

ALLOY CHAIN SLING TYPES & TERMS GUIDE



ALLOY CHAIN SLING COMPONENTS

Chain Grades

There are only three grades of chain that, per industry standards, are acceptable for executing overhead lifts:

- Grade 80
- Grade 100
- Grade 120

Anything less than Grade 80 chain is made for transport, or general-use, but not overhead lifting. Grade 70 chain is a transportation chain used to tie-down loads on the back of flatbed trailers. However, it is never recommended for overhead lifting.

Grade 120 chain is made by very few manufacturers in the United States. While it is available, it isn't always readily accessible. Grade 80 and Grade 100 are generally 99% of what comes out of Mazzella's rigging shops across the country.

* One exception to this rule is Grade 63 chain. This stainless steel grade of chain is required in food grade and some specific chemical applications.

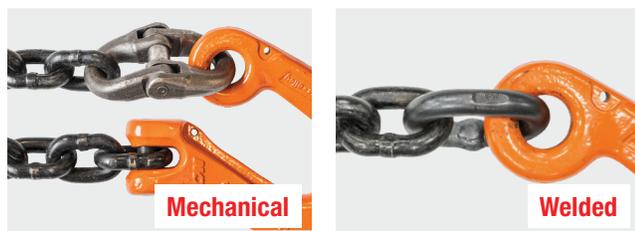


Mechanical vs. Welded Connections

The terms "mechanical" and "welded" refer to the end fittings, including hooks and rings, on either end of the chain and how they are attached.

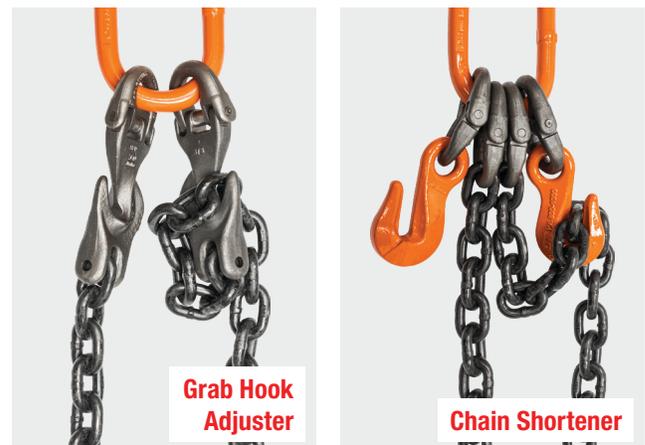
Mechanical chain sling attachments are connected to a welded chain and held in place by pins. Mechanical components can be removed and interchanged with other hooks and lifting devices, if necessary.

Welded chain sling attachments are connections that are welded to both sides of the chain, and then heat treated. These are permanent connections to the chain sling assembly.



Adjustability

Adjustability is one of the main benefits of chain slings, especially when using long chain slings. Having a chain sling with a grab hook or another adjustment device allows for easy changing of the length of the legs.



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ALLOY CHAIN SLING REACH

When determining the alloy chain sling reach (length), measure from the top load-bearing point of the master link to the load-bearing point of the end fitting.

Endless alloy chain sling length is measured by pull to pull. See example below.



ALLOY CHAIN BRIDLE REACH

Multi-leg sling assemblies, or single-leg slings with fittings, are measured from the load-bearing point of any rings, hooks, or fittings.

* Chain sling length is the distance between the extreme bearing points of the sling assembly.



ALLOY CHAIN DIAMETER

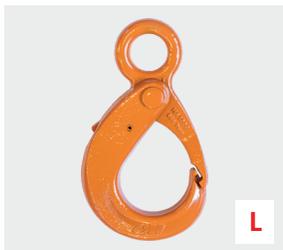
Alloy steel chains can be made from steel rod ranging between 7/32" and 1-1/4" in diameter, with capabilities ranging from 2,100 lbs. (single-leg assemblies) to over 10,000 lbs. (multi-leg assemblies).

HITCHES

Alloy chain slings can be used in the following hitch orientations:



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NUMBER OF LEGS

- S** Single (1) Leg
- D** Double (2) Leg
- T** Triple (3) Leg
- Q** Quadruple (4) Leg

FITTING AT TOP OF SLING

- O** Oblong (Oval) Master Link
- P** Pear-Shaped Master Link
- R** Round (Circle) Master Link
- S** Sling Hook
- G** Grab Hook
- F** Foundry Hook
- H** Hoist Ring
- P** Plate Hook
- L** Locking Hook

FITTING AT BOTTOM OF SLING

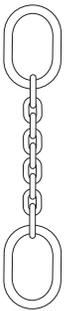
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ADJUSTER STYLE

- A** Type A Adjuster
(present on a length of chain less than 2" from collector ring)
- B** Type B Adjuster
(present on a length of chain more than 2" from collector ring)

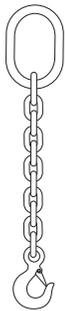
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COMMON ALLOY CHAIN SLING CONFIGURATIONS



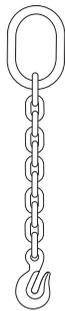
S00

Single chain sling with master link each end



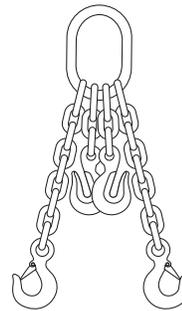
S0S

Single chain sling with master link and sling hook



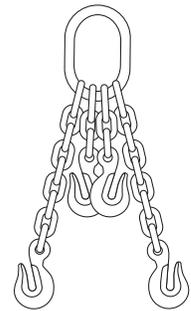
S0G

Single chain sling with master link and grab hook



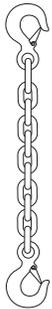
D0SA

Adjustable double chain sling with master link and sling hooks



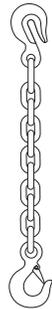
D0GA

Adjustable double chain sling with master link and grab hooks



SSS

Single chain sling with sling hook each end



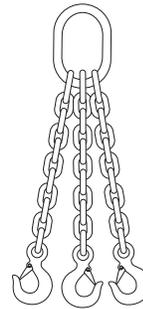
SGS

Single chain sling with sling hook and grab hook



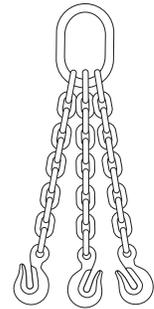
S0SA

Adjustable single chain sling with master link and sling hook



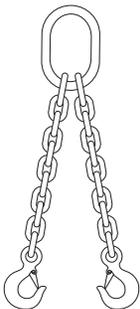
T0S

Triple chain sling with master link and sling hooks



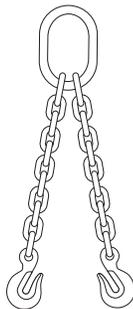
T0G

Triple chain sling with master link and grab hooks



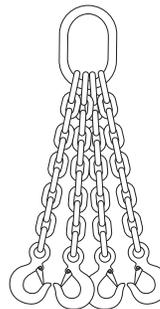
D0S

Double chain sling with master link and sling hooks



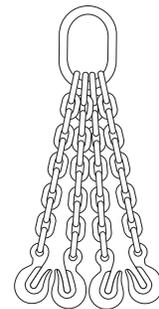
D0G

Double chain sling with master link and grab hooks



Q0S

Quadruple chain sling with master link and sling hooks



Q0G

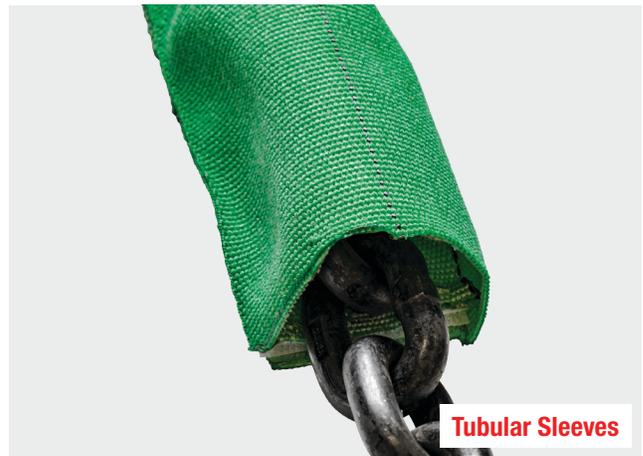
Quadruple chain sling with master link and grab hooks

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ALLOY CHAIN SLING PROTECTION

Sling protection should always be used if an alloy chain sling is going to be exposed to an edge or abrasive surface. For alloy chain slings, a tubular sleeve is common. This thin layer of padding can go around abrasive edges and soften the contact between the sling and the load.

Custom sleeves and wear pads can be made from a range of materials, including Cordura, synthetic nylon or polyester webbing, leather, felt-lined fabrics, and more, depending on your lifting need.



Good-Fit Applications

Good-fit applications for alloy chain slings include:

- Construction
- Heavy manufacturing
- Mining
- Oil & gas
- Ship building
- Steel mills

Bad-Fit Applications

Alloy steel chains are durable pieces of rigging equipment, but are heavy and less ergonomic than other slings of comparable capacity. Alloy chain slings should not be used for loads that are susceptible to crushing or loads that are highly finished and could be scratched, scuffed, or marred by a chain sling.

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HOW TO READ A MAZZELLA ALLOY CHAIN SLING TAG

Per ASME B30.9, each alloy chain sling shall be marked by the manufacturer to include:

- 1 Name or trademark of manufacturer, or if repaired, the entity performing repairs
- 2 Grade
- 3 Nominal chain size
- 4 Number of legs
- 5 Rated load for at least one hitch type and the angle upon which it is based
- 6 Length (reach)
- 7 Individual sling identification (e.g., serial number)

