CHAIN SLINGS - WELDED OR MECHANICAL ASSEMBLY

BISON GRADE 80 ALLOY CHAIN SPECIFICATIONS

Alloy Steel Chain is electrically welded alloy steel embodying the latest manufacturing technology. Alloy provides a superior chain sling with high tensile strength and excellent wear resistance. The minimum elongation at break test is 15%. The tensile strength following heat treatment exceeds all existing CSST, Government, NACM, and ASTM specification requirements.

The alloy chain and attachments used in fabricating BISON chain slings offer a design factor of a minimum of 4 to 1 when used at recommended working load limits.

Chain Size		Weight lbs./100 ft.	Working Load Limit*	
in.	mm		lbs.	kgs
7/32	5	42	2,100	950
9/32	7	71	3,500	1,590
5/16	8	89	4,500	2,040
3/8	10	144	7,100	3,200
1/2	13	236	12,000	5,400
5/8	16	380	18,100	8,200
3/4	20	556	28,300	12,900
7/8	22	735	34,200	15,500
1	25	975	47,700	21,600
1 1/4	32	1,520	72,300	32,800

***WARNING :** Never exceed working load limit. Grade 100 Alloy Chain is available for special higher working load limit applications.

TYPES OF CHAIN SLINGS

Slings are designated throughout the industry by the following symbols

FIRST SYMBOL- Basic type

S - Single Chain Sling with master link and hook, or hook each end.

C - Single Choker Chain with master link each end. No hooks.

D - Double Chain Sling with Standard master link and hooks.

T - Triple chain Sling with standard master link and hooks.

Q - Quadruple Chain Sling with standard master link and hooks.

SECOND SYMBOL-Type of master link or end link

O - Standard Oblong Master Link - Recommended for all types.

P - Pear Shaped Master Link - Available on request.

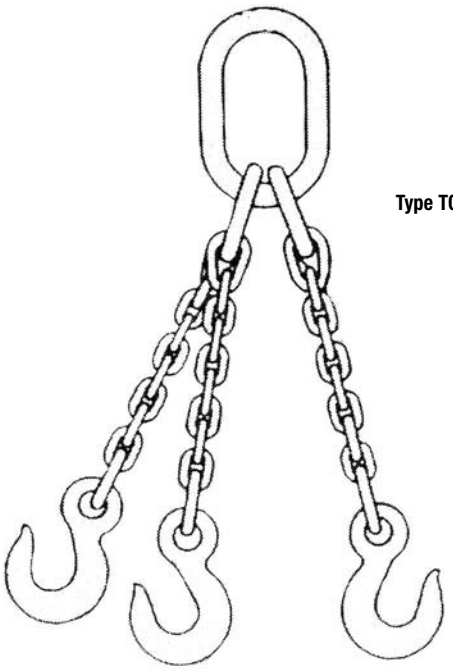
R - Master Ring - Not recommended.

THIRD SYMBOL-Type of hooks

S - Sling Hook

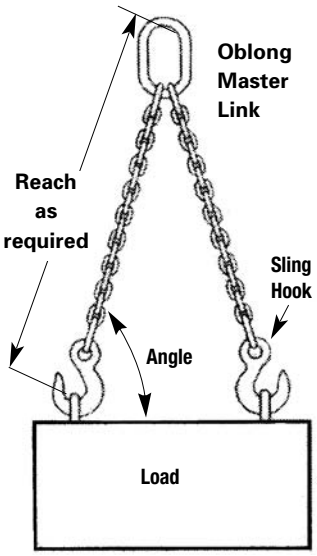
G - Grab Hook

F - Foundry Hook



Type TOS

HOW TO ORDER CHAIN SLINGS



1- Determine the maximum load to be lifted.
2- Refer to the following pages and choose the proper type of chain sling (single, double, etc.) dictated by the size, shape and weight of the load.
3- Estimate the approximate angle between a leg of the sling and the load during operation.
4- Select the proper attachment (hooks and master links) for your chain sling.
5- Determine the overall reach from bearing point on master link to bearing point on attachment.
6- Refer to the Working Load Limit Chart and to your predertermined angle of the type sling you have selected.
7- Choose the chain size which meets your requirements.
8- When entering your order be sure you give complete information as to the size, reach and attachments required.

NOTE: Angle to the load on multiple leg slings will be 60° or greater as long as the distance between lifting eyes of load is not greater than reach shown on identification tag.

INSPECTION, CARE AND PROPER USE OF CHAIN SLINGS

BISON chain slings are designed and built for rugged lasting service. As with any quality product, however, certain precautions and standards of treatment should be observed. In order to maximize useful life,the following cautions and procedures should be noted and followed.

To maximize life expectancy, A CONTINUAL INSPECTION PROGRAM MUST BE UNDERTAKEN, either at our plant or in your shop.

SLINGS AND ASSEMBLIES MUST NEVER BE USED ABOVE THE WORKING LOAD LIMIT. Overloading causes stretching and reduction in the material diameter of the links. Stretched chain must be removed from service. Refer to the charts in this catalog for individual working load limits.

Do not rest load on chain. Inspect load at contact with hooks to be sure the load is properly seated within throat opening.

Balance the load. Unbalanced loads can put too much stress on one leg of multiple chain slings.

Never bounce or jerk load when lowering or lifting, or hammer hooks or chain into position.

MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK

Nominal Chain or Coupling Link Size		Maximum Allowable Wear of Cross Sectional Diameter,
in.	mm	in.
9/32	7	0.037
3/8	10	0.052
1/2	13	0.069
5/8	16	0.084
3/4	20	0.105
7/8	22	0.116
1	26	0.137
1 1/4	32	0.169

WARNING : When using HERCULES chain slings under conditions where high temperatures exist, note the HEAT INDUCED REDUCTION in WORKING LOAD LIMIT CHART below. When alloy chain is subjected to heat, the working load limit is reduced due to temper embrittlement.

Temp. of Chain	While Heated, Apply Following Reductions to Working Load Limit.	After Cooling, Permanent Reduction to Working Load Limit
400°F	None	None
500°F	10%	10%
600°F	20%	20%
700°F	30%	30%
800°F	50%	50%
900°F	55%	55%
1000°F	60%	60%

Store chain slings in a clean, dry area, preferably by hanging on racks or walls rather than placing slings on floors where they are subject to abuse.

Never anneal alloy slings.
Return sling to one of our service centers for proper repair procedures.

Do not use in acid solutions. Consult BISON for recommendations.

Clean chain slings regularly as dirt and grit can cause wear at link bearing points.

A link-by-link inspection will afford an opportunity to discover deep gouges, distortion, spread in the throat opening of hooks and damage to master links and coupling links.

An inspection can also detect elongation of the legs themselves (i.e. reach) and should also include a link-by-link inspection to uncover individual link wear.

Note the MINIMUM ALLOWABLE LINK DIAMETER CHART ABOVE.

There is no substitute for physical proof testing.