## LIFTING SLING FITTINGS

# FOR GRADE 8 CHAIN



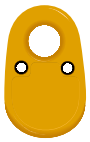
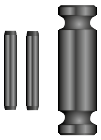
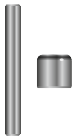
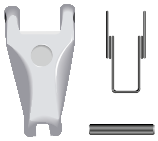
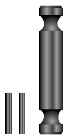
### Applications

**Green Pin® grade 8 lifting sling fittings enable the assembly of a complete sling from the top master link to the hooks.**

For specific product information the following product groups can be found on the mentioned page:

| Top links | | | | | |
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| **Connectors** | | | | | |
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# Range

Green Pin® supplies a range of grade 8 lifting sling fittings for 5 mm to 32 mm chain diameters.

Below lifting sling fittings can be found:
- Links, e.g. Green Pin® Master Link, Connecting Link
- Chain, e.g. Green Pin® Lifting Chain EN818-2 Grade 8
- Swivel, e.g. Green Pin® Needle Bearing Swivel Eye-Eye
- Hooks, e.g. Green Pin® Sling Hook, Self Locking Hook

# Design

Connecting links and lifting sling fittings with clevis connection are supplied unassembled and ready for immediate use. Assembly is quick and easy.
Master links, eye hooks and eye swivels are generally supplied with a flat part for easy connection to the sling or for easy assembly with the omega link.

There are different types of hooks with specific designs to suit various purposes.

### Hooks attachment options to sling:
- Hook with an eye at the top
- Hook with a swivel eye at the top
- Hook with a clevis at the top
- Hook with a clevis swivel eye at the top

### Hook designs:
- Self-locking hook
- Compact self-locking hook
- Sling hook
- Grab hook
- Foundry hook
- Excavator hook
- Pipe line hook

### Clevis fittings for hoist chains:
- Specific load pins designed for 5, 7 and 9 mm hoist chains available on request.
- Specific load pins can be mounted only on Green Pin chain fittings: CO omega links, MP pear shape links, Green Pin® clevis sling hooks and Green Pin® clevis self locking hooks.
- WLL of the fitting must be decreased according to the hoist chain WLL. Please refer to the WLL indicated by the hoist chain manufacturer. The lowest WLL has to be considered.
- These specific load pins must be exclusively used with a hoist chain.

### Self locking hooks GK vs XL:
- The GK hook is more compact/smaller than the self locking XL hook at the equivalent chain diameter.
- The GK hook is lighter than the XL hook at the equivalent chain diameter.

Chain slings can be shortened by using a grab hook or a shortening clutch.

### Grade 8 lifting sling fittings are generally marked with:
- manufacturer's symbol - e.g. GP
- size in mm and inch - e.g. 13 and $^1/_2$"
- traceability code - e.g. HA
- steel grade - e.g. 8
- item code (specific products) - e.g. MJ
- origin (specific products) - e.g. France
- DGUV certified (specific products) - e.g. H94

As prescribed by the Machinery Directive 2006/42/EC our hooks, master links and connecting links are supplied with a CE Declaration of Incorporation (CE IIB), stating the products are in compliance with the requirements of the machinery directive. These products do not have a CE marking, since CE markings are only to be provided for machines, whereas hooks, master links and connecting links are components of machines, and not machines themselves. Providing components with a CE marking is an incorrect interpretation of the Machinery Directive.

Machinery definition according to Machinery Directive 2006/42/EC – Article 2 – definitions (a) and Machinery Regulation 2023/1230/EU:

"An assembly of linked parts or components, at least one of which moves and which are joined together, intended for lifting loads and whose only power source is directly applied human effort."

"The maximum working load shall be prominently marked on the lifting machinery. The marking shall be legible, indelible and in an un-coded form. Where the maximum working load depends on the configuration of the lifting machinery, each operating position shall be provided with a load plate indicating, preferably in diagrammatic form or by means of tables, the working load permitted for each configuration."

This definition means that a sling is a Machine and that the hooks, master links and connecting links are not considered as a machine themselves, but as components of a machine. The CE and the WLL markings in consequence, are mandatory only on the assembled sling tag as the sling is the machine according to MD 2006/42/EC. This rule is still valid with the new Machine Regulation 2023/1230 which will replace the MD cited previously within early 2027.

## Finish

All grade 8 lifting sling fittings are painted. Grade 8 lifting sling fittings under the Green Pin® brand will be painted white.

Some products are mentioned as painted white*, but could be for some sizes delivered with a yellow or red finish. The P-6714A, P-6703A and P-6731 hooks are painted red.

## Certification

Specific details of certificate availability can be found on each product page. Please verify your certification requirements with Green Pin® at the time of order.

## Instructions for use

Grade 8 lifting sling fittings, should be inspected before use to ensure that:
- all markings are legible.
- all lifting sling fittings of the complete sling are made of the same steel grade 8.
- a lifting sling fitting with the correct WLL has been selected with respect to the sling design. For further details, refer to the EN 818-4 and ASME B30.9 standard for Chain Slings.
- the pin, bolt, nut, bush or any other locking system cannot move, or vibrate out of position.
- lifting sling fittings are free from nicks, gouges, and cracks.
- lifting sling fittings are not heat treated, modified, repaired or reshaped by machining or bent. (This may affect their Working Load Limit).
- lifting sling fittings items are not distorted or unduly worn. (Maximum allowable wear is 10 % of the original diameter)
- the latch of the hook(s) is present and functional.
- the hook is never side-, tip- or back- loaded.
- the hook is supporting the load correctly.
- the latch should not be supporting any load.
- only use the lifting sling fittings for in-line lifting.

Grade 8 lifting sling fittings must be regularly inspected in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by issues such as wear, misuse and overloading, which may lead to deformation and alteration of the material structure. Inspection should take place at least every six months (follow the local rules in the country of use), and more frequently when the links are used in severe operating conditions.

## Testing

Generally load rated products are proof load and/or MPI tested.
For specific information on certificates we refer to the separate paragraph on certification.

Green Pin® grade 8 lifting sling fittings are proof load tested at the following loads:

| for chain diameter | Working Load Limit (WLL) | Proofload (PL) |
|---|---|---|
| mm | t | t |
| 6 | 1.12 | 2.8 |
| 7 | 1.57 | 3.93 |
| 8 | 2 | 5 |
| 10 | 3.2 | 8 |
| 13 | 5.4 | 13.5 |
| 16 | 8.2 | 20.5 |
| 20 | 12.8 | 32 |
| 22 | 15.5 | 38.75 |
| 26 | 21.6 | 54 |
| 32 | 32.8 | 82 |

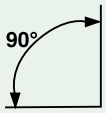
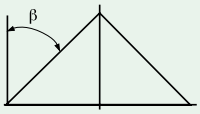
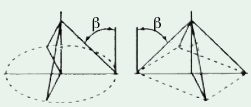
### Temperature

If extreme temperature situations occur, the following load reductions must be taken into account:

| Temperature °Celsius | Temperature °Fahrenheit | Reduction for elevated temperatures New Working Load Limit |
|---|---|---|
| -40 °C up to 200 °C | -40 °F up to 392 °F | 100 % of original WLL |
| 200 - 300 °C | 392 - 572 °F | 90 % of original WLL |
| 300 - 400 °C | 572 - 752 °F | 75 % of original WLL |
| > 400 °C | > 752 °F | not allowed |

Note: P-6714A, P-6703A and P-6731 temperature range -20 °C up to +200 °C cannot be used above +200 °C.

### Working Load Limit table for Grade 8 Chain Slings to EN 818-4

| Chain Ø |  |  |  |  | | |
|---|---|---|---|---|---|---|
| | 1 leg sling | 2 leg sling | | 3 or 4 leg sling | | Endless Sling |
| | 90° | 0°<ß ≤ 45° | 45°<ß ≤ 60° | 0°<ß ≤ 45° | 45°<ß ≤ 60° | |
| | | Safety factor 1.4 | Safety factor 1.0 | Safety factor 2.1 | Safety factor 1.5 | Safety factor 1.6 |
| mm | t | t | t | t | t | t |
| 6 | 1.12 | 1.60 | 1.12 | 2.36 | 1.70 | 1.80 |
| 7 | 1.50 | 2.12 | 1.50 | 3.15 | 2.24 | 2.50 |
| 8 | 2.00 | 2.80 | 2.00 | 4.25 | 3.00 | 3.15 |
| 10 | 3.15 | 4.25 | 3.15 | 6.70 | 4.75 | 5.00 |
| 13 | 5.30 | 7.50 | 5.30 | 11.20 | 8.00 | 8.50 |
| 16 | 8.00 | 11.20 | 8.00 | 17.00 | 11.80 | 12.50 |
| 20 | 12.50 | 17.00 | 12.50 | 26.50 | 19.00 | 20.00 |
| 22 | 15.00 | 21.20 | 15.00 | 31.50 | 22.40 | 23.60 |
| 26 | 21.20 | 30.00 | 21.20 | 45.00 | 31.50 | 33.50 |
| 32 | 31.50 | 45.00 | 31.50 | 67.00 | 47.50 | 50.00 |

When using multi leg slings make sure that the angles between the lifting points and sling legs are within the range marked on the sling. The angle ß, which is the angle between the sling leg and the vertical, should never exceed 60°.

## Symmetry of loading

The WLL values mentioned are based on symmetrical loading of the sling. This means that when the load is lifted, the sling legs are symmetrically distributed in the plane and all legs of the sling have the same angle to the vertical. For more details on chain slings refer to EN 818-6:2000+A1:2008.

The loading can be assumed to be symmetric if all the following conditions are met:

- the load is less than 80% of marked WLL, and
- sling leg angles to the vertical are all more than 15°, and
- sling leg angles to the vertical are all within 15° to each other, and
- in the case of three- and four-leg slings, the plane angles are within 15° of each other.

If one of the above parameters is not met, the loading should be considered to be asymmetric, and the lift should be referred to a competent engineer to establish the safe rating for the sling. Alternatively, in the case of asymmetric loading, the sling should be derated to half the marked WLL. If the load tends to tilt during the lift, it should be lowered, and the attachments changed by repositioning the attachment points or by using compatible shortening devices. The safety factor of 4 on the individual components is designed for safety only. Never exceed the indicated WLL.

Use the below reduction table if a multi leg sling is not used for the purpose for which it has been designed, for example for a lifting operation with fewer legs than the number of legs of the sling:

| Types of chain sling | Number of legs used | Factor to apply to marked WLL |
|---|---|---|
| Two-leg | 1 | 1/2 |
| Three- and four-leg | 2 | 2/3 |
| Three- and four-leg | 1 | 1/3 |

## Examples of do's and don'ts



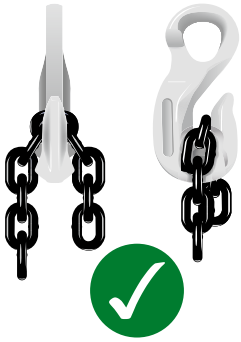
A hook cannot be used as a clamp.



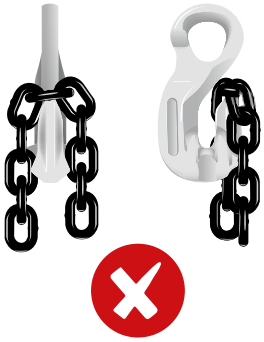
Don't use hooks without latch, as an exception is the foundry hook.



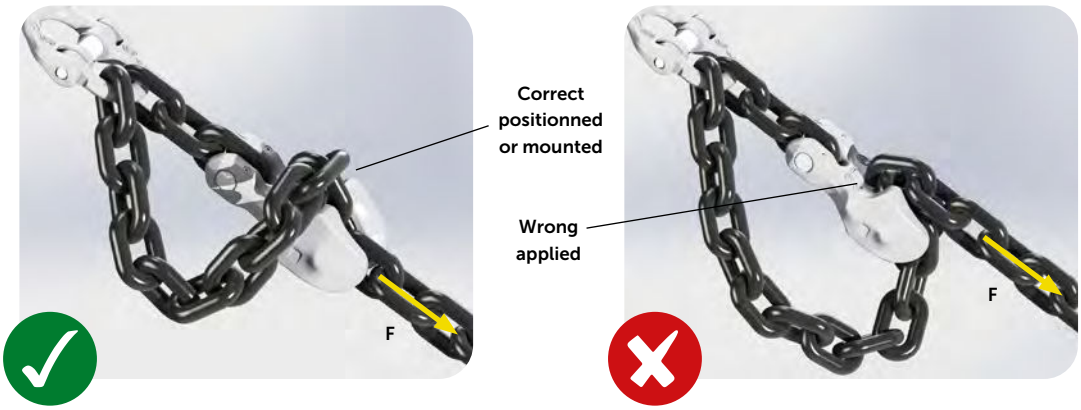
Hook body and latch may not be bent. This is a sign the hook is overloaded.



Position the chain properly in the throat.



Do not tip load hooks.




Load (F) bearing chain always needs to be at the bottom of the shortening clutch.