4. Chain Slings & Components

4. Chain Slings & Components

This page is intentionally left blank

4.1 pewag Grade 100

G100 Chain Slings

Nobles is a leading manufacturer of Grade 100 chain slings in Australia and proudly stock the high quality European made pewag winner 200 range of chain and components. Nobles pewag Grade 100 chain slings comply with AS 3775 and all chain slings manufactured by Nobles are proof load tested to twice the WLL. Nobles pre-made chain slings as listed below come packaged in a pail with a NATA test certificate and are ready to go.

Nobles pre-made Grade 100 chain slings consist of a Master Link at top with Integral Grab Hooks for leg length adjustment and Clevis Self-Locking Hooks fitted to the bottom of the chain leg. This sling confirguration only has three parts and chain connectors are not required.

Nobles also offers a full inspection, repair and re-certification service to ensure your existing chain slings are safe and compliant at all times.

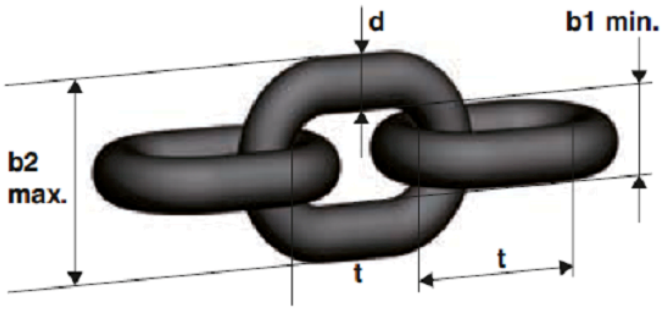
Product Specifications

Name	ITEM #	WLL (tonnes)	Chain Size (mm)	Overall Length (m)	Weight (kg)
8mm Gr100 Chain Assembly 2 Leg 4m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32303	4.3	8	4	16.68
8mm Gr100 Chain Assembly 2 Leg 2m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32302	4.3 @ 60 degrees	8	2	10.5
8mm Gr100 Chain Assembly 1 Leg 4m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32297	2.5	8	4	8.64
8mm Gr100 Chain Assembly 1 Leg 2m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32296	2.5	8	2	5.5
13mm Gr100 Chain Assembly 2 Leg 6m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32308	11.6 @ 60 degrees	13	6	70.12
13mm Gr100 Chain Assembly 2 Leg 3m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32307	11.6 @ 60 degrees	13	3	45.04
13mm Gr100 Chain Assembly 1 Leg 6m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32301	6.7	13	6	32.58
13mm Gr100 Chain Assembly 1 Leg 3m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32300	6.7	13	3	20.04
10mm Gr100 Chain Assembly 2 Leg 6m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32306	6.9 @ 60 degrees	10	6	37.12
10mm Gr100 Chain Assembly 2 Leg 4m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32305	6.9 @ 60 degrees	10	4	27.28
10mm Gr100 Chain Assembly 2 Leg 2m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32304	6.9 @ 60 degrees	10	2	12.3
10mm Gr100 Chain Assembly 1 Leg 4m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32299	4	10	4	13.85
10mm Gr100 Chain Assembly 1 Leg 2m E/L Clevis Master Set, Clevis Self Locking Hook, Tested Pewag	32298	4	10	2	8.93

G100 Chain

The high quality pewag winner 200 chain system is manufactured in Europe and complies to the requirements of Australian Standards. These round steel chains are well suited to lifting and lashing applications with Grade 100 providing approximately 25% more WLL size for size when compared with traditional Grade 80 chains.

Maximum working temperature: 200 °C Standard surface: blasted, clear painted.



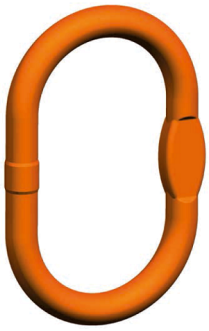
Product Specifications

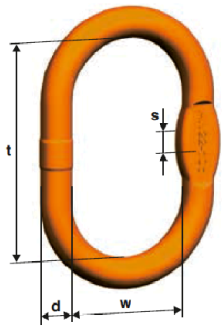
Name	ITEM #	Chain Size d (mm)	WLL (tonnes)	Pitch t (mm)	Inside Width b1 min (mm)	Outside Width b2 max (mm)	Weight per m (kg)
6mm Chain Gr100 Pewag Winner 200	30551	6	1.4	18	9	22	0.96
8mm Chain Gr100 Pewag Winner 200	30553	8	2.5	24	11	29	1.57
10mm Chain Gr100 Pewag Winner 200	30554	10	4	30	14	36	2.46
13mm Chain Gr100 Pewag Winner 200	30555	13	6.7	39	18	47	4.18
16mm Chain Gr100 Pewag Winner 200	30556	16	10	48	22	58	6.28
19mm Chain Gr100 Pewag Winner 200	30557	19	14	57	27	69	8.92
22mm Chain Gr100 Pewag Winner 200	30559	22	19	66	30	79	11.88
26mm Chain Gr100 Pewag Winner 200	30560	26	26.5	78	35	94	16.18
32mm Chain Gr100 Pewag Winner 200	30561	32	40	96	43	115	24.1

G100 AW Master Links

The AW Master Link is ideally suited for pewag Connex Connecting Links and may be used for Single leg or Two leg chain slings.

The flattened section enables universal connecting options and links are manufactured according to EN 1677-4 and Australian Standards with mechanical values for Grade 100.



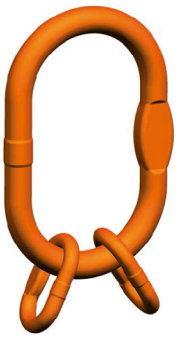


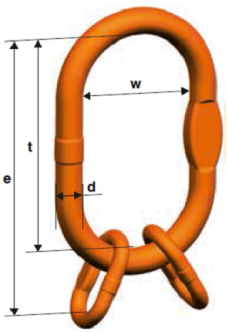
Product Specifications

Name	ITEM #	Suits Chain Size (mm) 1 Leg	Suits Chain Size (mm) 2 Leg	WLL @ 90 Deg (tonnes)	t (mm)	w (mm)	s (mm)	d (mm)	Weight (kg)
Master Link 2.4T 6mm Gr100 Pewag AW13	30577	6+7	6	2.3	110	60	10	13	0.34
Master Link 3.3T 8mm - 7mm Gr100 Pewag AW16	30578	8	7	3.5	110	60	14	16	0.53
Master Link 4.3T 10mm - 8mm Gr100 Pewag AW18	30579	10	8	5	135	75	14	19	0.92
Master Link 6.9T 13mm - 10mm Gr100 Pewag AW22	30580	13	10	7.6	160	90	17	23	1.6
Master Link 11.6T 16mm - 13mm Gr100 Pewag AW26	30581	16	13	10	180	100	20	27	2.46
Master Link 17.3T 19mm - 16mm Gr100 Pewag AW32	30582	19	16	14	200	110	26	33	4.14
Master Link 24.2T 22mm - 19mm Gr100 Pewag AW36	30583	22	19	25.1	260	140	0	36	6.22
Master Link 32.9T 26mm - 22mm Gr100 Pewag AW45	30584	26	22	30.8	340	180	0	45	12.82
Master Link 45.8T 32mm - 26mm Gr100 Pewag AW50	30585	32	26	40	350	190	0	50	16.55
Master Link 69.2T 32mm Gr100 Pewag AW56	30586		32	64	400	200	0	56	27.01

G100 VSAW2 Master Link Assemblies

This master link assembly is designed for two and four leg chain slings. The flattened section on the transition links opens up additional, universal connection options.



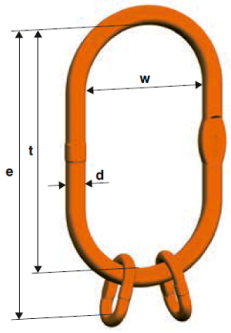


Product Specifications

Name	ITEM #	Suits Chain Size (mm) 2 Leg	Suits Chain Size (mm) 4 Leg	WLL @ 90 Deg (tonnes)	e (mm)	t (mm)	w (mm)	d (mm)	Weight (kg)
56mm Gr100 VSAW2-26/4-22 Master link assembly (SAW56 + 2 BW32) 40T Pewag	30699	26	22	40	610	460	250	56	34.3
50mm Gr100 VSAW2-22/4-19/20 Master link assembly (SAW50 + 2 BW32) 30T Pewag	30698	22	19/20	30	610	460	250	50	27.32
45mm Gr100 VSAW2-19/20/4-16 Master link assembly (SAW45 + 2 BW26) 21.2T Pewag	30697	19-20	16	21.2	640	500	250	45	21.65
40mm Gr100 VSAW2-16/4-13 Master link assembly (SAW40 + 2 BW22) 14T Pewag	30696	16	13	14	575	460	250	40	15.45
33mm Gr100 VSAW2-10/13/4-10 Master link assembly (SAW32 + 2 BW20) 9.5T Pewag	30695	10-13	10	9.5	585	500	250	33	10.69
22mm Gr100 VLW2-6/7/8/4-6 Oversize master link assembly (LW22 + 2 BW13) 3.55T Pewag	30683	6-8	6	3.55	394	340	180	22	3.5

G100 VLW2-4 Enlarged Master Link Assemblies

This master link assembly is designed for two and four leg chain slings. The flattened section on the transition links opens up additional, universal connection options. Extra-large rings make this master link assembly the perfect partner for crane hooks according to DIN 15401 up to no. 25.

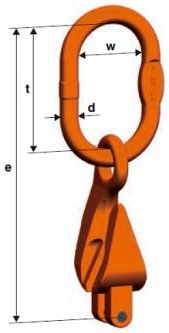


Product Specifications

Name	ITEM #	Suits Chain Size (mm) 2 Leg	Suits Chain Size (mm) 4 Leg	WLL @ 90 Deg (tonnes)	e (mm)	t (mm)	w (mm)	d (mm)	Weight (kg)
22mm Gr100 VLW2-6/7/8/4-6 Oversize master link assembly (LW22 + 2 BW13) 3.55T Pewag	30683	6-8	6	3.55	394	340	180	22	3.5
27mm Gr100 VLW2-10/4-7/8 Oversize master link assembly (LW27 + 2 BW16) 5.6T Pewag	30684	10	8	5.6	410	340	180	27	5.1
33mm Gr100 VLW2-13/4-10 Oversize master link assembly (LW32 + 2 BW20) 9.5T Pewag	30685	13	10	9.5	425	340	180	33	8
40mm Gr100 VLW2-16/4-13 Oversize master link assembly (LW40 + 2 BW22) 14T Pewag	30686	16	13	14	455	340	180	40	12.3
40mm Gr100 VLW2-19/4-16 Oversize master link assembly (LW40 + 2 BW26) 21.2T Pewag	30687	19-20	16	21.2	480	340	180	40	13.8

G100 VXKW1 Master Links with Integral Grab Hook

The VXKW1 enables the chain to be mounted directly into the grab hook, thereby eliminating the need for an additional connecting link. The hook functions both as a connecting link and a shortener, making for simple assembly. The use of a clevis hook on the bottom provides a chain assembly that is free of connecting links and only has three parts.

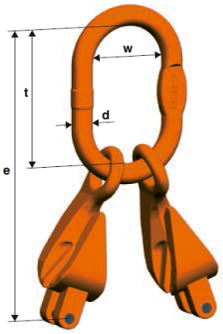


Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	t (mm)	w (mm)	e (mm)	d (mm)	Weight (kg)
16mm Gr100 VXKW1-16 Clevis master set 10T Pewag	30748	16	10	180	100	413	27	7.26
13mm Gr100 VXKW1-13 Clevis master set 6.7T Pewag	30747	13	6.7	160	90	363	23	4.3
10mm Gr100 VXKW1-10 Clevis master set 4T Pewag	30746	10	4	135	75	294	19	2.11
8mm Gr100 VXKW1-8 Clevis master set 2.5T Pewag	30745	8	2.5	110	60	232	16	1.16
6mm Gr100 VXKW1-6 Clevis master set 1.4T Pewag	30743	6	1.4	110	60	194	13	0.64

G100 VXKW2 Master Links with Integral Grab Hooks

The VXKW2 enables the chain legs to be mounted directly into the grab hooks, thereby eliminating the need for additional connecting links. The hooks function both as a connecting links and shorteners, making for simple assembly. The use of clevis hooks on the bottom of the chain legs provides a chain assembly that is free of connecting links and only has three parts.

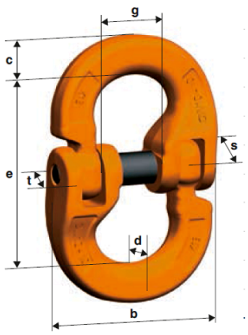


Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL @ 90 Deg (tonnes)	t (mm)	w (mm)	e (mm)	d (mm)	Weight (kg)
6mm Gr100 VXKW2-6 Clevis master set 2T/1.4T Pewag	30750	6	2	110	60	194	13	0.94
8mm Gr100 VXKW2-8 Clevis master set 3.55T/2.5T Pewag	30753	8	3.55	135	75	257	19	2.12
10mm Gr100 VXKW2-10 Clevis master set 5.6T/4T Pewag	30754	10	5.6	160	90	319	23	4.1
13mm Gr100 VXKW2-13 Clevis master set 9.5T/6.7T Pewag	30755	13	9.5	180	100	383	27	7.86
16mm Gr100 VXKW2-16 Clevis master set 14T/10T Pewag	30756	16	14	200	110	433	33	13.74

G100 CW Connecting Links

This universal CW Connex connecting link consists of two symmetrical, die-forged halves, joined with a pin and stud. Connecting links are used for the connection of master link and chain, chain and chain, chain and hook, master link and hook etc. Please note that the product is suitable for straight pull only and must be assembled by a competent person. To maintain the high quality of this product, we recommend replacing the pin and stud after three assemblies/disassemblies.



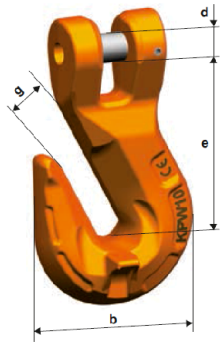
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	c (mm)	s (mm)	d (mm)	g (mm)	b (mm)	Weight (kg)
Gr100 CW6 Connex connecting link 1.4T Pewag	30812	6	1.4	44	8	11	8	14	39	0.06
Gr100 CW8 Connex connecting link 2.5T Pewag	30814	8	2.5	62	12	14	10	18	55	0.23
Gr100 CW10 Connex connecting link 4T Pewag	30815	10	4	72	15	18	13	24	64	0.42
Gr100 CW13 Connex connecting link 6.7T Pewag	30816	13	6.7	88	20	22	17	28	79	0.84
Gr100 CW16 Connex connecting link 10T Pewag	30817	16	10	103	21	29	21	33	106	1.4
Gr100 CW19/20 Connex connecting link 16T Pewag	30818	19	16	115	30	35	25	42	118	2.4
Gr100 CW22 Connex connecting link 19T Pewag	30819	22	19	161	34	39	25	51	148	4.15
Gr100 CW26 Connex connecting link 26.5T Pewag	30820	26	26.5	190	40	46	30	60	175	6.7
Gr100 CW32 Connex connecting link 40T Pewag	30821	32	40	206	47	56	35	80	216	11.2

G100 KPW Clevis Grab Hooks

Thanks to the special design of the chain contact area, the KPW clevis type shortening grab hook ensures optimal interaction between chain and hook. Even when shortened, the load capacity is not reduced.

The KPW grab hook has a clevis connection so a connecting link is not required as the hook will directly onto the chain. Please note that it is not suitable for tip loading.



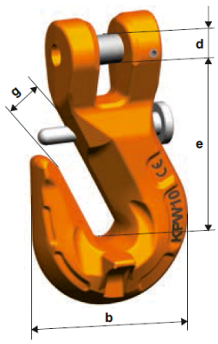
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	b (mm)	d (mm)	g (mm)	Weight (kg)
Gr100 KPW5/6 Clevis grab hook 1.4T Pewag	30936	6	1.4	47	47	7.4	7	0.17
Gr100 KPW8 Clevis grab hook 2.5T Pewag	30938	8	2.5	63	57	10	9	0.44
Gr100 KPW10 Clevis grab hook 4T Pewag	30939	10	4	78	71	12.5	12	0.85
Gr100 KPW13 Clevis grab hook 6.7T Pewag	30940	13	6.7	93	92	16	15	1.75
Gr100 KPW16 Clevis grab hook 10T Pewag	30941	16	10	115	113	20	19	3.3
Gr100 KPW19/20 Clevis grab hook 16T Pewag	30942	19	16	141	150	24	25	6.15
Gr100 KPW22 Clevis grab hook 19T Pewag	30943	22	19	158	165	27	27	9

G100 KPSW Clevis Safety Grab Hooks

Thanks to the special design of the chain contact area, this clevis type shortening grab hook ensures optimal interaction between chain and hook. Even when shortened, the load capacity is not reduced. The integrated safety catch protects the chain from an accidental release.

The KPSW clevis grab hook utilises a clevis connection thereby negating the need for a connecting link as the hook connects directly to the chain. Please note that it is not suitable for tip loading.



Product Specifications

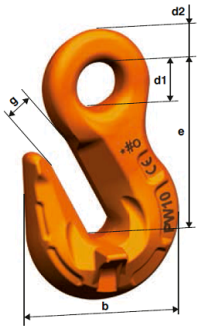
Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	b (mm)	d (mm)	g (mm)	Weight (kg)
Gr100 KPSW7 Clevis Grab Hook with Safety Catch 1.9T Pewag	32248	7	1.9	63	57	9	9	0.43
Gr100 KPSW8 Clevis Grab Hook with Safety Catch 2.5T Pewag	32251	8	2.5	63	57	10	9	0.44
Gr100 KPSW10 Clevis Grab Hook with Safety Catch 4T Pewag	32252	10	4	78	71	12.5	12	0.85
Gr100 KPSW13 Clevis Grab Hook with Safety Catch 6.7T Pewag	32253	13	6.7	93	92	16	15	1.75
Gr100 KPSW16 Clevis Grab Hook with Safety Catch 10T Pewag	32254	16	10	115	113	20	19	3.3

G100 PW Eye Grab Hooks

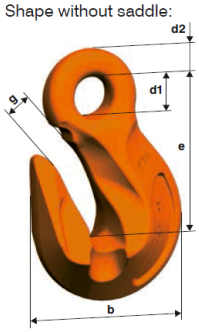
Thanks to the special design of the chain contact area, the PW eye type shortening grab hook ensures optimal interaction between chain and hook. Even when shortened, the load capacity is not reduced.

The PW eye grab hook is designed for use with Connex connecting links. Please note that it is not suitable for tip loading and cannot be used with Unilock connecting links.

**Shape without saddle*



Shape without saddle:



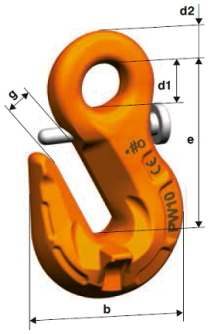
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	b (mm)	d1 (mm)	d2 (mm)	g (mm)	Weight (kg)
Gr100 PW5/6 Grab hook 1.4T Pewag	30880	6	1.4	51	48	12	9	8	0.18
Gr100 PW7/8 Grab hook 2.5T Pewag	30881	8	2.5	71	58	20	12	11	0.4
Gr100 PW10 Grab hook 4T Pewag	30882	10	4	88	76	22	15	13	0.9
Gr100 PW13 Grab hook 6.7T Pewag	30883	13	6.7	98	98	24	17	16	1.6
Gr100 PW16 Grab hook 10T Pewag	30884	16	10	129	118	32	23	19	3.6
Gr100 PW19/20 Grab hook 16T Pewag	30885	19/20	16	151	150	36	27	25	6.15
Gr100 PW22 Grab hook 19T Pewag	30886	22	19	170	165	42	31	27	8.3
Gr100 PW26 Grab hook 26.5T Pewag	30887	26	26.5	201	195	50	37	32	13.8
Gr100 PW32 Grab hook 40T Pewag	30888	32	40	243	242	60	43	38	25

G100 PSW Eye Safety Grab Hooks

Thanks to the special design of the chain contact area, the PSW eye type shortening safety grab hook ensures optimal interaction between chain and hook. Even when shortened, the load capacity is not reduced. The integrated safety catch protects the chain from an accidental release.

The PSW eye grab hook is designed fror use with Connex connecting links. Please note that it is not suitable for tip loading and cannot be used with Unilock connecting links.



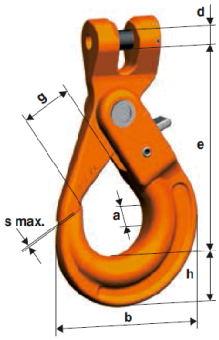
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	b (mm)	d1 (mm)	d2 (mm)	g (mm)	Weight (kg)
Gr100 KPSW8 Clevis Grab Hook with Safety Catch 2.5T Pewag	32251	8	2.5	71	58	20	12	11	0.4
Gr100 KPSW10 Clevis Grab Hook with Safety Catch 4T Pewag	32252	10	4	88	76	22	15	13	0.9
Gr100 KPSW13 Clevis Grab Hook with Safety Catch 6.7T Pewag	32253	13	6.7	98	98	24	17	16	1.6
Gr100 KPSW16 Clevis Grab Hook with Safety Catch 10T Pewag	32254	16	10	129	118	32	23	19	3.6

G100 KLHW Clevis Self-Locking Hooks

The KLHW hook closes and locks automatically and cannot open when under load. The clevis connection negates the need for a connecting link as the hook will connect directly to the chain.

Please note that this hook is suitable for straight pull only. The tip of the hook and the safety catch must not be placed under load.
The safety catch set VLHW on the back of the hook is also available as a spare part.



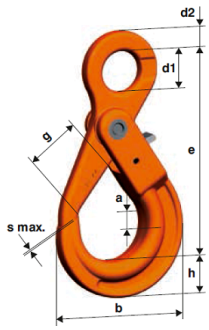
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	h (mm)	a (mm)	b (mm)	d (mm)	g (mm)	s max (mm)	Weight (kg)
5/6mm Gr100 KLHW5/6 Clevis safety hook 1.4T Pewag	30927	6	1.4	94	20	17	71	7	28	1	0.5
8mm Gr100 KLHW8 Clevis safety hook 2.5T Pewag	30929	8	2.5	123	26	20	88	10	34	1	0.9
10mm Gr100 KLHW10 Clevis safety hook 4T Pewag	30930	10	4	144	30	29	107	125	45	1	1.6
13mm Gr100 KLHW13 Clevis safety hook 6.7T Pewag	30931	13	6.7	180	40	35	138	16	52	2	2.9
16mm Gr100 KLHW16 Clevis safety hook 10T Pewag	30932	16	10	218	50	41	168	20	60	2	5.8
19/20mm Gr100 KLHW19/20 Clevis safety hook 16T Pewag	30933	19/20	16	259	62	50	194	24	70	2	9.9
22mm Gr100 KLHW22 Clevis safety hook 19T Pewag	30934	22	19	286	65	52	211	27	81	2	12.8
26mm Gr100 KLHW26 Clevis safety hook 26.5T Pewag	30935	26	26.5	338	79	61	253	33	100	2	20.5

G100 LHW Eye Self-Locking Hooks

The LHW hook closes and locks automatically and cannot open when under load. It is to be used with the Connex system and also offers additional universal connection options thanks to the flattened section on the eye.

Please note that this hook is suitable for straight pull only. The tip of the hook and the safety catch must not be placed under load.
The safety catch set VLHW on the back of the hook is also available as a spare part.



Product Specifications

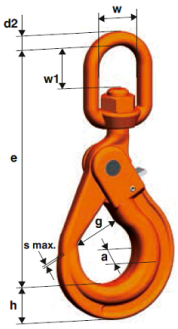
Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	h (mm)	a (mm)	b (mm)	d1 (mm)	d2 (mm)	g (mm)	s max (mm)	Weight (kg)
Gr100 LHW5/6 Safety hook self locking 1.4T Pewag	30839	6	1.4	110	20	17	71	21	11	28	1	0.5
Gr100 LHW7/8 Safety hook self locking 2.5T Pewag	30840	8	2.5	136	26	20	88	25	12	34	1	0.9
Gr100 LHW10 Safety hook self locking 4T Pewag	30841	10	4	169	30	29	107	35	15	45	1	1.5
Gr100 LHW13 Safety hook self locking 6.7T Pewag	30842	13	6.7	205	40	35	138	40	20	52	1.5	2.7
Gr100 LHW16 Safety hook self locking 10T Pewag	30843	16	10	251	50	41	168	50	27	60	2	5.7
Gr100 LHW19/20 Safety hook self locking 16T Pewag	30844	19	16	290	62	50	194	60	30	70	2	9.8
Gr100 LHW22 Safety hook self locking 19T Pewag	30845	22	19	322	65	52	211	70	32	81	2	12.4

G100 WLHW Swivel Self-Locking Hooks

This WLHW swivel is to be used with the Connex system. It closes and locks automatically and cannot be opened while under load. The large swivel casing opens up a wide range of application options and the larger jaw opening compared to HSW means that it may be used for numerous slinging options.

The hook is only suitable for straight pull and cannot be rotated when under load. Also note that the tip of the hook and the safety catch must not be placed under load.

The safety catch set VLHW which forms the locking mechanism on the back of the hook is also available as a spare part.



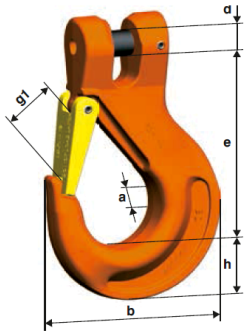
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	h (mm)	a (mm)	w (mm)	w1 (mm)	g (mm)	s max (mm)	d2 (mm)	Weight (kg)
Gr100 WLHW5/6 Swivel safety hook self locking 1.4T Pewag	30846	5-6	1.4	160	20	17	35	35	28	1	13	0.6
Gr100 WLHW7/8 Swivel safety hook self locking 2.5T Pewag	30847	7-8	2.5	181	26	20	35	35	34	1	13	1.1
Gr100 WLHW10 Swivel safety hook self locking 4T Pewag	30848	10	4	218	30	29	42	40	45	1	16	2
Gr100 WLHW13 Swivel safety hook self locking 6.7T Pewag	30849	13	6.7	269	40	35	49	47	52	2	20	4
Gr100 WLHW16 Swivel safety hook self locking 10T Pewag	30850	16	10	319	50	41	60	60	60	2	24	6.8

G100 KHSW Clevis Safety Hooks

This clevis connection sling hook offers negates the need for a connecting link by connecting directly to the chain. It is manufactured with a forged safety catch that locks into the tip of the hook, thereby offering increased protection against lateral shifts. Like all pewag components, this clevis sling hook is a high-grade product. It comes with a safety catch set with a rust-proof spring and safety sleeve and may be assembled quickly, without the need for special tools. Please note that sling hooks are suitable for straight pull only. Loads must not be placed on the tip of the hook or the safety catch.

The safety catch set SFGW is also available as a spare part.



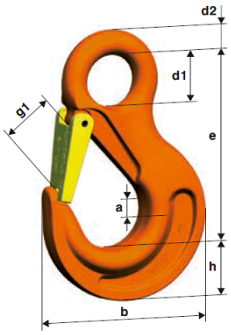
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	h (mm)	a (mm)	d (mm)	g1 (mm)	b (mm)	Weight (kg)
Gr100 KHSW5/6 Clevis sling hook 1.4T Pewag	30912	6	1.4	69	20	15	7	19	66	0.2
Gr100 KHSW8 Clevis sling hook 2.5T Pewag	30914	8	2.5	95	28	19	10	26	90	0.6
Gr100 KHSW10 Clevis sling hook 4T Pewag	30915	10	4	109	35	25	125	31	108	1.1
Gr100 KHSW13 Clevis sling hook 6.7T Pewag	30916	13	6.7	136	41	34	16	39	131	2
Gr100 KHSW16 Clevis sling hook 10T Pewag	30917	16	10	155	49	37	20	45	153	3.48
Gr100 KHSW19/20 Clevis sling hook 16T Pewag	30918	19/20	16	184	53	51	24	53	177	5
Gr100 KHSW22 Clevis sling hook 19T Pewag	30919	22	19	214	62	52	27	62	196	9

G100 HSW Eye Safety Hook

This eye sling hook offers universal options for usage and is manufactured with a forged safety catch that locks into the tip of the hook, thereby offering increased protection against lateral shifts. The hook is suitable for use with Connex connecting links and like all pewag components, this eye sling hook is a high-grade product. It comes with a safety catch set with a rust-proof spring and safety sleeve and may be assembled quickly, without the need for special tools. Please note that sling hooks are suitable for straight pull only. Loads must not be placed on the tip of the hook or the safety catch.

The safety catch set SFGW is also available as a spare part.



Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	e (mm)	h (mm)	a (mm)	d1 (mm)	d2 (mm)	g1 (mm)	b (mm)	Weight (kg)
Gr100 HSW5/6 Eye sling hook 1.4T Pewag	30827	5/6	1.4	85	21	17	20	10	19	68	0.3
Gr100 HSW7/8 Eye sling hook 2.5T Pewag	30828	7/8	2.5	106	27	19	25	11	26	88	0.5
Gr100 HSW10 Eye sling hook 4T Pewag	30829	10	4	131	33	26	34	16	31	109	1.1
Gr100 HSW13 Eye sling hook 6.7T Pewag	30830	13	6.7	164	44	33	43	19	39	134	2.2
Gr100 HSW16 Eye sling hook 10T Pewag	30831	16	10	183	50	40	50	25	45	155	3.5
Gr100 HSW19/20 Eye sling hook 16T Pewag	30832	19/20	16	205	55	48	55	27	53	178	5.8
Gr100 HSW22 Eye sling hook 19T Pewag	30833	22	19	225	62	50	60	29	62	196	8
Gr100 HSW26 Eye sling hook 26.5T Pewag	30834	26	26.5	259	75	70	70	37	73	235	13.4
Gr100 HSW32 Eye sling hook 40T Pewag	30835	32	40	299	97	82	66	45	87	291	27.5

This page is intentionally left blank

4.2 Lifting Grade 80

G80 Chain Slings

Nobles is a leading manufacturer of Grade 80 chain slings in Australia. Nobles chain slings comply with AS 3775 and all chain slings manufactured by Nobles are proof load tested to twice the WLL. Nobles pre-made chain slings as listed below come packaged in a pail with a NATA test certificate and are ready to go.

Nobles pre-made Grade 80 chain slings consist of a Large Master Link at top with a Clevis Grab Hook for leg length adjustment joined with a Chain Connector. There is a Clevis Self-Locking Hook fitted to the bottom of the chain leg.

Nobles also offers a full inspection, repair and re-certification service to ensure your existing chain slings are safe and compliant at all times.

Product Specifications

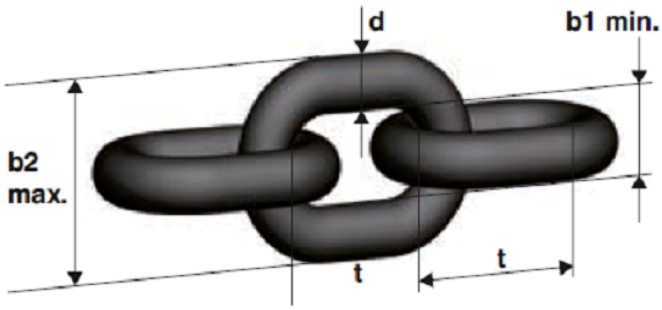
Name	ITEM #	WLL (tonnes)	Chain Size (mm)	Overall Length (m)	Weight (kg)
8mm Gr80 Chain Assembly 1 Leg 2m E/L c/w Master link, Clevis Grab Hook, Clevis Self Locking Hook	22902	2	8	2	5.1
8mm Gr80 Chain Assembly 1 Leg 4m E/L c/w Master link, Clevis Grab Hook, Clevis Self Locking Hook	23164	2	8	4	7.9
8mm Gr80 Chain Assembly 2 Leg 6m LSOL, SLH, CGH, Tested	23178	3.5 @ 60 degrees	8	6	20.4
8mm Gr80 Chain Assembly 2 Leg 2m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	23122	3.5 @ 60 degrees	8	2	9.2
8mm Gr80 Chain Assembly 2 Leg 4m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	23331	3.5 @ 60 degrees	8	4	14.8
10mm Gr80 Chain Assembly 1 Leg 4m E/L c/w Master link, Clevis Grab Hook, Clevis Self Locking Hook	23150	3.2	10	4	11.82
10mm Chain Assembly Gr80 2 Leg 4m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	23257	5.5 @ 60 degrees	10	4	29.04
10mm Chain Assembly Gr80 2 Leg 6m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	23265	5.5 @ 60 degrees	10	6	37.36
10mm Gr80 Chain Assembly 2 Leg 2m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	23248	5.5 at 60 degrees	10	2	20.72
10mm Gr80 Chain Assembly 1 Leg 2m E/L c/w Master link, Clevis Grab Hook, Clevis Self Locking Hook	23061	3.2	10	2	7.66
13mm Gr80 Chain Assembly 1 Leg 3m E/L c/w Master link, Clevis Grab Hook, Clevis Self Locking Hook	23062	5.3	13	2	17.6
13mm Gr80 Chain Assembly 2 Leg 6m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	22941	9.2 @ 60 degrees	13	6	56.3
13mm Gr80 Chain Assembly 1 Leg 6m E/L c/w Master link, Clevis Grab Hook, Clevis Self Locking Hook	23256	5.3	13	4	28.1
13mm Gr80 Chain Assembly 2 Leg 3m E/L c/w Master link, Clevis Grab Hooks, Clevis Self Locking Hooks	26398	9.2 @ 60 degrees	13	2	35.3

G80 Chain

Nobles Grade 80 Chain is manufactured from high quality, high tensile alloy steel and is hardened and tempered to produce a chain with a load bearing capacity in excess of three times that of mild steel chain. This chain complies with the mechanical properties and testing requirements of AS 2321 for Lifting Chains.

Nobles Grade 80 chain offers high strength and surface hardness and yet retains the ductility necessary for safety in chain slings.

Nobles Grade 80 chains may be supplied with the following markings; T, 8, 80 or 800.

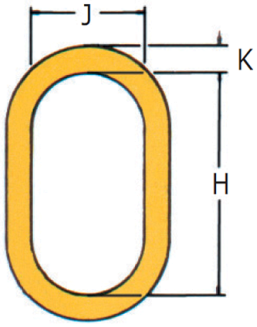


Product Specifications

Name	ITEM #	Chain Size d (mm)	WLL (tonnes)	Pitch t (mm)	Inside Width b1 min (mm)	Outside Width b2 max (mm)	Weight per m (kg)
6mm Alloy Lifting Chain Gr80	32313	6	1.1	18.0	7.8	22.2	0.85
8mm Alloy Lifting Chain Gr80	22687	8	2	24	10.4	29.6	1.4
10mm Alloy Lifting Chain Gr80	22449	10	3.2	30	13	37	2.08
13mm Alloy Lifting Chain Gr80	22533	13	5.3	39	16.9	48.1	3.49
16mm Alloy Lifting Chain Gr80	32314	16	8.0	48.0	20.8	59.2	5.64
20mm Chain PWB Herc-ALloy 800 Gr80	17030	20	12.5	59.2	25	67.5	8.78
22mm Chain PWB Herc-Alloy 800 Gr80	10083	22	15	65	27.5	74.2	10.66
26mm Chain PWB Herc-Alloy 800 Gr80	12016	26	21.2	78	32.5	96.2	15.1
32mm Chain PWB Herc-Alloy 800 Gr80	15659	32	31.5	96	40	112	23

G80 Large Master Links

This range of link is both wider and longer than the regular series and has a particular application where large crane hooks are in use.

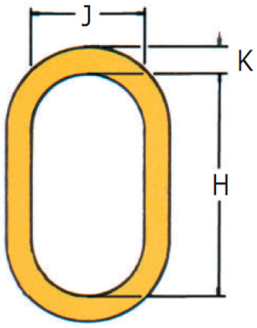


Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	J (mm)	K (mm)	H (mm)	Weight (kg)
Master Link Large Series 1.6t 6mm - 7.1mm Gr80	18829	6-7	1.6	70	13	130	0.4
Master Link Large Series 3.5T 10mm - 7mm Gr80	18850	10-7	3.5	70	16	135	0.7
Master Link Large Series 5.5T 13mm - 10mm Gr80	15171	13-10	5.5	100	22	200	1.7
Master Link Large Series 9.2T 16mm - 13mm Gr80	15359	16-13	9.2	120	30	240	3.8
Master Link Large Series 13.8T 20mm - 16mm Gr80	16679	20-16	13.8	140	33	280	5.4
Master Link Large Series 21.6T 22mm - 20mm Gr80	12271	22-20	21.6	150	39	300	8.5
Master Link Large Series 26T 26mm - 22mm Gr80	17253	25-22	26	165	42	330	10.5
Master Link Large Series 36.7T 32mm - 26mm Gr80	15277	32-25	36.7	180	48	360	15
Master Link Large Series 54.5T 32mm - 32mm Gr80	11021	32-32	54.5	231	60	431	30

G80 Regular Master Links

This is the range most commonly selected and is designed for use in single and 2-leg applications.



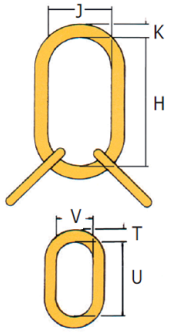
Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	J (mm)	K (mm)	H (mm)	Weight (kg)
Master Link Regular Series 3.5T 10mm - 6mm Gr80	13939	10-6	3.5	44	13	88	0.3
Master Link Regular Series 5.5T 13mm - 10mm Gr80	10445	13-10	5.5	57	20	114	0.9
Master Link Regular Series 9.2T 16mm - 13mm Gr80	17250	16-13	9.2	70	22	130	1.2
Master Link Regular Series 13.8T 20mm - 16mm Gr80	18743	20-16	13.8	80	30	160	2.7
Master Link Regular Series 21.6T 22mm - 20mm Gr80	16332	22-20	21.6	90	33	180	3.7
Master Link Regular Series 26T 25.4mm - 22mm Gr80	17716	26-22	26	100	39	200	5.5

This page is intentionally left blank

G80 Large Multi Master Links

These assemblies consist of a master link and two intermediate links each with the same lifting capacity. These are designed for 2, 3 or 4-leg chain sling applications.

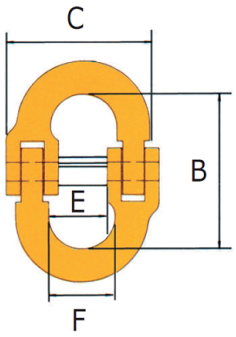


Product Specifications

Name	ITEM #	Suits Chain Size (mm)	WLL (tonnes)	J (mm)	K (mm)	H (mm)	U (mm)	V (mm)	T (mm)	Weight (kg)
Master Link Large Multi 3.5T 6mm - 8mm Gr80	11731	8	3.5	90	19	180	88	44	13	1.7
Master Link Large Multi 5.5T 10mm Gr80	12253	10	5.5	120	24	240	114	51	20	4
Master Link Large Multi 9.2T 13mm Gr80	17802	13	9.2	140	30	280	130	70	22	6.7
Master Link Large Multi 13.8T 16mm Gr80	11824	16	13.8	150	33	300	160	80	30	11.1
Master Link Large Multi 21.6T 20mm Gr80	16513	20	21.6	165	42	330	180	90	33	17.5
Master Link Large Multi 26T 22mm Gr80	15971	22	26	210	48	360	200	100	39	25.2
Master Link Large Multi MA60QA 26mm Gr80	17932	26	36.7	220	60	410	350	195	50	64
Master Link Enlarged MA70QA Multi 85T Gr80	11177	32	54.5	263	70	473	431	231	60	103

G80 Chain Connectors

The Nobles Chain Connector is a fitting used to connect chain to master links, hooks and other components. It is easily assembled and can be disconnected if required. It is made from quenched and tempered alloy steel for high tensile strength and ductility.

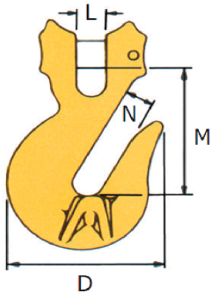


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	E (mm)	F (mm)	B (mm)	C (mm)	Weight (kg)
Chain Connector Nobles 1.1T 6mm Gr80	17154	6	1.1	15	16	44	38	0.1
Chain Connector Nobles 2T 7mm - 8mm Gr80	16451	8	2	20	23	57	51	0.2
Chain Connector Nobles 3.2T 10mm Gr80	17722	10	3.2	25	29	68	61	0.3
Chain Connector Nobles 5.3t 13mm Gr80	16643	13	5.3	30	33	82	76	0.7
Chain Connector Nobles 8T 16mm Gr80	15338	16	8	36	41	104	95	1.2
Chain Connector 20mm Gr80	11666	20	12.5	44	50	125	109	1.9
Chain Connector 22mm Gr80	14856	22	15	49	57	152	135	3
Chain Connector 25.4mm Gr80	13922	26	21.2	55	65	162	157	4.6
Chain Connector 32mm Gr80	15188	32	31.5	69	75	202	197	8.6

G80 Clevis Grab Hooks

Grab hooks are used to enable the adjustment of chain sling leg lengths. The Nobles clevis grab hook does not require an extra chain connector and can be fitted directly onto the chain. Nobles grab hooks feature a cradle design where no de-ration of the chain sling is necessary.

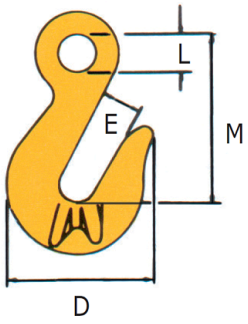


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	L (mm)	M (mm)	N (mm)	D (mm)	Weight (kg)
Hook Nobles Clevis Cradle Grab 7mm - 8mm Gr80	18937	8	2	9	50	10	53	0.4
Hook Nobles Clevis Cradle Grab 10mm Gr80	13417	10	3.2	13	72	12	70	0.9
Hook Nobles Clevis Cradle Grab 13mm Gr80	10464	13	5.3	16	88	16	90	1.6
Hook Nobles Clevis Cradle Grab 16mm Gr80	15806	16	8	19	100	22	104	2.4
Hook Clevis Cradle Grab 20mm Gr80	16178	20	12.5	23	124	23	125	4.7

G80 Eye Grab Hooks

Grab hooks are used to enable the adjustment of chain sling leg lengths. Nobles grab hooks feature a cradle design where no de-ration of the chain sling is necessary.

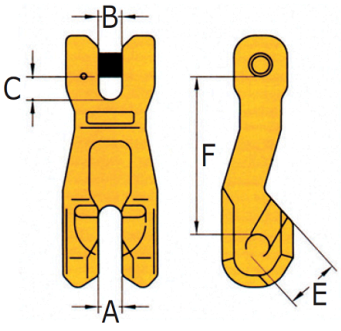


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	L (mm)	M (mm)	E (mm)	D (mm)	Weight (kg)
Hook Nobles Cradle Grab 6mm Gr80	23712	6	1.1	13	42	8	38	0.2
Hook Nobles Cradle Grab 7mm - 8mm Gr80	15426	8	2	15	58	9	53	0.3
Hook Nobles Cradle Grab 10mm Gr80	11807	10	3.2	19	78	12	71	0.8
Hook Nobles Cradle Grab 13mm Gr80	13107	13	5.3	24	102	16	91	1.4
Hook Nobles Cradle Grab 16mm Gr80	17758	16	8	30	113	22	106	2.2
Hook Cradle Grab 20mm Gr80	13815	20	12.5	37	135	25	122	3.5
Hook Cradle Grab 22mm Gr80	17999	22	15	38	187	26	144	4.8
Hook Cradle Grab 26mm Gr80	12493	26	21.2	41	230	29	178	10.5
Hook Cradle Grab 32mm Gr80	16211	32	31.5	57	267	37	210	20

G80 Clevis Shortening Hooks

Clevis shortening hooks are an alternative to grab hooks and are used to enable adjustment of the chain sling leg length. The shortening hook design is such that stresses on the chain are reduced as the chain is loaded "in-line" and not across the link as is the case with a grab hook.

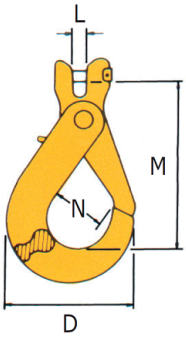


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	B (mm)	C (mm)	A (mm)	F (mm)	E (mm)	Weight (kg)
Hook Nobles Clevis Shortening 2T 7mm - 8mm Gr80	11142	8	2	9	10	9	62	16	0.4
Hook Nobles Clevis Shortening 3.2T 10mm Gr80	17881	10	3.2	14	14	14	87	25	1
Hook Nobles Clevis Shortening 5.3T 13mm Gr80	17623	13	5.3	16	17	16	115	32	1.9
Hook Nobles Clevis Shortening 8T 16mm Gr80	10942	16	8	16	17	16	143	39	3.2

G80 Clevis Self-Locking Hooks

Self-Locking Hooks are the most common style of bottom hook used on chain slings. The hook design ensure the hook will close when loaded and thus the load is captured in the hook and is not able to release should the load line become slack or into contact with another object.

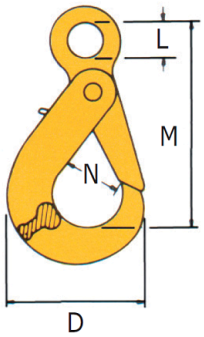


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	L (mm)	M (mm)	N (mm)	D (mm)	Weight (kg)
Hook Nobles Clevis Self-Locking 6mm Gr80	10271	6	1.1	23	106	28	73	0.5
Hook Nobles Clevis Self-Locking 7mm - 8mm Gr80	11706	8	2	24	133	33	86	0.9
Hook Nobles Clevis Self-Locking 10mm Gr80	12583	10	3.2	32	167	45	110	1.6
Hook Nobles Clevis Self-Locking 13mm Gr80	16099	13	5.3	39	208	54	136	3.1
Hook Nobles Clevis Self-Locking 16mm Gr80	15885	16	8	49	250	67	173	6.2
Hook Clevis Self-Locking 20mm Gr80	13540	20	12.5	64	282	90		8.5
Hook Clevis Self-Locking 22mm Gr80	13469	22	15	70	319	80		11.2
Hook Clevis Self-Locking 26mm Gr80	11980	26	21.2	80	343	99		14.5

G80 Eye Self-Locking Hooks

Self-Locking Hooks are the most common style of bottom hook used on chain slings. The hook design ensure the hook will close when loaded and thus the load is captured in the hook and is not able to release should the load line become slack or into contact with another object.

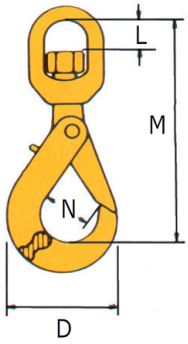


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	L (mm)	M (mm)	N (mm)	D (mm)	Weight (kg)
Hook Nobles Self-Locking 6mm Gr80	19062	6	2	23	106	28	73	0.5
Hook Nobles Self-Locking 7mm - 8mm Gr80	11495	8	2	24	133	33	86	0.9
Hook Nobles Self-Locking 10mm Gr80	16815	10	3.2	167	45	44	110	1.6
Hook Nobles Self-Locking 13mm Gr80	12278	13	5.3	39	208	54	136	3.1
Hook Nobles Self-Locking 16mm Gr80	13237	16	8	49	250	67	173	6.2
Hook Nobles Self-Locking 20mm Gr80	15344	20	12.5	64	282	90		8.5
Hook Nobles Self-Locking 22mm Gr80	13208	22	15	70	319	80		11.2
Hook Self-Locking Eye 26mm Gr80	16095	26	21.2	80	343	99		14.5

G80 Swivel Self-Locking Hooks

The swivel Self-Locking Hook is the same design as the tradional Self-Locking Hook but has the extra feature of the swivel which can be used to align the hook correctly with the load line prior to lifting. The swivel is for positioning only prior to the lift and the hook is not designed to rotate under load.

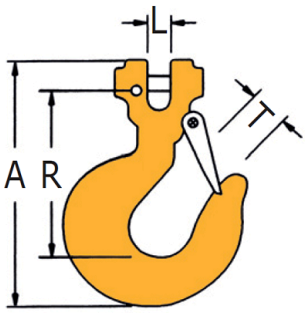


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	L (mm)	M (mm)	N (mm)	D (mm)	Weight (kg)
Hook Nobles Swivel Self-Locking 6mm Gr80	17218	6	1.1	24	141	30	74	1
Hook Nobles Swivel Self-Locking 7mm - 8mm Gr80	19307	8	2	27	182	36	88	1.3
Hook Nobles Swivel Self-Locking 10mm Gr80	18462	10	3.2	33	219	44	106	2.2
Hook Nobles Swivel Self-Locking 13mm Gr80	11875	13	5.3	41	278	50	136	4.3
Hook Nobles Swivel Self-Locking 16mm Gr80	12554	16	8	50	328	60		7.6
Hook Swivel Self-Locking 20mm Gr80	10756	20	12.5	82	388	90		11.7

G80 Clevis Safety Hooks

Safety Hooks are traditional sling hook style and come fitted with durable safety catches.

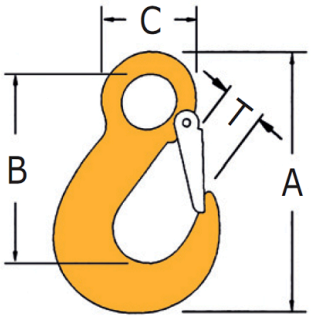


Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	L (mm)	R (mm)	A (mm)	T (mm)	Weight (kg)
Hook With Latch Nobles Clevis Sling 7mm - 8mm Gr80	12477	8	2	9	85	134	18	0.6
Hook With Latch Nobles Clevis Sling 10mm Gr80	13186	10	3.2	11	102	159	22	1.1
Hook With Latch Nobles Clevis Sling 13mm Gr80	16357	13	5.3	14	137	198	27	2
Hook With Latch Nobles Clevis Sling 16mm Gr80	17337	16	8	18	167	257	70	4.5

G80 Eye Safety Hooks

Safety Hooks are traditional sling hook style and come fitted with durable safety catches.



Product Specifications

Name	ITEM #	Chain Size (mm)	WLL (tonnes)	A (mm)	B (mm)	C (mm)	T (mm)	Weight (kg)
Hook With Latch Nobles Sling 7mm - 8mm Gr80	14154	8	2	138	98	28	18	0.5
Hook With Latch Nobles Sling 10mm Gr80	11752	10	3.2	174	108	32	44	1
Hook With Latch Nobles Sling 13mm Gr80	15566	13	5.3	272	203	50	70	2.1
Hook With Latch Nobles Sling 16mm Gr80	18956	16	8	272	203	50	70	4.4

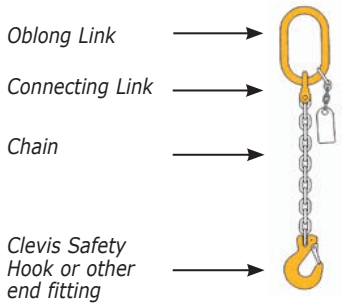
4.3 General Information Chain Slings

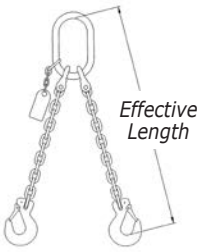
General Information

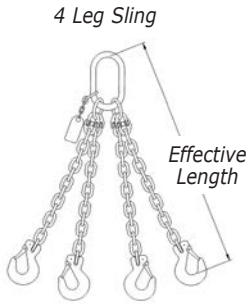
CHAIN SLINGS

Types of Chain Slings

With the exception of endless slings as described below the configurations are based on sling legs. The most commonly used chain assemblies are illustrated here but also illustrated are special assemblies that may be devised for lifting specific or unusually shaped loads.







Sling Selection

The following factors should be considered before making a selection:

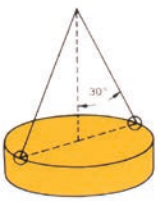
1. Load – mass
2. Headroom
3. Type of load – steel, shipping containers, timber, fabricated sections or vessels
4. Length of sling
5. Method of slinging
6. Environmental elements such as corrosion or heat

Calculation of Working Load Limit

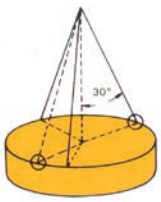
The sling chart details the working load limit for each size.

Geometry

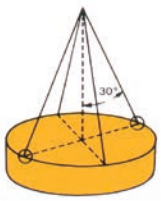
The geometry of the sling is the number of chain legs of multi-leg slings and the angles between the legs and vertical. Angles should be assessed as shown in the figures below. When calculating angles the apex of the angles should not include the length of the oblong link or master link.



Sling Angle 60°



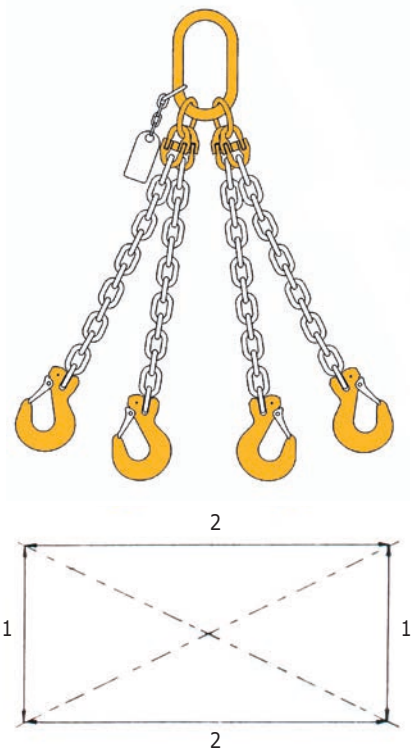
Sling Angle 60°



Sling Angle 60°

Multi-Leg Slings

The WLL of slings comprising two or more legs shall not be more than the calculated WLL of the sling while it is supporting the load with two of its legs having a symmetrical configuration with an included angle between the two legs of 60°. The included angle shall never be greater than 120°.



Four Leg Sling

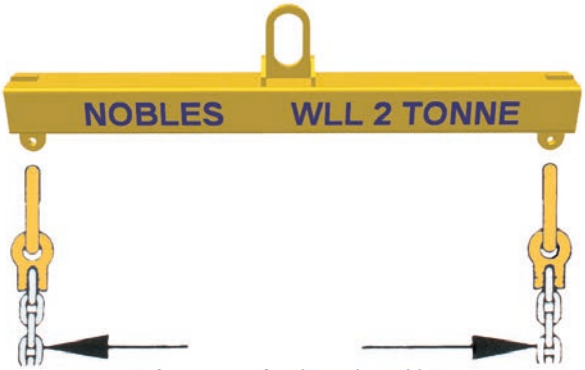
General Information

CHAIN SLINGS

Headroom & Special Slinging Methods

Use of lifting beams or spreader beams assists in overcoming headroom problems and these can be purpose built by Nobles to comply with all relevant standards and regulations.

Spreader bar fixed or adjustable

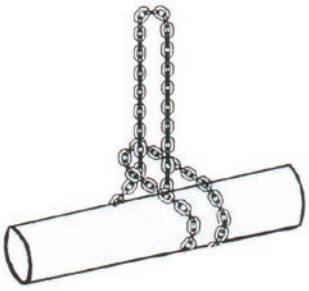


Lifting Beam fixed or adjustable

Any special method of use should be approved and tested in the manner in which it is to be used.

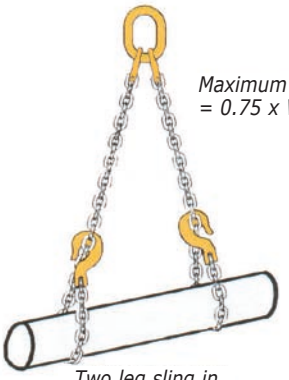
Endless Slings

An endless sling shall never have a working load limit greater than 1.5 times the WLL of a single leg sling.

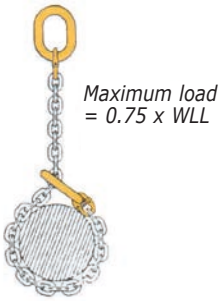


Reeved Slings

In the examples shown the WLL shall not be greater than 0.75 times the WLL of the chain to which it is attached.



Two leg sling in choke hitch



Single leg sling in choke hitch

Adjustable Slings Using Shortening Clutches

Nobles can incorporate shortening clutches into all sling assemblies rendering them adjustable.

Shortening clutches in multi-leg slings will adjust the leg length but care must be taken to ensure that no one leg is overloaded as a result. Bear in mind that if the legs are not equally disposed about vertical, the leg making the smallest angle to the vertical will carry a larger share of the load.

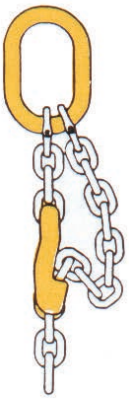
Shortening clutches are the preferred devices for adjusting leg length as they maintain the correct 'in line loading' of the chain so that the rating is not affected.

Some grab hooks that lock onto a link of the chain for this purpose require a 25% deration. Cradle grab hooks, which fully support the chain link, do not require a deration.

⚠ WARNING

- Shortening clutches MUST be used correctly with the load bearing chain always leading out from the bottom of the clutch. (See illustrations for correct and incorrect usage.)

Use of shortening hooks in adjustable slings



Correct

Incorrect

Protection

Special loads also may require protection and Nobles can provide various means to protect loads from marking or damage during lifting.

General Information

CHAIN SLINGS

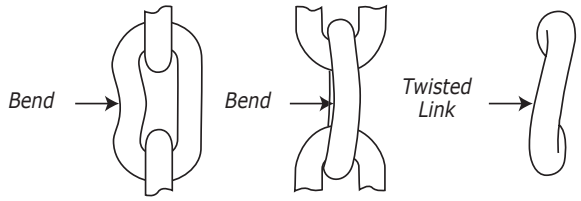
Inspection Before Use

WARNING

- Lifting equipment should be inspected before each use.

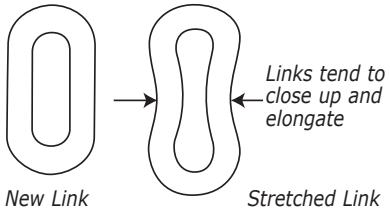
The pre-use inspection for chain slings should take note of the following:

1. Clean sling before inspection.
2. Ensure the sling is correctly tagged and certified.
3. Every chain link should be individually inspected for any signs of wear, twisting, stretching, nicks, gouging, heat damage, chemical attack or excessive corrosion.

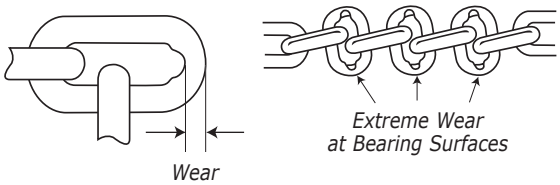


Examine all Chain Links

4. Any worn links should be measured to determine the degree of wear, which should not exceed 10% in any plane.
5. Upper and lower terminal links, hooks, etc. should be inspected for any signs of distortion, e.g. widening of any hook throat opening.
6. Connecting links or chain connectors should be inspected for any signs of wear at their load-bearing points and for any excessive play of the load pin.
7. Wear may be tolerated until the thickness of any worn section has been reduced by 10% of the nominal section in any plane.



Look for Chain Stretch



Check for wear at Bearing Surfaces

8. Chain links or fittings having any defects should be clearly marked to indicate rejection, and the sling should be withdrawn from service until properly repaired.
9. Slings with damaged fittings may be repaired by replacing the fittings but the entire chain assembly must be proof load tested before being returned to service. Any damaged chain must be destroyed.

Care In Use

WARNING

- Chain Slings should always be used in line with good lifting and rigging practice and as per the manufacturers recommendations.
- Incorrect Chain Sling use could result in a dangerous situation that could cause property damage, serious injury or death.

1. The operator should establish the weight of the load to be lifted as accurately as possible.
2. Ensure that the crane or other lifting equipment and the lifting points are adequate to lift the load.
3. Prepare the site where the load is to be landed in advance. Ensure that the sling is not trapped by the load in such a way that removal of the sling cannot be made by hand.
4. Check compatibility of the chain sling to the crane hook and the lifting points on the load.
5. Ensure the chain is free from twists and is protected from any sharp corners on the load.
6. Ensure the load is evenly distributed on all sling legs. This can be facilitated through the use of shortening hooks.
7. When using a choke hitch, the bite should be allowed to assume its own position.
8. Commence the lift slowly, taking up the slack gradually.
9. Care must be taken to ensure that the load remains stable throughout the lift.
10. A trial lift should be made prior to the full lift operation. If the load is not balanced it should be lowered and the slings re-positioned.
11. Sling hooks of a multi-leg sling should be positioned so that they face outward from the load.

Storage & Handling

- Chain slings should be kept on a properly designed rack in a clean, dry place.
- Lightly oil slings before any prolonged storage.
- Never heat or heat-treat slings.

WARNING

- Chain Slings should not be used in acid solutions, exposed to acid fumes or other corrosive environments.

Heat

As the temperature which a sling attains in-service increases, its strength decreases. Care must be taken to account for the maximum temperature that can be reached by the sling in service.

Temperature of Sling	Strength of Sling
Up to 200ºC	Nominal Strength of rating
200ºC - 300ºC	90% of strength rating
300ºC - 400ºC	75% of strength rating
Over 400ºC	DO NOT USE

Note: *The use of a sling within these temperature ranges does not imply any permanent reduction in strength when the sling is returned to normal temperatures. If slings are accidentally exposed to temperatures indicated in excess of the maximum permissible temperatures indicated above, they should be withdrawn from service and returned to A. Noble & Son Ltd for inspection, testing and or repair or replacement.*

General Information

CHAIN SLINGS

TO AS 2321 (Chain) TO AS 3776 (Components) TO AS 3775 (Chain Slings)

A. Noble & Son Ltd. Is a leading manufacturer of chain slings in Australia. Nobles chain slings are manufactured to comply with Australian Standard 3775 and all chain slings manufactured by Nobles are fully proof tested to twice the WLL.

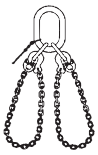
Grade T and V alloy steel chain is manufactured to Australian Standard 2321 'Short Link Chain for Lifting Purposes'. This chain is electrically welded, fully heat treated and tested at manufacture. Testing incorporates non-destructive (proof) testing for the entire chain and destructive type (breaking load and elongation) tests on selected samples.

Chain Sling components comply to AS 3776 'Lifting Components For Grade T Chain Slings'.

Nobles maintain NATA Accredited Testing Laboratories with facilities to carry out proof and destruction type testing of chain and chain sling components.

CHAIN SLINGS AS 3775

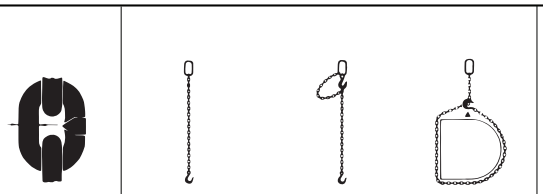
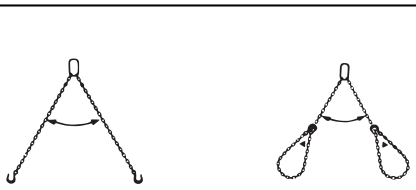
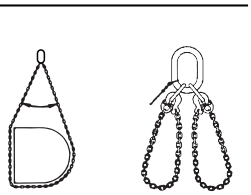
GRADE T (80) - WORKING LOAD LIMIT (WLL)

	SINGLE LEG SLINGS			2,3 OR 4 LEG SLINGS				BASKET SLINGS	
			 						
CHAIN SIZE mm dia	**STRAIGHT SLING**	***ADJUSTABLE SLING**	**REEVED SLING**	**STRAIGHT SLING**			**REEVED SLING**	**1 LEG**	**2 LEG**
				60°	**90°**	**120°**	**Max 60°**	**Max 60°**	**Max 60°**
6	1.1	1.1	0.8	1.9	1.6	1.1	1.4	1.4	2.5
7	1.5	1.5	1.1	2.6	2.1	1.5	2.0	2.0	3.4
8	2.0	2.0	1.5	3.5	2.8	2.0	2.6	2.6	4.5
10	3.2	3.2	2.4	5.5	4.5	3.2	4.2	4.2	7.2
13	5.3	5.3	4.0	9.2	7.5	5.3	6.9	6.9	11.9
16	8.0	8.0	6.0	13.8	11.3	8.0	10.4	10.4	18.0
20	12.5	12.5	9.4	21.6	17.6	12.5	16.3	16.3	28.1
22	15.0	15.0	11.3	26.0	21.2	15.0	19.5	19.5	33.8
26	21.2	21.2	15.9	36.7	29.9	21.2	27.6	27.6	47.7
32	31.5	31.5	23.6	54.5	44.4	31.5	41.0	41.0	70.9

* Assumes the use of 100% Rated Shortening Hook

CHAIN SLINGS AS 3775

PEWAG - GRADE V (100) - WORKING LOAD LIMIT (WLL)

	SINGLE LEG SLINGS			2,3 OR 4 LEG SLINGS				BASKET SLINGS	
									
CHAIN SIZE mm dia	STRAIGHT SLING	*ADJUST -ABLE SLING	REEVED SLING	STRAIGHT SLING			REEVED SLING	1 LEG	2 LEG
				60°	90°	120°	Max 60°	Max 60°	Max 60°
6	1.4	1.4	1.1	2.4	2.0	1.4	1.8	1.8	3.2
8	2.5	2.5	1.9	4.3	3.5	2.5	3.3	3.3	5.6
10	4.0	4.0	3.0	6.9	5.6	4.0	5.2	5.2	9.0
13	6.7	6.7	5.0	11.6	9.4	6.7	8.7	8.7	15.1
16	10.0	10.0	7.5	17.3	14.1	10.0	13.0	13.0	22.5
19	14.0	14.0	10.5	24.2	19.7	14.0	18.2	18.2	31.5
22	19.0	19.0	14.3	32.9	26.8	19.0	24.7	24.7	42.8
26	26.5	26.5	19.9	45.8	37.4	26.5	34.5	34.5	59.6
32	40.0	40.0	30.0	69.2	56.4	40.0	52.0	52.0	90.0

* Assumes the use of 100% Rated Shortening Hook

Working Load Limit (WLL) is the maximum load that can be supported by a sling under general conditions of use.

General conditions of use are equivalent to a group classification of crane mechanisms of M3 as specified in AS 1418.1.

Under other than general conditions of use (e.g. severe conditions, hazardous conditions involving safety of personnel), the WLL shall be derated to conform to the group classifications of crane mechanisms as specified in AS 1418.1 for conditions of use that apply.

(a) Endless Slings - The WLL of endless chain slings shall be not more that 1.5 times the WLL of the chain.

(b) Non-vertically orientated leg of a sling - The WLL of a non-vertically orientated leg of a sling shall allow for its inclination to the vertical.

(c) Adjustable Slings - The WLL of adjustable chain slings shall be as follows:

(i) Where a special purpose hook (e.g. a shortening clutch) that fully supports the chain link and attains a 100% efficiency is used, the WLL shall be not more than the WLL of the chain to which it is attached.

(ii) Where (i) above does not apply, the WLL shall be not more than 0.75 times the WLL of the chain to which it is attached.

(d) Multi Leg Slings - The WLL of multi-leg slings shall be as follows:

(i) The WLL of a multi leg sling assembly with more than two legs shall not exceed that for the sling with only two of its legs used with an included angle of 60° between these two legs. That is, the WLL of multi leg sings comprising more than two legs shall be not more than the WLL of the sling used as a two-leg sling.

(ii) Where a sling is not symmetrically loaded, the WLL shall be based on an included angle equal to twice the largest angle from the vertical.

(iii) The WLL for a multi leg sling having an included angle of 60° between the legs is the maximum WLL for the sling and shall not be exceeded, even where the included angle between the legs is less than 60°.

(iv) Under no circumstances shall the included angle between the legs of a multi leg sling be allowed to exceed 120°.