

PERFORMANCE & WLL

WORKING LOAD LIMITS (WLL) IN METRIC TONS GRADE 8

CHAIN SIZE (mm)	SINGLE STRAIGHT SLING	SINGLE CHOKE HITCH	SINGLE ENDLESS BASKET SLING	REEVED ENDLESS SLING	DOUBLE BRANCH STRAIGHT SLING			DOUBLE BRANCH CHOKE HITCH SLING @ 90°
					60°	90°	120°	
6.0	1.20	0.96	1.60	1.92	2.04	1.68	1.20	1.32
7.0	1.60	1.28	2.13	2.56	2.72	2.24	1.60	1.76
8.0	2.00	1.60	2.60	3.20	3.40	2.80	2.00	2.20
10.0	3.20	2.56	4.27	5.12	5.44	4.48	3.20	3.52
13.0	5.40	4.32	7.20	8.64	9.18	7.56	5.40	5.94
16.0	8.20	6.56	10.93	13.12	13.94	11.48	8.20	9.00
20.0	12.80	10.24	17.06	20.45	21.76	17.92	12.80	14.08
22.0	15.50	12.40	20.66	24.80	26.35	21.70	15.50	17.05
25.5	21.70	17.36	28.93	34.72	36.89	30.38	21.70	23.87
32.0	32.80	26.24	43.72	52.48	55.76	45.92	32.80	36.08
Load Factor	1.00	0.80	1.30	1.60	1.70	1.40	1.00	1.10

Symbol WLL applies to both rectangular and circular loads.

▲ Symbol indicates nip angle - which must not exceed 120°

N.B. When a Grab Hook is used as the end fitting, the Working Load Limit will be the same as for Choke Hitch

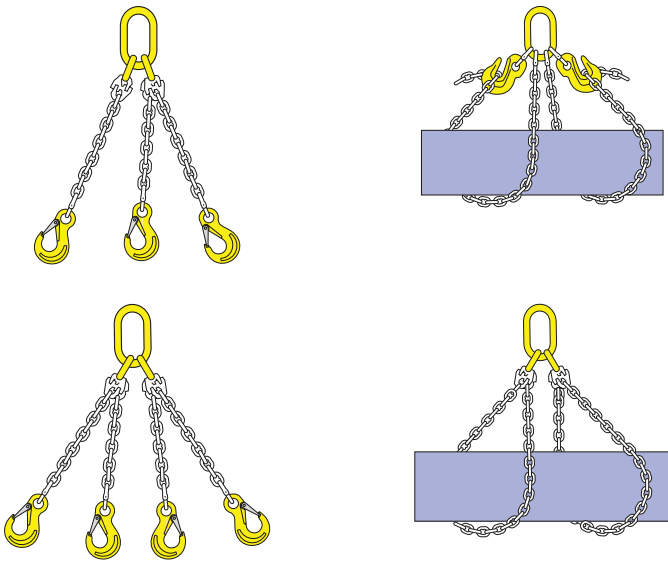
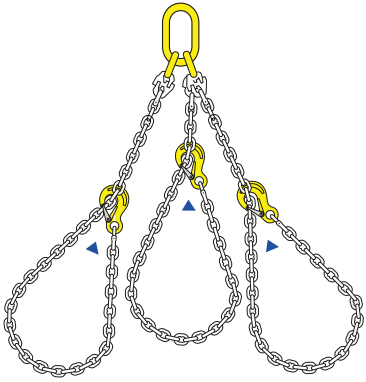
These maximum Working Load Limits apply to chain and chain slings used under ideal service conditions.

Where service conditions are less than ideal, the WLL may not apply in which case it will be necessary to select a larger size chain to suit the assessed WORKING CONDITIONS

PERFORMANCE & WLL

Max-Alloy® Chain is designed and manufactured primarily for Chain Slings for lifting and load handling purposes and it is recommended that only Max-Alloy® Gr8 Slings be used in those cases where the protection of personnel and equipment is of paramount importance. In deciding on the size of Chain Sling required, very careful consideration must be given to the angle

of inclination between the Chains at the point of suspension and particularly in the case of choke hitches (▲). As this angle increases, there is a decrease in the Working Load Limit of the Chain Sling as shown in the table on these pages. Use the widest included angle between any 2-4 legs to establish the applicable WLL.

				
CHAIN SIZE (mm)	THRIPLE & QUAD BRANCH STRAIGHT & BASKET SLING			THRIPLE & QUAD CHOKE HITCH SLINGS 90°
	60°	90°	120°	
6.0	3.12	2.52	1.80	2.00
7.0	4.16	3.36	2.40	2.70
8.0	5.20	4.20	3.00	3.40
10.0	8.32	6.72	4.80	5.43
13.0	14.04	11.34	8.10	9.16
16.0	21.32	17.22	12.30	13.90
20.0	33.28	26.88	19.20	21.72
22.0	40.30	32.55	23.25	26.30
25.5	56.42	45.57	32.55	36.82
32.0	85.28	68.88	49.20	55.66
Load Factor	2.60	2.10	1.50	1.70

EFFECTS OF HAZARDOUS CONDITIONS

EXTREME HEAT CONDITIONS

The strength of all chain slings is adversely affected by heat and care must be exercised when using chain slings at elevated temperatures. Where the temperatures are likely to be higher than 200°C it will be necessary to derate the usual WLL.

HEAT TREATMENT

Max-Alloy® Grade 8 chains and fittings do not require periodic heat treatment and must never be reheat-treated other than by the OEM.

SURFACE COATING

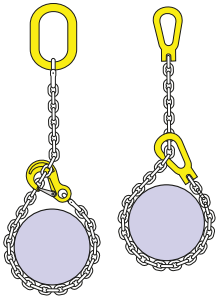
Max-Alloy® Grade 8 slings should not be galvanised or subjected to other plating processes without the express approval of the manufacturer. Please contact Shutterlock for detailed recommendations.

CORROSIVE CONDITIONS

Chain and attachments should not be used in an acid or other corrosive environments. If a sling is inadvertently exposed to acid or alkali, even for a short period, it must be withdrawn from service and referred to Shutterlock.

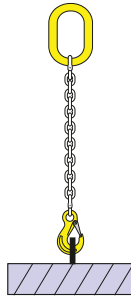
UNDERSTANDING THE MAX-ALLOY GR8 WLL TABLE

SINGLE & REEVABLE SLINGS

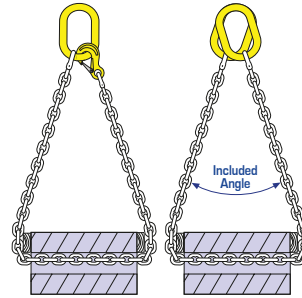


Single leg or reeveable sling in choke hitch. Working Load Limits must be reduced by 20% (See page 7).

Single leg sling attached directly to the load the full Working Load Limit may be used under normal working conditions.



Single leg or reeveable sling in basket hitch. There is an important difference between the two illustrations. The one on the left shows the hook engaged in the top link. Used this way the sling must be regarded as a single leg and the single WLL will apply under normal conditions.

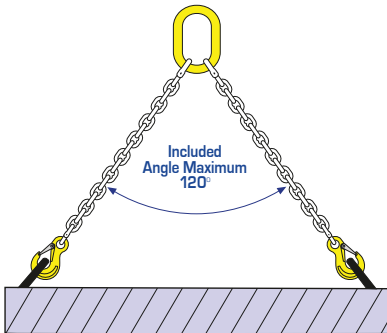


The illustration on the left shows a Reeveable sling with both end links engaged on the crane hook. Used in this manner, the sling may be regarded as a two leg WLL will apply taking account of the included angle. Nip angle: see page 7.

TWO LEG SLINGS

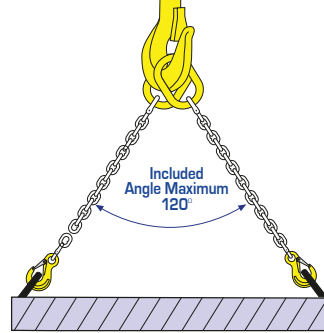
The Sling Legs attached directly to the load.

The full two leg WLL will apply under normal conditions, taking account of the included angle. The included angle is that formed by the two legs of the sling and should never be allowed to exceed 120°.



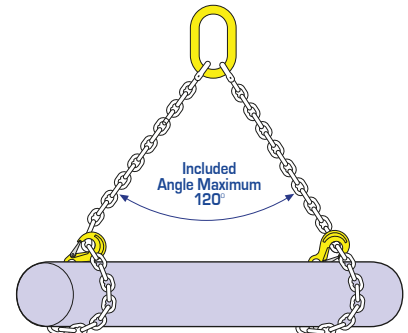
Two single sling leg slings used together to form a two leg sling.

This combination may be regarded as a two-leg sling and the WLL will, therefore, depend upon the included angle (maximum 120°) and whether the hooks are directly attached to the load or in choke hitch.



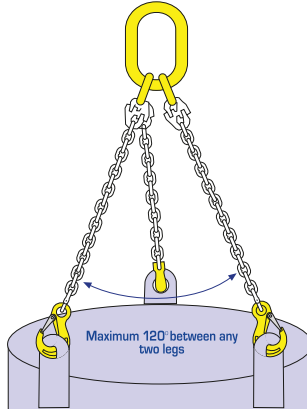
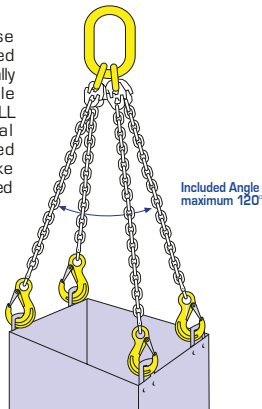
Two leg sling in choke hitch.

The two leg WLL must be reduced according to the table on page 7.



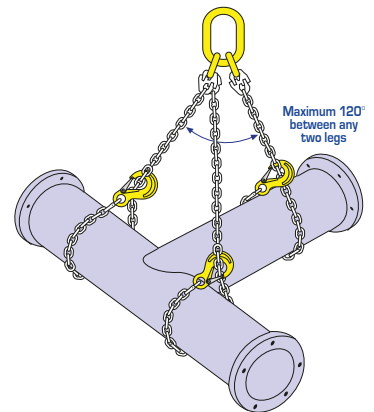
THREE & FOUR LEG SLINGS

Four leg slings. In the case of four leg slings, the included angle between any two diagonally opposite legs and this angle must not exceed 120°. The WLL may be used under normal conditions for slings attached directly to the load. In choke hitch, the WLL must be reduced by 20%. See page 8.



Three leg sling in choke hitch (right illustration). The WLL must be reduced by 20%. See page 8.

Three leg sling directly attached to the load (left illustration). The full three leg WLL will apply under normal conditions. Note that in the case of three leg slings the angle which determines the WLL is the largest angle between any two legs.



ENDLESS SLINGS

Endless slings are normally used to lift awkwardly shaped loads which do not lend themselves to lifting by means of hooks. This type of sling is recommended for use only in choke hitch as illustrated.

