

USER INSTRUCTIONS

IMPORTANT – NEVER EXCEED THE WORKING LOAD LIMIT (WLL)

STANDARD UNIFORM LOAD METHOD OF RATING FOR GRADE 80 CHAIN SLINGS EN818-4

Loads shown in Tonnes

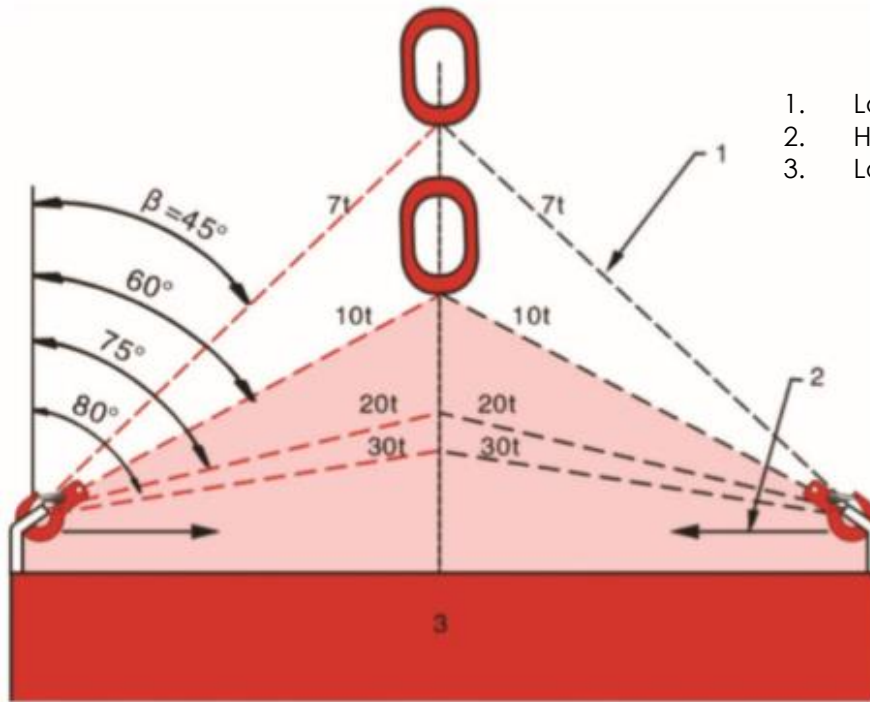
Chain Size (mm)	Single Leg Chain Sling	2 Leg Chain Sling		3 & 4 Leg Chain Sling		Endless Choke Sling
		0-45° Safety Factor 1.4	45-60° Safety Factor 1.0	0-45° Safety Factor 2.1	45-60° Safety Factor 1.5	
6	1.12	1.6	1.12	2.36	1.7	1.8
7	1.5	2.12	1.5	3.15	2.24	2.5
8	2	2.8	2	4.25	3	3.15
10	3.15	4.25	3.15	6.7	4.75	5
13	5.3	7.5	5.3	11.2	8	8.5
16	8	11.2	8	17	11.8	12.5
19	11.2	16	11.2	23.6	17	18
20	12.5	17	12.5	26.5	19	20
22	15	21.2	15	31.5	22.4	23.6
26	21.2	30	21.2	45	31.5	33.5
32	31.5	45	31.5	67	47.5	50

Operating Temperature	Reduction in Load Limit
-40°C to 200°C	None
Over 200°C to 300°C	10%
Over 300°C to 400°C	25%
Over 400°C	DO NOT USE

CHAIN SLING USER INSTRUCTIONS

We reserve the right to make changes without prior notice to the products we offer. Errors and omissions accepted. E&OE. XONA chain slings should only be repaired by qualified personnel. Records of inspections and repairs must be maintained by the buyer for the entire service life of the chain sling. XONA chain slings should be stored in dry conditions and protected from corrosion (preferably oiled). Chain slings are covered by LOLER and are classified as a "lifting accessory". The sling must be examined by a competent person at six monthly intervals and inspected before first use and on return to storage. TechniQual Engineering Limited can complete inspection servicing at an additional agreed cost. Please contact us for a price.

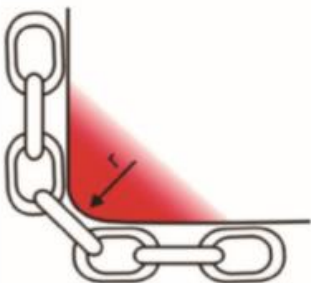
CORRECT USE OF THE CHAIN SLINGS



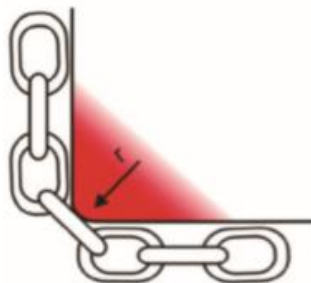
1. Loading of Leg
2. Horizontal Component of Force
3. Load 10T

Avoid angles from the vertical under 15°. Chain slings should never be used with an angle from the vertical exceeding 60° (see the shaded area of the diagram above).

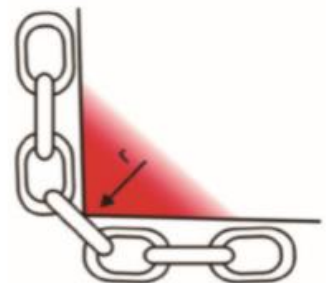
EDGE LOADING



$r = \text{more than } 2 \times \text{chain diameter}$
Load Factor 1



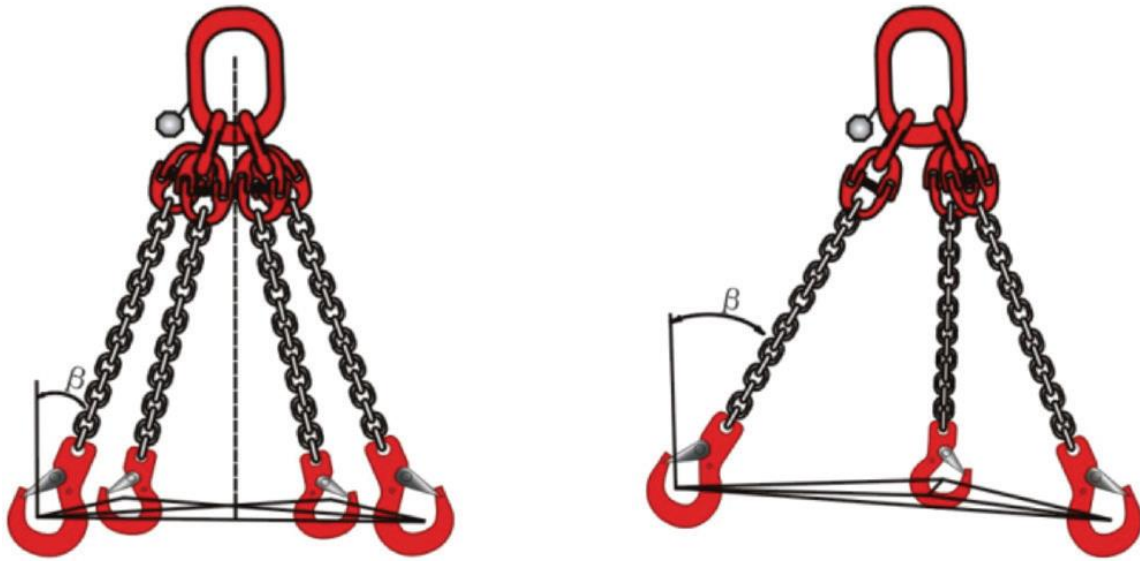
$r = \text{more than chain diameter}$
Load Factor 0.7



$r = \text{chain diameter and less}$
Load Factor 0.5
NOT PERMISSABLE WITHOUT
CORNER PROTECTION

XONA chains are guided over edges. Suitable packing should be provided to protect the chain. Before lifting, the chain should be twist/knot free.

The load capacities of XONA chain slings are defined with the assumption that the load of the individual chain legs are distributed symmetrically. The load can be considered symmetrical when all of the following conditions are met:



- The angle from the vertical of all chain legs is not less than 15°
- The angle from the vertical of all chain legs are equal or deviate by max. 15° from each other
- In the case of 3 and 4 leg chain slings, the corresponding angles in the sling level deviate by max. 15° from each other
- The load is smaller than 80% of the indicted working load limit

If the above parameters are not met, then the load must be considered asymmetrical and an expert called to evaluate the lifting process. In case of doubt, the load capacity must be reduced to that of a single-leg chain sling.

GENERAL

XONA chain slings comply with EN818-4. Only trained personnel who have read and understood these instructions can use the chains. XONA chain slings and components should not be altered e.g. twisting, grinding, removing parts and drilling.

The surface of the chains and accessories should not be subjected to acids or caustic solutions. Strong alkali's will result in hydrogen embrittlement. If necessary, please contact us for more information.

Operating Temperature	Reduction in Load Limit
-40°C to 200°C	None
Over 200°C to 300°C	10%
Over 300°C to 400°C	25%
Over 400°C	DO NOT USE

Only use XONA chains and accessories up to the indicated temperature above. Should the temperature be exceeded, the reduction of the load capacity must be taken into consideration. Do not use XONA chain slings in acids, alkalines, chemicals or expose them to their fumes.

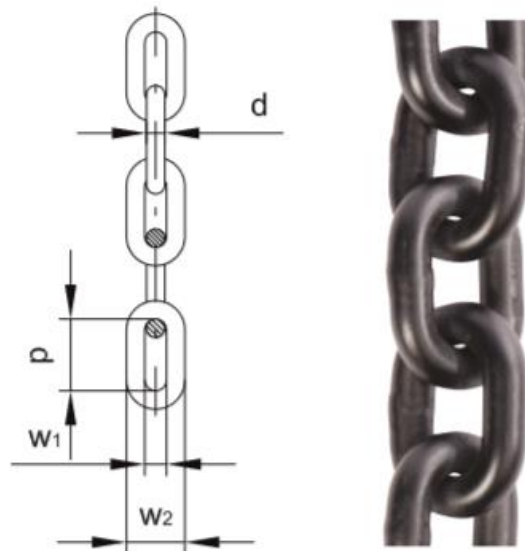
INSPECTION & MAINTENANCE

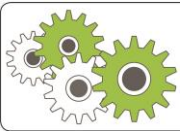
Before using any lifting equipment for the first time, please check the following:

- The test certificate and certificates of conformity have been supplied
- The correct identification markings correspond with the certificates supplied
- If required, all data regarding the chain sling to be entered into a register for lifting equipment
- Check the chains for visible signs of damage or wear and tear such as illegible markings, distortion of fittings, wear, stretch, bent or twisted links, ineffective safety catches, cuts, nicks, gouges, cracks, corrosion, heat discoloration or any other defect. In case of any damage or uncertainty, DO NOT USE THE EQUIPMENT.

Should any of the following apply, the chain must be taken out of use and passed to a competent person:

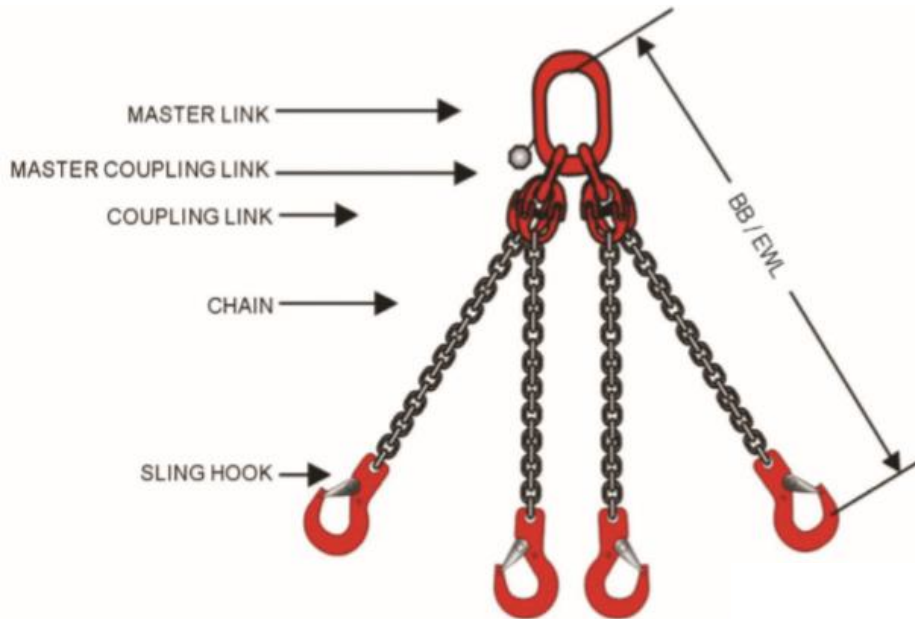
- Broken link
- Missing working load tag on the chain sling or illegible marking on the tag
- Elongation of the chain
- Cuts notches, grooves, surface cracks, excessive corrosion, discoloration due to heat, signs of additional welding, twisted links or other faults
- The sling components should be replaced if deformed by 3% of the original dimension
- Chain wear is determined as the mean value of two measurements of diameters $W1$ and $W2$ (see diagram below) carried out at a right angle – the chain must be discarded





CHAIN SLING LENGTH

The distance between the upper and lower bearing points. Or leg length which would include sub link.



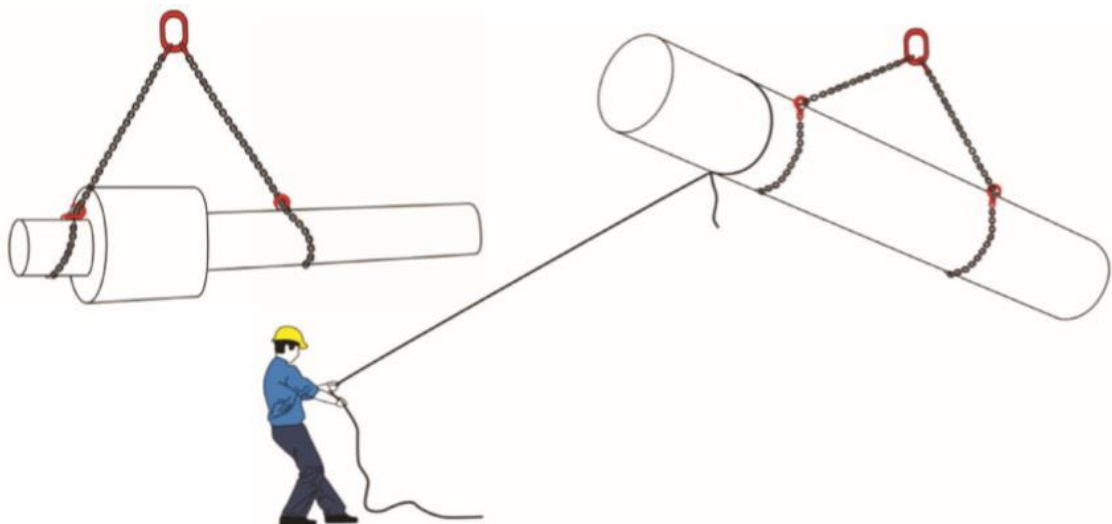
CHAIN SLING USER INSTRUCTIONS

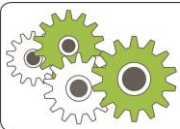
Balancing of the Load

Ensure the crane hook is vertically above the load's centre of gravity

Controlling of the Load

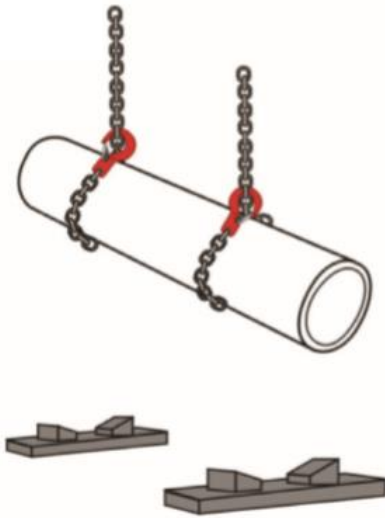
To control the movement of the load while lifting, a tag line must be attached





Landing of the Load

Make adequate preparation of the site where the load is to be landed.
DO NOT land the load directly onto the chain



Storing Slings

Keep chain slings stored correctly when not in use to avoid damage

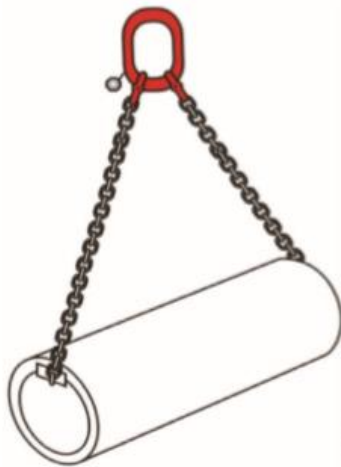


Special Applications

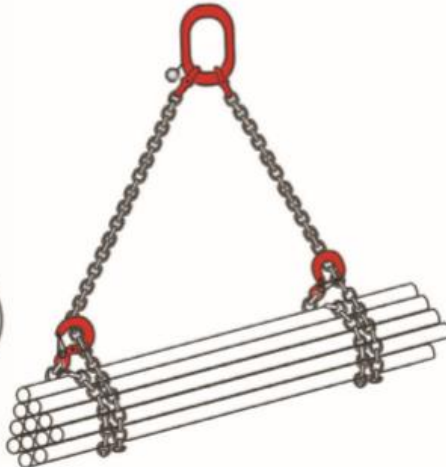
Choke Hitch



Basket Hitch



2 Leg Double Choke Hitch



Basket Hitch



Single Leg Sling



Double Leg Sling



Multiple Leg Sling



Endless Choke Sling





TechniQual
Engineering Ltd
Engineering Consultancy, Design & Manufacture



XONA™

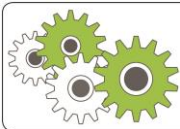
Grade 100
Chain, Webbing
& Lashing Systems



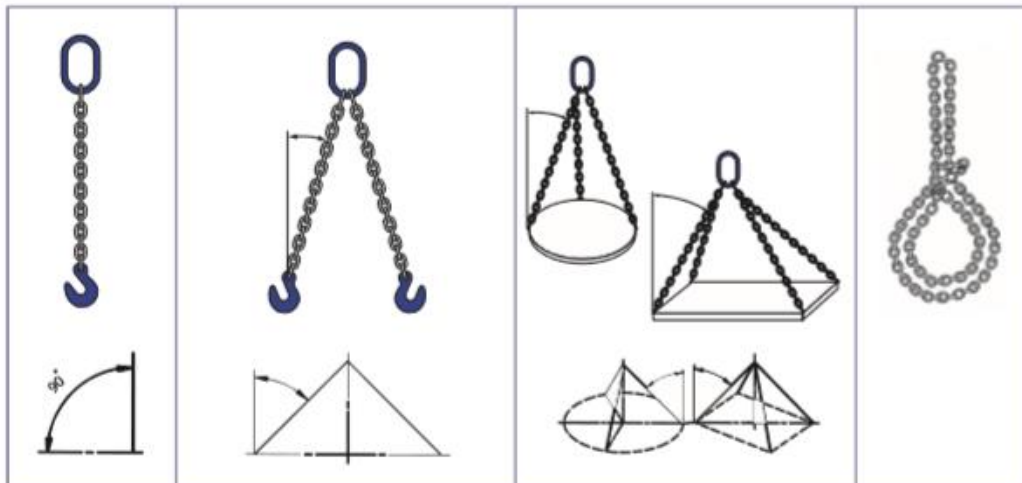
01709 898069



enquiries@techniqual.co.uk



STANDARD UNIFORM LOAD METHOD OF RATING FOR GRADE 100 CHAIN SLINGS
Loads shown in Tonnes



Chain Size (mm)	Single Leg Chain Slings	2 Leg Chain Slings		3 & 4 Leg Chain Slings		Endless Choke Slings
		0-45° Safety Factor 1.4	45-60° Safety Factor 1.0	0-45° Safety Factor 2.1	45-60° Safety Factor 1.5	
6	1.4	2	1.4	2.9	2.1	2.2
8	2.5	3.5	2.5	5.3	3.8	4
10	4	5.6	4	8.4	6	6.4
13	6.7	9.5	6.7	14	10	10.6
16	10	14	10	21	15	16
19	14	20	14	30	21	22.4
20	16	22.4	16	33.6	24	25.6
22	19	26.5	19	40	28	30.4
26	26.5	37	26.5	56	40	43
32	39.3	55	39.3	83	59	63

200° Temper Chain

Operating Temperature	Reduction in Load Limit
-40°C to 200°C	None
Over 200°C	DO NOT USE

380° Temper Chain

Operating Temperature	Reduction in Load Limit
-40°C to 200°C	None
Over 200°C to 300°C	10%
Over 300°C to 380°C	25%
Over 380°C	DO NOT USE

ABBREVIATIONS

WLL	Working Load Limit
MPF	Manufacturing Proof Force
BF	Breaking Force
LC	Lashing Capacity
(T)	Tonne
kN	Kilonewton
(KG)	Kilogram
(mm)	Millimeter
BB	Bearing to Bearing
EWL	Effective Working Limit
E&EO	Errors and Omissions Excepted