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April 2018

RIGGERS CARD

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For Safe Working Lives.

Robertsons testing & technical services

CHAIN SLINGS TO AS3775

GRADE 80
GRADE 100
GRADE 120

WORKING LOAD LIMIT (W.L.L.) IN TONNES UNDER GENERAL CONDITIONS OF USE.

Chain Size (mm)	Grade	Single Leg Slings				Slings of 2, 3 or 4 Leg Slings			2 Leg Slings	
		Straight Sling	Adjustable Sling*	Reeved Sling	Basket Sling Max 60°	60°	Straight Sling 90°	120°	Reeved Sling 60°	Basket Sling Max 60°
6	80	1.1	1.1	0.8	1.4	1.9	1.6	1.1	1.4	2.5
6	100	1.4	1.4	1.1	1.8	2.4	2.0	1.4	1.8	3.2
6	120	1.8	1.8	1.4	2.3	3.1	2.5	1.8	2.3	4.1
8	80	2.0	2.0	1.5	2.6	3.5	2.8	2.0	2.6	4.5
8	100	2.5	2.5	1.9	3.3	4.3	3.5	2.5	3.3	5.6
8	120	3.0	3.0	2.3	3.9	5.2	4.2	3.0	3.9	6.8
10	80	3.2	3.2	2.4	4.2	5.5	4.5	3.2	4.2	7.2
10	100	4.0	4.0	3.0	5.2	6.9	5.6	4.0	5.2	9.0
10	120	5.0	5.0	3.8	6.5	8.7	7.1	5.0	6.5	11.3
13	80	5.3	5.3	4.0	6.9	9.2	7.5	5.3	6.9	11.9
13	100	6.7	6.7	5.0	8.7	11.6	9.4	6.7	8.7	15.1
13	120	8.0	8.0	6.0	10.4	13.8	11.3	8.0	10.4	18.0
16	80	8.0	8.0	6.0	10.4	13.8	11.3	8.0	10.4	18.0
16	100	10.0	10.0	7.5	13.0	17.3	14.1	10.0	13.0	22.5
16	120	12.5	12.5	9.4	16.3	21.6	17.6	12.5	16.3	28.1
20	80	12.5	12.5	9.4	16.3	21.6	17.6	12.5	16.3	28.1
20	100	16.0	16.0	12.0	20.8	27.7	22.6	16.0	20.8	36.0
22	80	15.0	15.0	11.3	19.5	26.0	21.2	15.0	19.5	33.8
22	100	19.0	19.0	14.3	24.7	32.9	26.8	19.0	24.7	42.8
26	80	21.2	21.2	15.9	27.6	36.7	29.9	21.2	27.6	47.7
26	100	26.5	26.5	19.9	34.5	45.8	37.4	26.5	34.5	59.6
32	80	31.5	31.5	23.6	41.0	54.5	44.4	31.5	41.0	70.9
32	100	40.0	40.0	30.0	52.0	69.2	56.4	40.0	52.0	90.0

*On adjustable slings, some grab shortening hooks may derate the W.L.L. by 25%. Advice should be sought from the manufacturer.

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The riggers card has been produced as a guide only based on manufacturer specifications & Australian Standards. Bunzl Safety accepts no responsibility should any product fail in service based on information in this card.

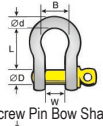
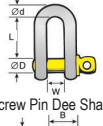
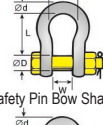
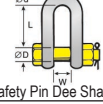
MOTION	HAND SIGNAL	WHISTLE, BELL OR BUZZER SIGNAL
Hoisting		1 long
Luffing boom down		4 short
Slewing left		1 long, 1 short
Jib-telescoping in: retract boom		1 long, 4 short
Stop		1 short

MOTION	HAND SIGNAL	WHISTLE, BELL OR BUZZER SIGNAL
Hoisting		2 short
Luffing boom up		3 short
Slewing right		1 long, 2 short
Jib-trolley out: telescoping boom extend		1 long, 3 short
Travel and traverse		Not applicable

RIGGING HAND SIGNALS

GRADE 'S' SHACKLES TO AS2741

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	WORKING LOAD LIMIT METRIC TONNES	NOMINAL BODY SIZE d mm	PIN DIA. D mm	INSIDE WIDTH w mm	INSIDE DEE TYPE L mm	LENGTH BOW TYPE L mm	WIDTH OF BOW B mm	APPROX. WEIGHT EACH SCREW PIN Kg	SAFETY PIN Kg
 Screw Pin Bow Shackle	0.33	5	6	10	-	22	15	0.02	-
	0.50	6	8	12	22	29	20	0.06	0.07
	0.75	8	10	13	26	31	21	0.11	0.13
 Screw Pin Dee Shackle	1.0	10	11	17	32	37	26	0.15	0.17
	1.5	11	13	18	37	43	29	0.21	0.25
	2.0	13	16	21	41	48	33	0.37	0.44
	3.25	16	19	27	51	61	43	0.65	0.79
	4.75	19	22	32	60	72	51	1.06	1.3
	6.5	22	25	37	71	84	58	1.56	1.9
 Safety Pin Bow Shackle	8.5	25	29	43	81	95	68	2.32	2.8
	9.5	29	32	46	90	108	74	3.28	3.9
	12	32	35	52	100	119	83	4.51	5.3
	13.5	35	38	57	113	133	92	6	7
	17	38	41	60	124	146	98	8	9
	25	44	51	73	146	178	127	14	15
	35	51	57	83	171	197	146	19	21
	45	57	63	95	181	222	160	26	29
	55	63	70	105	203	267	184	37	41
	85	76	83	127	229	330	200	58	62
 Safety Pin Dee Shackle	120	89	95	146	267	381	241	-	110
	150	102	108	165	318	432	279	-	160

ROUND WEBBING SLINGS - AS4497 FLAT WEBBING SLINGS - AS1353

WORKING LOAD LIMITS (WLLs)

Working load limits under general conditions of use - t									
Colour	Marked WLL	Straight Lift	Choked Straight Lift	Parallel Basket	Basket hitch or 2, 3 and 4 legs slings			Choke hitch or 2, 3 and 4 legs slings	
					$\alpha = 60^\circ$	$\alpha = 90^\circ$	$\alpha = 120^\circ$	Single wrap $\alpha = \text{max } 45^\circ$	Double wrap $\alpha = \text{max } 60^\circ$
Loading Factors		1	0.8	2	1.73	1.41	1	1.38	1.38
Violet	1	1	0.8	2	1.7	1.4	1	1.38	
Green	2	2	1.6	4	3.4	2.8	2	2.76	
Yellow	3	3	2.4	6	5.1	4.2	3	4.14	
Grey	4	4	3.2	8	6.9	5.6	4	5.52	
Red	5	5	4	10	8.6	7	5	6.9	
Brown	6	6	4.8	12	10.3	8.4	6	8.28	
Blue	8	8	6.4	16	13.8	11.2	8	11.04	
Orange	10	10	8	20	17.3	14.1	10	13.8	
Orange	Greater than 10	Marked WLL x LF	Marked WLL x LF	Marked WLL x LF	Marked WLL x LF	Marked WLL x LF	Marked WLL x LF	Marked WLL x LF	










Note: The WLL applicable to each configuration is the marked WLL multiplied by the loading factor, L.

WIRE ROPE SLINGS - AS1666

GRADE 1770 STEEL CORE

GRADE 1960 STEEL CORE

FERRULE-SECURED EYES - WORKING LOAD LIMIT (W.L.L.) IN TONNES

METHOD OF LOADING	Direct Loaded	Choke hitch		Basket hitch Round Load			2-3 or 4 Leg Assembly			
		Round Load	Rectangular Load							
ROPE DIA MM										
Included angle	-	-	-	0°	60°	90°	120°	0 to 60°	90°	120°
8	0.78	0.58	0.39	1.56	1.35	1.10	0.78	1.35	1.10	0.78
8	0.87	0.65	0.43	1.74	1.50	1.22	0.87	1.50	1.22	0.87
9	0.99	0.74	0.49	1.98	1.71	1.40	0.99	1.71	1.40	0.99
9	1.09	0.82	0.55	2.18	1.89	1.54	1.09	1.89	1.54	1.09
10	1.22	0.92	0.61	2.40	2.10	1.72	1.22	2.10	1.72	1.22
10	1.35	1.01	0.68	2.70	2.30	1.91	1.35	2.30	1.91	1.35
11	1.48	1.11	0.74	3.00	2.60	2.10	1.48	2.60	2.10	1.48
11	1.63	1.23	0.82	3.26	2.80	2.30	1.63	2.80	2.30	1.63
12	1.76	1.32	0.88	3.50	3.00	2.50	1.76	3.00	2.50	1.76
12	1.94	1.45	0.97	3.88	3.30	2.70	1.94	3.30	2.70	1.94
13	2.10	1.55	1.04	4.10	3.60	2.90	2.10	3.60	2.90	2.10
13	2.20	1.71	1.14	4.40	3.90	3.20	2.20	3.90	3.20	2.20
14	2.40	1.80	1.20	4.80	4.20	3.40	2.40	4.20	3.40	2.40
14	2.60	1.99	1.33	5.20	4.50	3.70	2.60	4.50	3.70	2.60
16	3.10	2.30	1.56	6.20	5.40	4.40	3.10	5.40	4.40	3.10
16	3.40	2.60	1.73	6.80	6.00	4.80	3.40	6.00	4.80	3.40
18	4.00	3.00	1.98	7.90	6.80	5.60	4.00	6.80	5.60	4.00
18	4.30	3.20	2.10	8.60	7.50	6.10	4.30	7.50	6.10	4.30
20	4.90	3.70	2.40	9.80	8.40	6.90	4.90	8.40	6.90	4.90
20	5.40	4.00	2.70	10.80	9.30	7.60	5.40	9.30	7.60	5.40
22	5.90	4.40	3.00	11.80	10.20	8.30	5.90	10.20	8.30	5.90
22	6.50	4.90	3.20	13.00	11.30	9.20	6.50	11.30	9.20	6.50
24	7.00	5.30	3.50	14.10	12.20	9.90	7.00	12.20	9.90	7.00
24	7.70	5.80	3.80	15.40	13.40	10.90	7.70	13.40	10.90	7.70
26	8.30	6.20	4.10	16.50	14.30	11.60	8.30	14.30	11.60	8.30
26	9.10	6.80	4.50	18.20	15.80	12.80	9.10	15.80	12.80	9.10
28	9.60	7.20	4.80	19.10	16.60	13.50	9.60	16.60	13.50	9.60
28	10.50	7.90	5.30	21.00	18.30	14.90	10.50	18.30	14.90	10.50
32	12.50	9.40	6.30	25.00	22.00	17.60	12.50	22.00	17.60	12.50
32	13.80	10.30	6.90	27.60	23.90	19.50	13.80	23.90	19.50	13.80