A guide for the selection of alloy steel chain slings

DLHONLINE

Contents

Overview

This guide is designed to give an overview of alloy steel chain slings for general use. It is intended for the buyer or user, who may need some guidance on the types of load configuration and fittings available.

For more details on technical data and dimensions on the equipment featured in this guide we refer you to the manufacturer's brochures - Click Here

Why use alloy steel chain slings?

Alloy steel chain slings are one of the most durable and robust types of rigging available. Industrial lifting slings fabricated from chain offer slingers several important advantages over wire rope slings, nylon web slings, and polyester round slings.

CE

Chain slings are more temperature tolerant, cut resistant and certain options allow chain slings to be adjustable.

Alloy chain is quenched and tempered in the wire chain fabrication process. The Chain slings we make and supply meet or exceed BS EN 818-4

The steel used in alloy steel chain slings is designed to stretch and elongate to absorb shock loads.

For this reason it is very important to pay particularly close attention when measuring chain slings during the in-use inspection process as permanent elongation is indicative of serious overloading and imminent failure.

Chain Systems

As in most industries new technology is driving improvement and the lifting industry is no exception. Until recently the most common grade of alloy lifting chain used for lifting chain slings was grade 8.

Now, as most major chain manufacturers are shifting to grade 10 lifting chain it has become more cost effective. Alloy chain is now produced in three grades. The larger the grade number, the stronger the rigging chain. Current grades available are Grade 8 lifting chain, grade 10 lifting chain and grade 12 lifting chain with fittings to match.

You may ask why haven't the manufacturer's withdrawn an earlier grade when an improvement is brought out? Unlike computer technology, lifting equipment tends to last longer and users are slow to change.

Essentially, although lighter and stronger, the new stuff looks exactly the same as the old except for the markings, and people may be reluctant to mix equipment of different grades or get rid of equipment that is still perfectly useable or they are used to using. Whatever the reason, you have the choice.

Stock Chain and Components

DALE offer the Pewag Grade 10 chain sling system as standard, as the technology has brought with it an increased load capacity of 25% over an equivalent G8 product. And now at virtually the same price, the Pewag Grade10 chain sling system has already proved itself to be a 'Winner' and is favoured by many well respected names within the lifting equipment industry.

It has one of the widest ranges of any industrial lifting chain system on the market. Anyone given the choice, would automatically opt for the Pewag lifting chain sling system by answering two questions:

Which chain sling system is the most versatile? Which chain sling system is easier to use and inspect?

That being said, we can also provide the Pewag Grade 8 and the new Grade 12 chain systems. Plus complete slings or spare parts for all leading makes including:

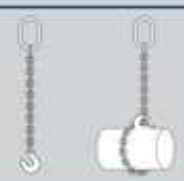
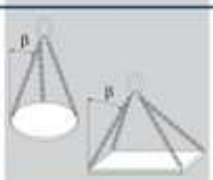
Sling Loadings

There are many chain sizes and an extensive selection of components available in the Pewag Grade 10. This enables the specifier or user of industrial lifting slings made from alloy chain a wide choice of load capacities.

Grade 10

Load Capacities

The load capacities shown are the WORKING LOAD LIMITS of the various sling types, stated according to the standard (Uniform Load) method of rating.

Safety factor 4		Single leg chain slings		2 leg chain slings				3 + 4 leg chain slings		Endless chain slings	Basket chain slings	
												
Angle of inclination		-	-	up to 45°	45°–60°	up to 45°	45°–60°	up to 45°	45°–60°	-	up to 45°	0°–45°
Load factor		1	0.8	1.4	1	1.12	0.8	2.1	1.5	1.6	1.4	2.1
Code	d	Load capacity [tonnes]										
WIN 5	5mm	1.00	0.80	1.40	1.00	1.12	0.80	2.00	1.50	1.60	1.40	2.00
WIN 6	6mm	1.40	1.12	2.00	1.40	1.60	1.12	3.00	2.12	2.24	2.00	3.00
WIN 7	7mm	1.90	1.50	2.65	1.90	2.12	1.50	4.00	2.80	3.00	2.65	4.00
WIN 8	8mm	2.50	2.00	3.55	2.50	2.80	2.00	5.30	3.75	4.00	3.55	5.30
WIN 10	10mm	4.00	3.15	5.60	4.00	4.25	3.15	8.00	6.00	6.30	5.60	8.00
WIN 13	13mm	6.70	5.30	9.50	6.70	7.50	5.30	14.00	10.00	10.60	9.50	14.00
WIN 16	16mm	10.00	8.00	14.00	10.00	11.20	8.00	21.20	15.00	16.00	14.00	21.20
WIN 19	19mm	14.00	11.20	20.00	14.00	16.00	11.20	30.00	21.20	22.40	20.00	30.00
WIN 22	22mm	19.00	15.00	26.50	19.00	21.20	15.00	40.00	28.00	30.00	26.50	40.00
WIN 26	26mm	26.50	21.20	37.50	26.50	30.00	21.20	56.00	40.00	42.50	37.50	56.00
Ni 26 G8	26mm	21.20	16.95	30.00	21.20	23.70	16.95	45.00	31.50	33.50	30.00	45.00
WIN 32	32mm	40.00	31.50	56.00	40.00	45.00	31.50	85.00	60.00	63.00	56.00	85.00
Ni 32 G8	32mm	31.50	25.20	45.00	31.50	35.20	25.20	67.00	47.50	50.00	45.00	67.00

If the chain slings are used in severe conditions (e.g. high temperature, asymmetric load distribution, edge load, impact/shock loads) the maximum load capacity values in the table must be reduced by the load factors below. Please also note the user information on this topic.

For more information on loadings, please refer to our online brochures Click Here

Identification

Alloy steel chain and components carry a grade mark. E.g. For Grade 10 this is at 300 mm intervals along the chain. Components have an embossed grade mark and manufacturers name or mark and batch identification number.

A metal chain tag with grade, chain size and angle rated working load limit is attached to all chain slings supplied

All necessary technical data is attached on the chain ID Tag. For easier identification of the chain grade and quality a seperate ID Tag is used.

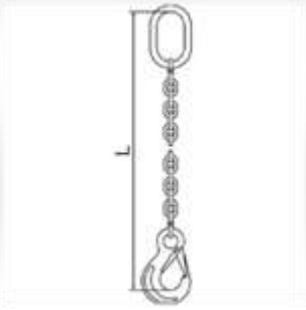
pewag winner 200

Certification

Standards that govern the manufacture of chain and components require that either that the final assembly or all the individual components used in the manufacture of chain slings must be proof tested and certified.

As assemblers and repairers of complete chain slings and components we provide a Declaration of Conformity to these standards and or a Report of a Thorough Examination.

Chain Sling Configurations



Single Leg Chain Sling

A length of chain with fittings on each end used for lifting in a vertical hitch. This sling chain can be combined with unlimited fittings to suit your application.

Single Leg Collar Chain

A length of chain with clevis reeving links or standard master links on each end. Used as a temporary hitch.

Double Leg Chain Sling

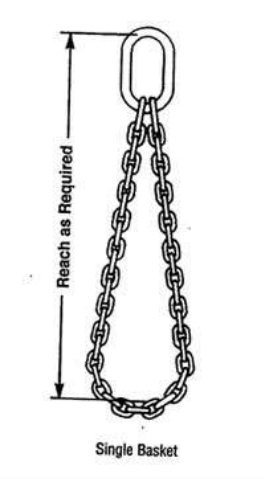
Two single leg chain slings joined by an oblong at the top. This lifting chain is rated for both legs to be used simultaneously at a 45 or 60 degree angle.

3 Leg Chain Sling

Three single leg chain slings joined by a special oblong sub-assembly at the top of the lifting chains. Rated for lifting when legs are at a 45 or 60 degree angles from the object.

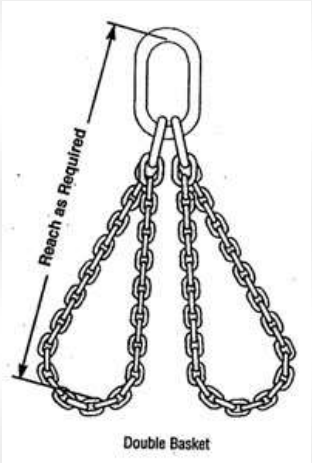
4 Leg Chain Sling

Four single leg chain sling assemblies joined by a sub-assembly at the top of the rigging chain. Rated to lift using all 4 legs at 45 or 60 degree angles.



Basket Slings

This lifting chain is a loop of chain with both ends connected by an oblong at the top. This rigging chain is used to loop under the object to cradle and lift like a “basket”.



Double Basket Sling

Two loops of chain with all four sling chain ends connected attached to an oblong. Used to cradle a load with the sling loops spread apart for additional balance.

Single Adjustable Chain Sling

An overhead lifting chain with one single leg sling and an additional shorter leg with a grab hook. This allows you to slide the longer lifting chain’s links into the grab hook to shorten the length when needed.

Double Adjustable Chain Sling

This double leg chain sling has two additional shorter legs with grab hooks. Links from the longer sling chain can slide into the grab hooks to adjust the primary lifting chains to the appropriate length for your load.

Triple Adjustable Chain Sling

This three leg chain sling has three additional shorter legs with grab hooks. Links from the longer sling chain can slide into the grab hooks to adjust the primary lifting chains to the appropriate length for your load

Quad Adjustable Chain Sling

This four leg chain sling has four additional shorter legs with grab hooks. Links from the longer sling chain can slide into the grab hooks to adjust the primary lifting chains to the appropriate length for your load

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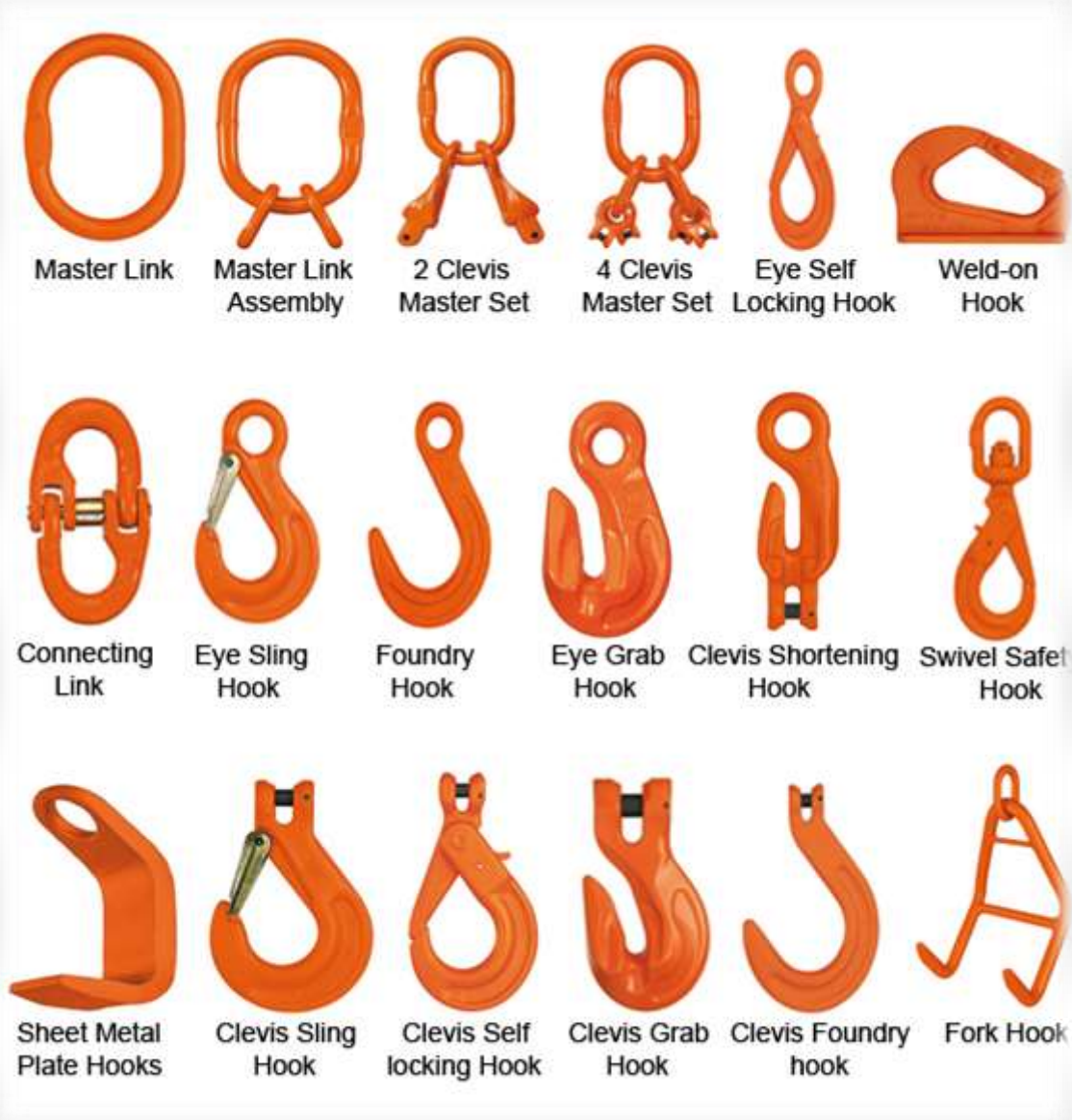
Endless Chain

Simply an endless loop of chain used for lifting. No master link is included.

For more chain sling configurations contact or sales team to discuss you exact requirements

Sling Components (Pewag Grade 10)



There are many innovative fittings that make up the Pewag chain sling system.

Top master links are available in: Standard and Enlarged oblong master links areused for 1 and 2 leg chain slings. Reeving links for collar chains. standard and enlarged oblong quad assemblies are used for 3 and 4 leg chain slings.

Our standard supplied slings use Pewag Connex connecting links to join the chain to the master links, however, where required, special chain connectors are available.

We can also provide special combined master links and connectors. Where the weight of the sling and or a reduced number of components is more appropriate to the application,

As standard, Pewag PW grab hooks are provided for sling length and C of G adjustment.

On request, other types of chain shorteners can be provided

Pewag hooks are also readily available as the fitting that connects the chain sling to the load.

KHSW sling hooks with spring safety catch are one of the most popular fittings.

The KGCH ‘C’ hook is available for construction site applications.

But this has largely been replaced by the internationally accepted KLHW self-locking hook which features a protected grip latch that locks in the hook point.

WLHW swivel hooks are also available. The Swivel eye features a grip latch and a bushing that allows hook rotation BEFORE the load is applied.

The WLHBW clevis swivel eye grip latch hook has a ball bearing that allows the hook to swivel under load.

The KFW clevis foundry hook and GKHSW wide bowl clevis sling hook are also a very popular chain sling hooks, both have a larger throat opening.

The KSCHW Clevis shackle with bolt and nut pin is widely used for permanently connections, typically for direct connect to a spreader beam etc.

Pewag components also enable the provision of endless chains, single basket chain slings and double basket chain sling assemblies that are non-adjustable or adjustable from one side and/or adjustable from both sides

Brochures

You can view more information for all our chain sling ranges, including special applications, in our online flip page brochures online click here

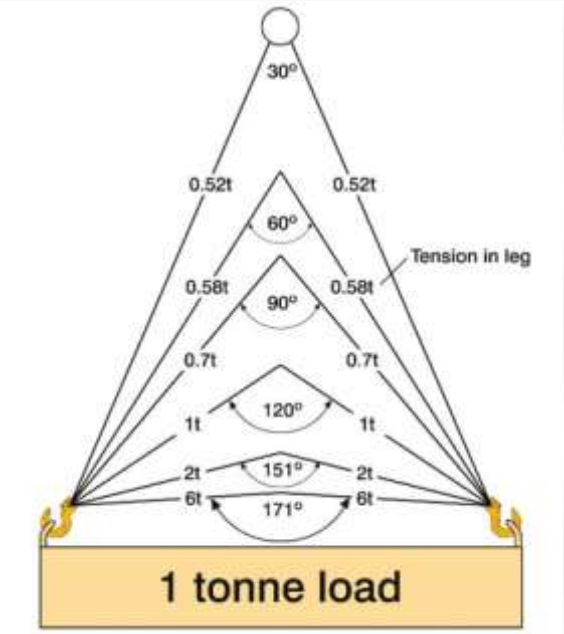
Our go directly to the brochure for the grade of alloy chain sling you require below:

Grade 8

Grade 10

Grade 12

Safety in-use



It is important to stress that if improperly used, chain slings can be damaged and can fail resulting in injury, death and/or property damage. It is extremely important that sling users are trained in proper use and inspection techniques.

We offer training opportunities at our Learning Centre in Manchester and encourage all sling users to read and understand the warnings that accompany all our lifting gear, hoisting equipment and/or industrial lifting slings.

As members of the Lifting Equipment Engineers Association (LEEA) we provide the LEEA Safe Use Instructions:

PDF DOWNLOAD PDF Adobe

The LEEA Slingers Pocket Guide an inexpensive and valuable resource for all users of lifting equipment.

Contact our sales staff to order…

Chain Sling Pricing

Call our sales staff and we will provide you with the specification and prices for your sling requirements.

Our chain slings are custom made to meet your specifications, therefore all chain slings are non-returnable.

Repairs

And please don't forget we can also undertake LOLER inspections and or cleaning and repairs of your existing chain slings. Contact our sales team to arrange.

Before

After

All part of the service…

Contact Us

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