN



Straight Sidebar Mill Chains

All dimensions in inches unless otherwise stated.

Chain Number	Pitch P	Sidebars		Pin Dia. D	Chain Width		Effective Distance Between Welds B	Barrel Dia. R	Ultimate Strength (lbs.)	Maximum Allowable Load (lbs.)	Approx. Weight (lbs./ft.)
		Thickness T	Height H		Overall L	Length of Bearing E					
WRC78	2.609	0.25	1.25	0.50	3.00	2.00	1.00	0.84	27,000	4,500	4.3
WRC131	3.075	0.38	1.50	0.75	3.56	2.24	1.13	1.25	50,400	8,400	8.4
WHC131	3.075	0.38	1.50	0.75	3.56	2.24	1.13	1.25	57,000	8,400	8.4
WRC124	4.000	0.38	1.50	0.75	4.25	2.75	1.50	1.25	50,400	8,400	7.8
WRC111	4.760	0.38	1.75	0.75	4.81	3.38	1.75	1.25	50,400	8,400	8.0
WRC110	6.000	0.38	1.50	0.75	4.25	2.75	1.50	1.25	50,400	8,400	7.2
WHC132IBR	6.050	0.50	2.00	1.00	6.50	4.41	2.75	1.75	121,800	14,100	14.1
WRC150	6.050	0.50	2.50	1.00	6.50	4.41	2.75	1.75	120,000	19,000	16.3

Extra Heavy Duty Straight Sidebar Mill Chains

All dimensions in inches unless otherwise stated.

Chain Number	Pitch P	Sidebars		Pin Dia. D	Chain Width		Effective Distance Between Welds B	Barrel Dia. R	Ultimate Strength (lbs.)	Maximum Allowable Load (lbs.)	Approx. Weight (lbs./ft.)
		Thickness T	Height H		Overall L	Length of Bearing E					
WRC82XHD	3.075	0.38	1.50	0.75	3.75	2.40	1.13	1.25	50,400	8,400	8.5
WRC124XHD	4.063	0.50	2.00	1.00	4.88	3.00	1.50	1.75	85,000	14,200	14.6
WRC110XHD	6.050	0.50	2.00	1.00	4.88	3.00	1.50	1.63	85,000	14,200	11.8
WRC132XHD	6.050	0.63	2.00	1.00	6.75	4.66	3.13	1.63	120,000	20,000	15.3

Notes:

1. WRC: Straight sidebar style, with heat treated rivets.
2. WHC: Straight sidebar series, with all parts heat treated.
3. WRCXHD: Straight sidebar extra heavy duty series, with heat treated rivets.
4. WHCXHD: Straight sidebar extra heavy duty series, with all parts heat treated.

MILL CHAIN ATTACHMENTS

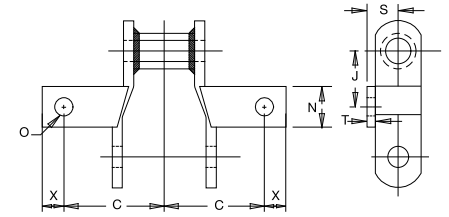
When consistency really matters

All dimensions in inches unless otherwise stated.

K-1 ATTACHMENT							
Chain Number	C	J	N	O	S	T	X
WH78	2.00	1.25	1.25	0.38	0.88	0.25	0.50
WH78XHD	2.00	1.25	1.25	0.38	0.88	0.25	0.50
WH82	2.38	1.50	1.75	0.38	0.88	0.25	0.63
WH82XHD	2.38	1.50	1.75	0.38	1.13	0.38	0.63
WH124	2.63	2.00	1.75	0.38	1.13	0.38	0.63
WH124XHD	2.63	2.00	1.75	0.50	1.50	0.50	0.75
WH111	3.13	2.13	1.75	0.38	1.25	0.38	0.63
WH132	3.75	3.00	2.00	0.50	1.50	0.50	0.88
WH132XHD	3.75	3.00	2.00	0.50	1.50	0.50	0.88

* Also available in WR

K-1 Attachment

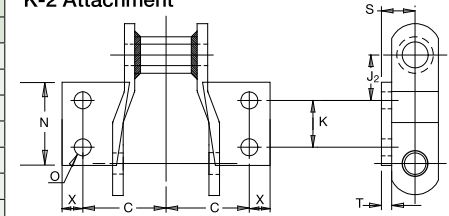


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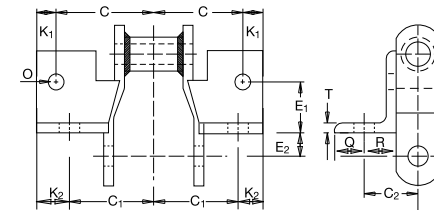
K-2 ATTACHMENT								
Chain Number	C	J ₂	N	K	O	S	T	X
WH78	2.00	0.81	2.13	1.13	0.38	0.88	0.25	0.50
WH78XHD	2.00	0.81	2.13	1.13	0.38	0.88	0.25	0.50
WH82	2.13	0.50	2.25	1.25	0.38	0.88	0.25	0.63
WH82XHD	2.38	0.50	2.25	1.25	0.38	1.13	0.38	0.63
WH124	2.63	0.88	3.00	1.94	0.38	1.13	0.38	0.63
WH124XHD	2.63	0.88	4.00	1.94	0.50	1.50	0.50	0.75
WH111	3.13	1.00	4.00	2.31	0.38	1.25	0.38	0.75
WH132	3.75	1.63	4.25	2.75	0.50	1.50	0.50	0.75
WH132XHD	3.75	1.63	4.25	2.75	0.50	1.50	0.50	0.88
WH150	3.75	1.63	4.25	2.75	0.50	1.75	0.50	0.88

* Also available in WR

K-2 Attachment



F-4 Attachment



All dimensions in inches unless otherwise stated.

Chain Number	C ₂	E ₂	T	K ₁	K ₂	C	E ₁	Q	R	C ₁	O	Approx. Weight (lbs./ft.)
WH78	1.75	1.00	0.25	0.50	0.88	2.25	0.94	0.63	1.13	1.88	0.38	8.3
WH8XHD	1.75	1.00	0.25	0.50	0.88	2.25	0.94	0.63	1.13	1.88	0.38	9.9
WH82	1.81	1.25	0.25	0.44	0.88	2.50	1.13	0.81	1.19	2.06	0.38	8.9
WH82XHD	2.06	1.25	0.38	0.50	1.06	2.50	1.13	1.06	1.19	2.06	0.38	12.5
WH124	2.06	1.16	0.38	0.50	1.06	2.63	1.06	1.06	1.31	2.06	0.38	11.6

* Also available in WR