

Introduction to Chain Slings

2.0 - GR80 Chain

For the purposes of this Part of EN 818, the following definitions apply:

1. **Nominal size:** Nominal diameter of the round section steel wire or bar from which the chain is made.
2. **Material diameter:** Diameter of the material in the chain link as measured.
3. **Weld diameter:** Diameter at the weld as measured.
4. **Length dimensionally affected by welding:** Length on either side of the center of the link, affected by welding.
5. **Pitch:** Internal length of a link as measured.
6. **Manufacturing proof force(MPF) of chain:** Force to which during manufacture the whole of the chain is subjected.
7. **Breaking force(BF):** Maximum force which the chain withstands during the course of a static tensile test to destruction.
8. **Working load limit (WLL) of chain:** Maximum mass which the chain hanging vertically is authorized to sustain in general lifting service.
9. **Total ultimate elongation (A):** Total extension at the point of fracture of the chain expressed as a percentage of the internal length of the test sample.
10. **Processing:** Any treatment of the chain subsequent to welding, for example, heat treatment, polishing or dimension calibration.
11. **Lot:** Specified quantity from which test sample(s) is/are selected.
12. **Competent person:** A designated person, suitably trained qualified by knowledge and practical experience, and with the necessary instructions to enable the required examination to be carried out.

2.1 - Selection of chain slings

Chain slings are available in a range of material grades, sizes and assemblies. Select the slings to be used and plan the lift taking the following into account:

- Type of sling to be used - endless, single, two, three or four leg.
- Capacity - the sling must be both long enough and strong enough for the load and the slinging method.
- Apply the mode factor for the slinging method.
- If adjustment of the leg length is necessary select a sling with chain shortening clutches.
- For use at temperatures exceeding 200°C or below minus 40°C refer to the suppliers instructions.
- Where slings may come into contact with chemicals, particularly acids or acidic fumes, consult the supplier.
- In the case of multi-leg slings the angle between the legs should not be less than 30° or exceed the maximum marked.
- Multi-leg slings exert a gripping force on the load which increases as the angle between the legs increases and this must be taken into account.

2.2 - Safe use of chain slings

- Do not attempt lifting operations unless you understand the use of the equipment, the slinging procedures and the mode factors to be applied.
- Do not use defective slings or accessories.
- Do not force, hammer or wedge chain slings or fittings into position; they must fit freely. Check the correct engagement of fittings and appliances.
- Position hooks of multi-leg slings facing outward from the load.
- Do not lift on the point of the hook and ensure that the chain is not twisted or knotted.
- Back hook free legs to the master link to avoid lashing legs which might accidentally become engaged or otherwise become a hazard.
- Take the load steadily and avoid shock loads.
- Do not leave suspended loads unattended. In an emergency cordon off the area.

Introduction to Chain Slings

2.3 - Chain slings manufacturing standards EN 1677

Grade 80 Chain Sling							
Dia		1 Leg		2 Legs		3 & 4 Legs	
mm	inch	SWL vertical (t)	SWL choker (t)	SWL 0-45° Sling Angle to Vertical	SWL 0-30° Sling Angle to Vertical	SWL 0-45° Sling Angle to Vertical	SWL 0-30° Sling Angle to Vertical
7	9/32	1.5	1.2	2.12	2.60	3.18	3.90
8	5/16	2	1.6	2.83	3.46	4.24	5.20
10	3/8	3.15	2.52	4.45	5.46	6.68	8.18
13	1/2	5.3	4.24	7.50	9.18	11.24	13.77
16	5/8	8	6.4	11.31	13.86	16.97	20.78
20	3/4	12.5	10	17.68	21.65	26.52	32.48
22	7/8	15	12	21.21	25.98	31.82	38.97
26	1	21.2	16.96	29.98	36.72	44.97	55.08
32	1.1/4	31.5	25.2	44.55	54.56	66.82	81.84



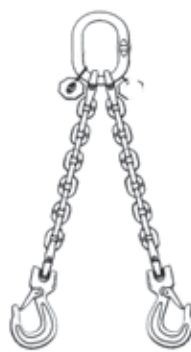
Clevis Hook with Regular Latch



Clevis Self Lock Hook



Chain Sling with Shortening Clutch



Clevis Hook with Regular Latch



Clevis Self Lock Hook



Clevis Hook with Regular Latch



Clevis Self Lock Hook



Clevis Hook with Regular Latch

Various types of chain slings.