WORKING LOAD LIMITS FOR SAFER LIFTING

NATA ACCREDITED FOR TECHNICAL COMPETENCE · LEEA · BEAVER®

GRADE 80 CHAIN SLINGS - AS 3775

CHAIN DIA. MM	WORKING LOAD LIMIT (W.L.L.) IN TONNES UNDER GENERAL CONDITIONS OF USE								
	SINGLE LEG SLINGS				SLINGS OF 2, 3 OR 4 LEGS				2 LEG SLINGS
	STRAIGHT SLING	ADJUSTABLE SLING W/DERATION	REEVED SLING	BASKET SLING MAX 60°	STRAIGHT SLING 60°	STRAIGHT SLING 90°	STRAIGHT SLING 120°	REEVED SLING 60° MAX	BASKET SLING 60° MAX
LOADING FACTORS	1	0.75	0.75	1.3	1.73	1.41	1	1.3	2.25
CHAIN SIZE, MM									
6	1.1	0.8	0.8	1.4	1.9	1.6	1.1	1.4	2.5
7	1.5	1.1	1.1	2	2.6	2.1	1.5	2.0	3.4
8	2.0	1.5	1.5	2.6	3.5	2.8	2.0	2.6	4.5
10	3.2	2.4	2.4	4.2	5.5	4.5	3.2	4.2	7.2
13	5.3	4.0	4.0	6.9	9.2	7.5	5.3	6.9	11.9
16	8.0	6.0	6.0	10.4	13.8	11.3	8.0	10.4	18.0
19	11.2	8.4	8.4	14.6	19.4	15.8	11.2	14.6	25.2
20	12.5	9.4	9.4	16.3	21.6	17.6	12.5	16.3	28.1
22	15.0	11.3	11.3	19.5	26.0	21.2	15.0	19.5	33.8
26	21.2	15.9	15.9	27.6	36.7	29.9	21.2	27.6	47.7
32	31.5	23.6	23.6	41	54.5	44.4	31.5	41.0	70.9

BEAVER ALLOY GRADE 80 CHAIN SLINGS Care and Usage Instructions

BEAVER ALLOY GRADE 80 CHAIN SLINGS SHOULD ONLY BE USED BY A COMPETENT PERSON

Maximum Working Load Limit in Tonnes of 1000kg, under general conditions of use.

- DO NOT EXCEED WORKING LOAD LIMIT
- DO NOT EXCEED 120°
- WLL at 60° must never be exceeded, even at smaller angles.
- WLL at other angles - apply the next greater angle and relevant load factor.

Extreme care should be taken when using the Beaver Grade 80 Chain Slings in high temperature environments. It is therefore our instruction that the user must always err on the side of caution and make ample provisions for reduced Working Load Limits.
The following are our instructions:

ACIDIC CONDITIONS
Beaver Alloy Grade 80 slings shall not be used in acidic solutions or in any other corrosive environment.

TEMPERATURE CONDITIONS
-10°C up to 200° C No reduction in WLL
200°C up to 300°C Reduce WLL by 10%
300°C up to 400°C Reduce WLL by 25%
Do not use above 400°C

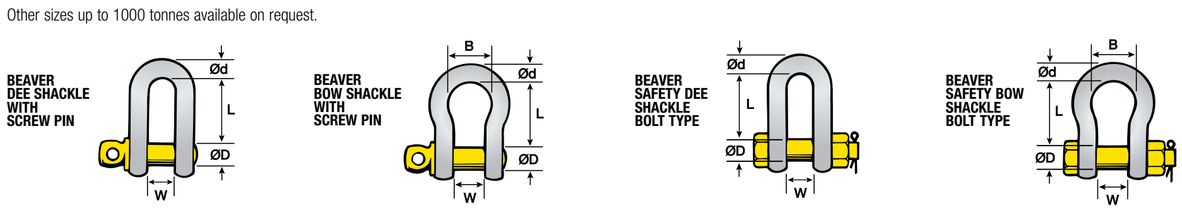
GALVANISING
Beaver alloy chains and fittings should not be hot-dip galvanised or electro-plated, except by Beaver. Galvanised slings must always have the Working Load Limits reduced by 20%.

THE WLL OF A SLING MUST NOT EXCEED THE LOWEST WORKING LOAD LIMIT OF THE COMPONENTS IN THE SYSTEM.

GRADE S SHACKLES WITH YELLOW PAINTED PIN - AS 2741

WORKING LOAD LIMIT Metric Tonnes	DIA. Ød mm	DIA. PIN ØD mm	INSIDE WIDTH W mm	INSIDE LENGTH DEE TYPE L mm	INSIDE LENGTH BOW TYPE L mm	WIDTH OF BOW B mm	APPROX. WEIGHT EACH SCREW PIN kg	APPROX. WEIGHT EACH SAFETY PIN kg
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
1.00	10	11	17	32	37	26	0.15	0.17
1.50	11	13	18	37	43	29	0.21	0.25
2.00	13	16	21	41	48	33	0.37	0.44
3.20	16	19	27	51	61	43	0.65	0.79
4.70	19	22	32	60	72	51	1.06	1.26
6.50	22	25	37	71	84	58	1.56	1.88
8.50	25	29	43	81	95	68	2.32	2.78
9.50	29	32	46	90	108	74	3.28	3.87
12.00	32	35	52	100	119	83	4.51	5.26
13.50	35	38	57	113	133	92	5.43	6.94
17.00	38	41	60	124	146	98	7.89	8.79
25.00	44	51	73	146	178	127	13.40	14.99
35.00	51	57	83	171	197	146	18.85	20.65
42.50	57	63	95	181	222	160	26.06	29.01
55.00	63	70	105	203	267	184	37.86	41.05
85.00	76	83	127	229	330	200	58.68	62.24
120.00	89	95	146	267	381	241	—	110.00
150.00	102	108	165	318	432	279	—	160.00

Other sizes up to 1000 tonnes available on request.



ROUND WEBBING SLINGS - AS 4497 / FLAT WEBBING SLINGS - AS 1353

WORKING LOAD LIMITS (WLLs)

COLOUR	MARKED WLL	STRAIGHT LIFT	CHOKED STRAIGHT LIFT	PARALLEL BASKET	BASKET HITCH OR 2, 3 AND 4 LEGS SLINGS a = 60°	a = 90°	a = 120°	CHOKE HITCH OR 2, 3 AND 4 LEGS SLINGS SINGLE WRAP a = MAX 45°	DOUBLE WRAP a = MAX 60°
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.

GRADE 100 CHAIN SLINGS - AS 3775

CHAIN DIA. MM	WORKING LOAD LIMIT (W.L.L.) IN TONNES UNDER GENERAL CONDITIONS OF USE								
	SINGLE LEG SLINGS				SLINGS OF 2, 3 OR 4 LEGS				2 LEG SLINGS
	STRAIGHT SLING	ADJUSTABLE SLING W/DERATION	REEVED SLING	BASKET SLING MAX 60°	STRAIGHT SLING 60°	STRAIGHT SLING 90°	STRAIGHT SLING 120°	REEVED SLING 60° MAX	BASKET SLING 60° MAX
LOADING FACTORS	1	0.75	0.75	1.3	1.73	1.41	1	1.3	2.25
CHAIN SIZE, MM									
6	1.4	1.1	1.1	1.8	2.4	2.0	1.4	1.8	3.2
8	2.5	1.9	1.9	3.3	4.3	3.5	2.5	3.3	5.6
10	4	3.0	3.0	5.2	6.9	5.6	4	5.2	9.0
13	6.7	5.0	5.0	8.7	11.6	9.4	6.7	8.7	15.1
16	10	7.5	7.5	13.0	17.3	14.1	10	13.0	22.5
20	16	12.0	12.0	20.8	27.7	22.6	16	20.8	36.0
22	19	14.3	14.3	24.7	32.9	26.8	19	24.7	42.8
26	26.5	19.9	19.9	34.5	45.8	37.4	26.5	34.5	59.6
28	31.5	23.6	23.6	41.0	54.5	44.4	31.5	41.0	70.9
32	40	30.0	30.0	52.0	69.2	56.4	40	52.0	90.0

GRADE 100 CHAIN SLINGS SHOULD ONLY BE USED BY A COMPETENT PERSON.

Maximum Working Load Limit in Tonnes of 1000kg, under general conditions of use.

- DO NOT EXCEED WORKING LOAD LIMIT
- DO NOT EXCEED 120°
- WLL at other angles - apply the next greater angle and relevant load factor
- Some Shortening Hooks & Grab Hooks with cradle configuration, may not derate the WLL for the sling.

⚠ SAFETY WARNING OF HAZARDOUS CONDITIONS:

Extreme care should be taken when using the Beaver Grade 100 Chain and fittings in high temperature enviroments. It is therefore our instruction that the user must always err on the side of caution and NEVER EXCEED 200°C

COLLARED EYEBOLTS AND EYENUTS - AS 2317

THREAD SIZE	WLL FOR LOAD APPLICATION AS SPECIFIED BY AS 1418.1 — SINGLE EYEBOLT OR EYENUT: TRANVERSE T	AXIAL T	TRANVERSE T	PAIR OF EYEBOLT OR EYENUTS (SEE NOTES 1 AND 4): MAXIMUM INCLUDED ANGLE 30° T	MAXIMUM INCLUDED ANGLE 60° T	MAXIMUM INCLUDED ANGLE 90° T
Loading Factor	0.25	1	0.5	1.25	0.80	0.5
M10	0.06	0.25	0.12	0.31	0.20	0.12
M12	0.10	0.40	0.20	0.50	0.32	0.20
M16	0.20	0.80	0.40	1.00	0.64	0.40
M20	0.40	1.60	0.80	2.0	1.28	0.80
M22	0.50	2.0	1.00	2.5	1.60	1.00
M24	0.62	2.5	1.25	3.1	2.0	1.25
M30	1.00	4.0	2.0	5.0	3.2	2.0
M33	1.25	5.0	2.5	6.3	4.0	2.5
M36	1.57	6.3	3.1	7.9	5.0	3.1
M39	1.75	7.0	3.5	8.8	5.6	3.5
M42	2.0	8.0	4.0	10.0	6.4	4.0
M48	2.5	10.0	5.0	12.6	8.0	5.0
M56	3.7	15.0	7.5	18.9	12.0	7.5
M64	5.0	20.0	10.0	25	16.0	10.0
M72	6.2	25.0	12.5	31	20	12.5
M76	7.5	30.0	15.0	37	24	15.0

WIRE ROPE SLINGS - GRADE 1770 STEEL CORE TO AS 1666.1 & AS 1666.2

METHOD OF LOADING	DIRECT LOADED	CHOKE HITCH: ROUND LOAD	CHOKE HITCH: RECTANGULAR LOAD	DIRECT LOAD			CHOKE HITCH: ROUND LOAD SINGLE WRAP	CHOKE HITCH: ROUND LOAD DOUBLE WRAP	CHOKE HITCH: OTHER THAN ROUND LOAD SINGLE WRAP	CHOKE HITCH: OTHER THAN ROUND LOAD DOUBLE WRAP	BASKET HITCH: ROUND LOAD				BASKET HITCH: OTHER THAN ROUND LOAD			
WIRE ROPE DIA. mm																		
INCLUDED ANGLE	-	-	-	0° - 60°	90°	120°	0° - 45°	0° - 60°	0° - 45°	0° - 60°	0°	60°	90°	120°	0°	60°	90°	120°
MAXIMUM WORKING LOAD LIMITS IN TONNES OF 1000 KG FOR 1770 GRADE STEEL CORE - BLACK																		
LOADING FACTOR	1 x 0.95	0.75 x 0.95	0.5 x 0.95	1.73 x 0.95	1.41 x 0.95	1 x 0.95	1.30 x 0.95		0.87 x 0.95		2 x 0.95	1.73 x 0.95	1.41 x 0.95	1 x 0.95	1 x 0.95	0.87 x 0.95	0.71 x 0.95	0.5 x 0.95
8	0.78	0.58	0.39	1.35	1.1	0.78	1.01		0.68		1.56	1.35	1.1	0.78	0.78	0.68	0.55	0.39
9	0.99	0.74	0.49	1.71	1.4	0.99	1.29		0.86		1.98	1.71	1.4	0.99	0.99	0.86	0.7	0.49
10	1.22	0.92	0.61	2.1	1.72	1.22	1.59		1.06		2.4	2.1	1.72	1.22	1.22	1.06	0.87	0.61
11	1.48	1.11	0.74	2.6	2.1	1.48	1.92		1.29		3	2.6	2.1	1.48	1.48	1.29	1.05	0.74
12	1.76	1.32	0.88	3	2.5	1.76	2.3		1.53		3.5	3	2.5	1.76	1.76	1.53	1.25	0.88
13	2.1	1.55	1.04	3.6	2.9	2.1	2.7		1.8		4.1	3.6	2.9	2.1	2.1	1.8	1.47	1.04
14	2.4	1.8	1.2	4.2	3.4	2.4	3.1		2.1		4.8	4.2	3.4	2.4	2.4	2.1	1.71	1.2
16	3.1	2.3	1.56	5.4	4.4	3.1	4.1		2.7		6.2	5.4	4.4	3.1	3.1	2.7	2.2	1.56
18	4	3	1.98	6.8	5.6	4	5.1		3.4		7.9	6.8	5.6	4	4	3.4	2.8	1.98
20	4.9	3.7	2.4	8.4	6.9	4.9	6.3		4.2		9.8	8.4	6.9	4.9	4.9	4.2	3.5	2.4
22	5.9	4.4	3	10.2	8.3	5.9	7.7		5.1		11.8	10.2	8.3	5.9	5.9	5.1	4.2	3
24	7	5.3	3.5	12.2	9.9	7	9.1		6.1		14.1	12.2	9.9	7	7	6.1	5	3.5
26	8.3	6.2	4.1	14.3	11.6	8.3	10.7		7.2		16.5	14.3	11.6	8.3	8.3	7.2	5.9	4.1
28	9.6	7.2	4.8	16.6	13.5	9.6	12.4		8.3		19.1	16.6	13.5	9.6	9.6	8.3	6.8	4.8
32	12.5	9.4	6.3	22	17.6	12.5	16.3		10.9		25	22	17.6	12.5	12.5	10.9	8.9	6.3
36	15.8	11.9	7.9	27	22	15.8	21		13.8		32	27	22	15.8	15.8	13.8	11.2	7.9
40	19.6	14.7	9.8	34	28	19.6	25		17		39	34	28	19.6	19.6	17	13.9	9.8
44	24	17.7	11.8	41	33	24	31		21		47	41	33	24	24	21	16.8	11.8
48	28	21	14	49	40	28	37		24		56	49	40	28	28	24	19.9	14
52	33	25	16.6	57	47	33	43		29		66	57	47	33	33	29	24	16.6
56	38	29	19.2	66	54	38	50		33		77	66	54	38	38	33	27	19.2
60	44	33	22	76	62	44	57		38		88	76	62	44	44	38	31	22

The above listed working loads represent ferrule-secured eyes.

BEAVER QUALITY LIFTING PRODUCTS

COMPLY TO RELEVANT AUSTRALIAN STANDARDS WHERE APPLICABLE

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