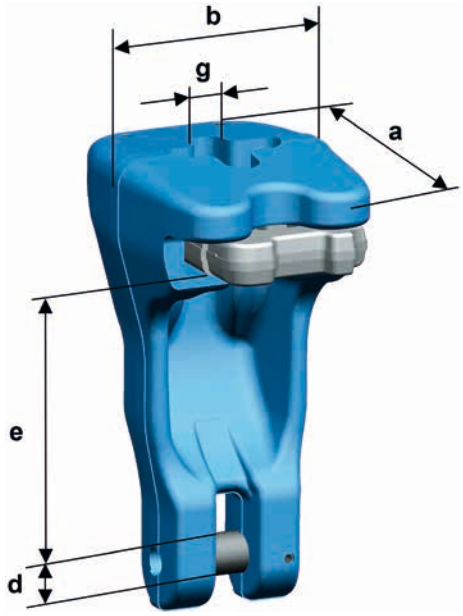
Translation of the original operating manual

pewag winner pro

ISWP Integrated shortening element

The ISWP is an integrated shortening element in grade 12, suitable for the shortening of chains and the forming of slings that must not tighten. The special design of the chain contact fosters the ideal interplay between the chain and the shortening element. The ISWP may not be combined with other grades, such as the KWB G12 chain SUN ALLOY.
The ISWP integrated shortening element complies with Machinery Directive 2006/42/EC and may only be used in accordance with the Declaration of Incorporation and once the operating manual has been fully read and understood.

This operating manual must be made available to users until the ISWP integrated shortening elements are removed from service. This operating manual is subject to an ongoing improvement process and is therefore only valid in its most recent version, available for download at www.pewag.com.



Code	Load capacity [kg]	e [mm]	a [mm]	b [mm]	d [mm]	g [mm]	Weight [kg/unit]
ISWP 10	5,000	100	99	78	14	12	2.18

Designated use

Purpose: ISWP integrated shortening elements are used as shortening hooks for lifting chains of the same nominal size or the formation of slings that must not tighten.
A chain link of the same nominal size and grade is hooked into the cross-slit on the shortening element, thus creating a variable, permanently load-bearing chain segment.
The product ensures the optimal interplay between the variable load- bearing chain segment and the permanently load-bearing segment.

Load: Only in a longitudinal direction in the cross-slit area (variable load-bearing chain segment) and further down in the clevis area (permanently load-bearing chain segment).

The ISWP integrated shortening element must be free to align itself in the load direction and must not be exposed to bending stress or edge loading. Even when shortened, the load capacity is not reduced. Please consult the tables below for maximum load capacities.

Normal operating temperature:
pewag winner pro 200: -40 °C to 200 °C
pewag winner pro 300: -60 °C to 200 °C
For possible deviations from normal operating temperatures, please consult the information texts for the individual components.

Shocks: Components must not be subjected to shock-loading! In case of impacts, restrictions on use apply.

Users: The components may only be used by properly trained personnel. Prior to each use, components must be inspected by the user for visible defects.

Available spare parts: SIWP safety catch set, spring set, SSWP stopper set, KBSWP connecting pin and tensioning sleeve in the respective dimension.

Restrictions on use

ISWP integrated shorteners are not suitable for use with food products, cosmetic or pharmaceutical products or with strongly corrosive substances (e.g. acids, chemicals, sewage water...). They must not be exposed to the vapours of acids and chemicals. ISWP integrated shorteners are not suitable for the transport of persons or for use in explosion-protected areas. The information contained in this operating manual is based on the assumption that no particularly hazardous conditions apply. Such conditions include offshore use, the lifting of persons and the lifting of potentially hazardous loads such as liquid metals or nuclear material. In such cases, please contact pewag to determine the permissibility of the application and the degree of danger.

Assembly instructions – General

Installation may only be carried out by a qualified person who has the necessary skills and knowledge. pewag winner pro G12 sling components are assembled into sling chains using a coupling system or Connex connecting links with other pewag sling components G12, in particular pewag winner pro 300 or winner pro 200 chains (consider country-specific regulations!). Only pewag original parts (clevis bolts and safety pin) may be used for assembly. For assembly, see the chapter **„Assembly instructions for clevis system“.** The assignment to the chain dimension is determined by the code and quality class with which the components are also marked. However, they must not be used to adjust or repair pewag winner chain suspensions (quality class 10).
The overall system in which the components are installed must meet the requirements of Directive 2006/42/EC.
Mount only faultless parts. Components with damage must not be installed, used components must be checked according to the following chapter „Maintenance, Inspection, Repair“.

Temperature range	-60 °C to 200 °C	above 200 °C to 300 °C	above 300 °C
Load factor	1	0.6	not permitted
Edge loading*	slight impacts created, for example, when accelerating during the lifting or lowering movement	medium impacts created, for example, when the chain is loaded but it slips while adjusting to the shape of the load	strong impacts created, for example, when the load falls onto an unloaded chain
Load factor	1	0.7	not permitted

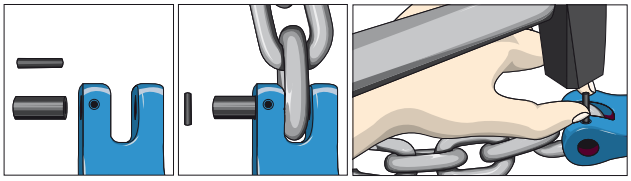
* The use at temperatures below -60 °C and above 300 °C is forbidden!

Improper use

ISWP integrated shorteners may not be used in conditions other than those described in the sections Designated use and Restrictions on use. Transverse or flexural loading is not permitted. Surface treatments that may damage the material (such as hot galvanizing, electro-galvanizing etc.), heat treatments, welding, drilling etc. are not permitted.

Assembly instructions for clevis system

Spare parts used:
Clevis load pin Type KBSWP



ISWP assembly instructions for the permanently load-bearing chain segment

The permanently load bearing chain segment (see fig. 1) is adjusted at the end of the chain sling using the shortening element. For assembly, see the section **Assembly instructions for clevis system.**

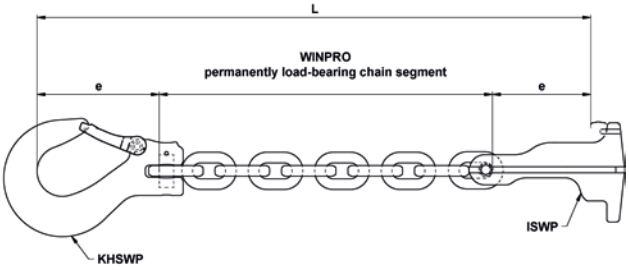


Figure 1

ISWP Assembly instructions for the variable load-bearing chain segment

Assembly must be performed by a competent person who has all the required knowledge and skills. pewag winner pro ISWP integrated shortening elements are linked directly to the chain strand via the cross slit. The safety latch comes with a two-step mechanism. Depending on the system, the trigger of the safety latch system is activated from left to right or from right to left. The factory setting for the trigger is for left-to-right activation. As the safety latch is based on a two-step system, the safety latch is activated in a two-step process. As a first step, the trigger is pushed from left to right. As a second step, the slider is pushed towards the centre of the cross area.
By holding down the safety latch, the chain strand may be threaded through the cross and the ISWP may be positioned to obtain the desired length (see fig. 2-5).

Two-step mechanism:

Figure 2

Figure 3

Figure 4

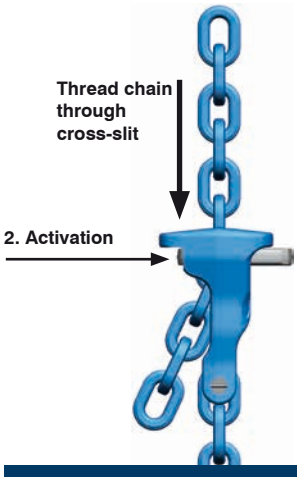


Figure 5

When you let go, the safety latch snaps into the locked position. If the green marking is fully visible, the trigger of the safety latch and the chain linked to the ISWP are fully locked (see fig. 6). If the green marking is not fully visible, the lifting operation may not be performed (see fig. 7).
Repeat the two- step mechanism and ensure that the green marking is fully visible, thus ensuring that the shortening element is locked in place. If the ISWP shortening element ceases to function properly due to extreme dirt build-up, the product may be cleaned by a competent person.
For assembly/disassembly by a competent person, please refer to the assembly instruction of the safety latch (included in the delivery).

Figure 6

Figure 7

Next, the stopper set must be placed at the end of the variable, non-load-bearing chain segment. Depending on the chain leg position, attach the stopper to the last but one or last but two chain links (see fig. 8 to 10). Fig 11 shows an incorrectly mounted stopper set. Now, place the snap hook at the end of the variable non-load-bearing chain segment and hang the snap hook back into the upper part of the variable load-bearing chain segment. The variable non-load-bearing chain segment (loop) must not be placed under load! (Fig. 13). In addition, the stopper set prevents the shortening element from sliding through the chain strand in case of incorrect use of the safety latch.
Note: The stopper set with snap hook, nut and screw must not be placed under load!

Figure 8

Figure 9

Correct assembly of the stopper set:

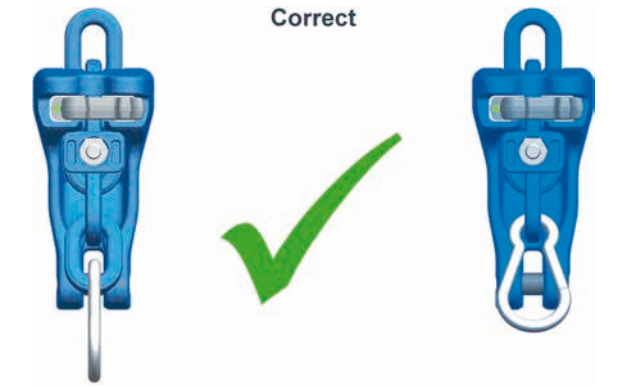


Figure 10 – Correct assembly of the stopper set

Incorrect assembly of the stopper set:

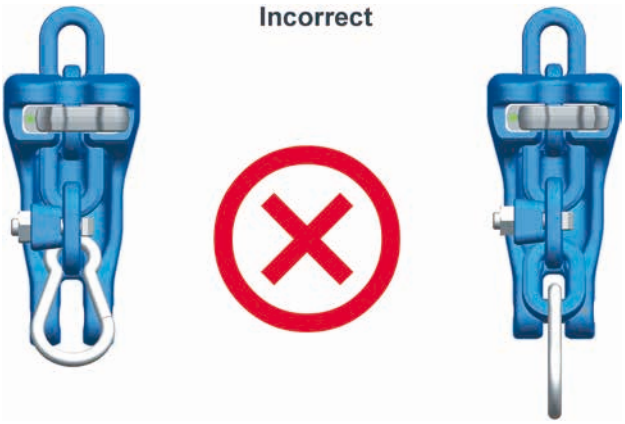


Figure 11 – Incorrect assembly of the stopper set

Fig. 12 shows the shortening element in the chain sling when not shortened.
Fig. 13 shows the shortening element in the chain sling when shortened.

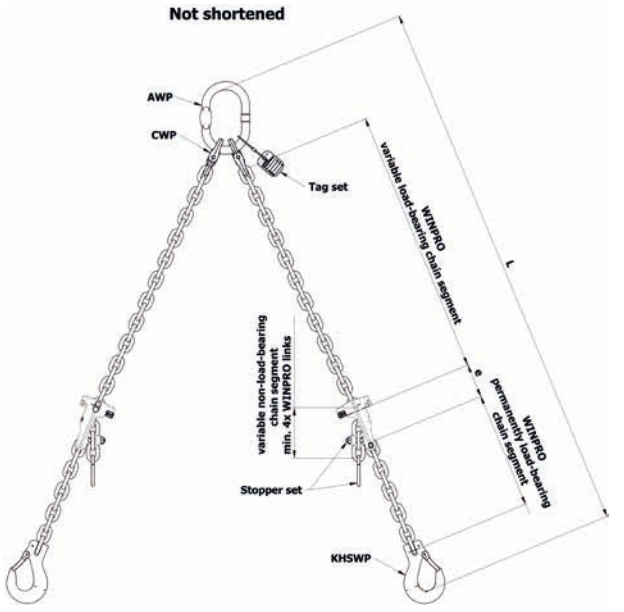


Figure 12 – In not shortened situation

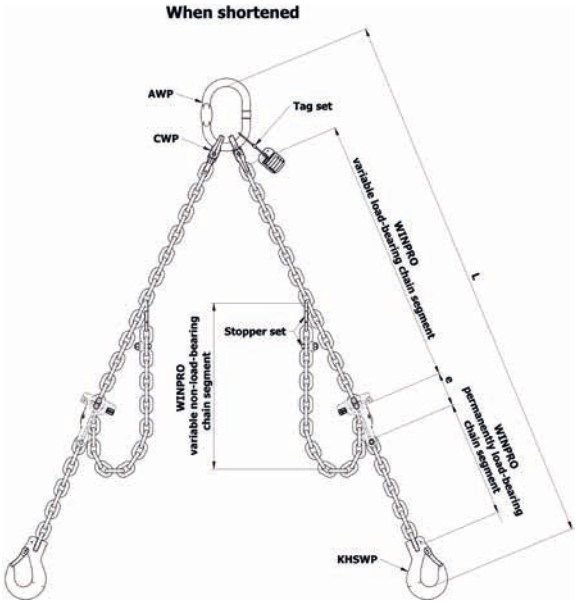


Figure 13 – In shortened situation

To hang it back, mount the snap hook on top of the variable load-bearing chain segment:

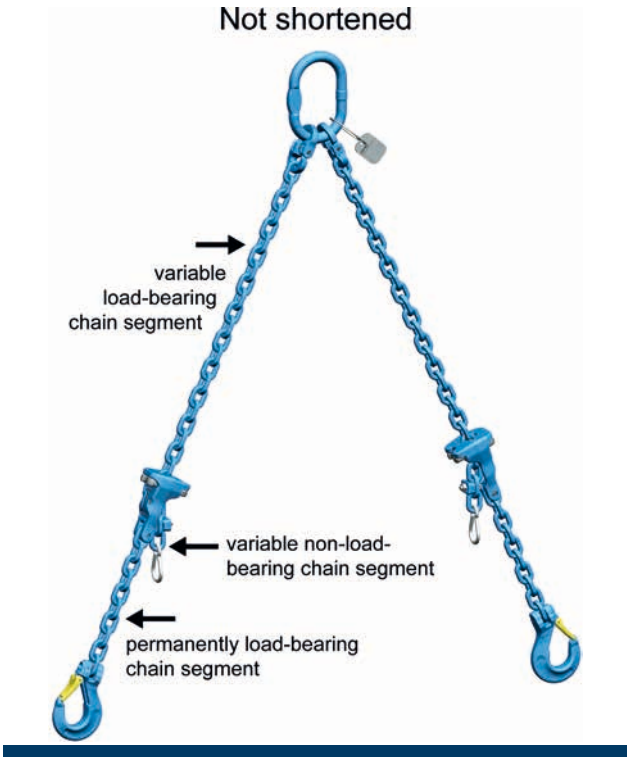


Figure 14 – Hanging back in not shortened situation

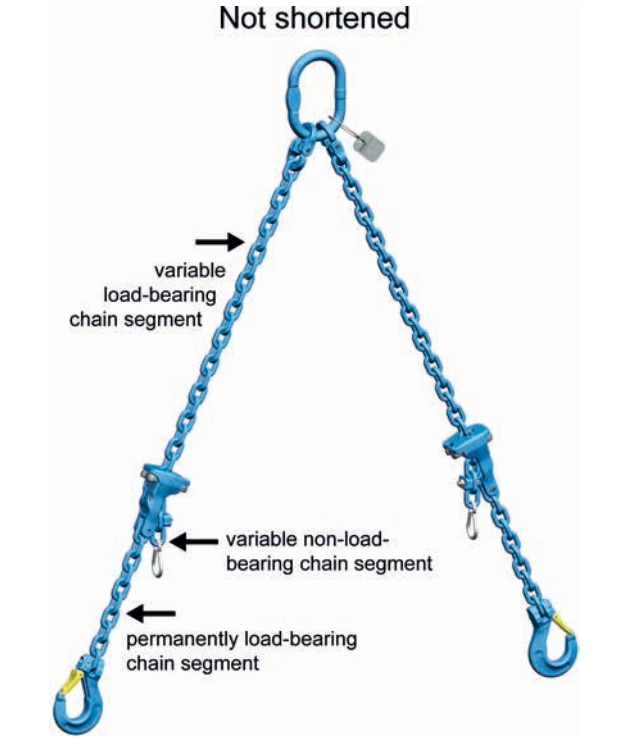


Figure 15 – Hanging back in shortened situation

Note: The variable load-bearing chain segment and the permanently load-bearing segment are the load-bearing chain segments within the chain sling. The variable non-load-bearing chain segment (loop) and the snap hook must not be placed under load! The stopper set with snap hook, nut and screw must not be placed under load!
Shortening: Please note that a minimum of 4 WINPRO chain links (non-load-bearing) must be present at the end of the process to ensure that the attached stopper set is not placed under load!

Protective measures to be taken by the user

Always wear safety gloves. If conditions apply that entail restrictions on use, always use the load capacity reduction factors as indicated in this manual to ensure maximum safety!

Remaining risks

Overloading caused by failure to comply with the maximum load capacity or failure to reduce load capacity due to temperature, asymmetry, edge or shock-loading may cause components to fail, as may incorrect assembly, improper use with chemicals, food products, cosmetic or pharmaceutical products, exceeding the maximum angle of inclination, strong vibrations in combination with high loads, transverse loading or the use of non-inspected components.
Such failure may cause loads to fall, constituting a direct or indirect danger to the physical condition or health of persons who are present within the hazard area of lifting devices.

Procedure in case of accidents or faults

In case of blocked safety catches or if individual components become stuck on the load, do not use excessive force to avoid damage. Lower the load and resolve the fault using manual force. If individual components show signs of deformation (e.g. due to overloading) or in case of other unusual events, the lifting chain must be removed from service and handed to a competent person for inspection or repair.

Maintenance, inspections and repairs

Maintenance: Components must be cleaned regularly.
Inspections: Components must always be inspected in a clean condition, free from oil, dirt and rust. Paint is only admissible if it does not obstruct the correct evaluation of the component state. Cleaning procedures that cause embrittlement of the material, overheating (e.g. flame-cleaning), abrasion (e.g. blasting) etc. are not permitted. Cracks or other defects must not be covered up during cleaning. Prior to each use, components must be inspected by the user for visible defects. They must be inspected by a

competent person at least once a year. Please note that this interval may be shortened due to prevalent conditions of use, for instance frequent use at maximum load capacity or when restrictions on use apply.
A crack test must be performed every 2 years. This may be done in several ways: loading with 2-fold load capacity, followed by visual inspection, dye penetrant inspection, magnetic surface crack testing (magnetic particle testing).

Discard criteria: If one or several of the following criteria apply, chains and components must be removed from service immediately:
- Breaking.
- Illegible markings.
- Deformed components or chain.
- Cuts, notches, grooves, surface cracks: These defects may cause sudden breakage, in particular if running across the direction of pull!
- In case of wear or chemical removal of material (e.g. pitting corrosion), discolouration due to excessive heat exposure, signs of subsequent welding.
- Missing or malfunctioning safety mechanism and signs of widening of the hooks. The jaw opening must not exceed 10 % of the nominal value! An open safety catch also indicates that the hook is overloaded.
- In case of doubt regarding the functioning and/or safety of components.

Maximum admissible dimensional change based on the nominal dimension:

Designation	Dimension	Admissible deviation
ISWP	e	+5 %
Clevis bolts	d	-10 %

Repairs: Repairs may only be performed by competent persons who have the necessary skills and knowledge. Small cuts, notches and grooves may be removed by careful grinding or filing. After the repair, the treated area must merge smoothly with the surrounding material, without abrupt changes of the cross-section. Repair works must not reduce the dimension of the area by more than 10 % – discard criteria must not apply after the repair. Bent components must not be welded, subjected to heat treatments or straightened. Always keep records of inspections and repair works and ensure that these are stored throughout the service life of the components.

Storage

ISWP integrated shortener must be stored clean, dry and protected against corrosion, e.g. lightly oiled. Components must not be exposed to chemical, thermal or mechanical influences during storage.

Declaration of incorporation

in accordance with Appendix II B of Machinery Directive 2006/42/EC for lifting accessories:

Please note that the products described in this operating manual are intended for incorporation into lifting devices according to Machinery Directive 2006/42/EC.
Products must not be used until it has been declared that the lifting device in which they were incorporated corresponds to the provisions of the Directive.
Prior to using this product for the first time, the operating manual must have been read and understood in full.
Any modifications carried out on the product that were not authorised in advance by pewag shall result in these declarations losing their validity.

The following essential health and safety requirements according to Appendix I of the Directive apply and shall be complied with: 1.1.3, 1.3.4, 1.5.4, 4.1.2.3, 4.1.2.5, 4.3, 4.4.1

The special technical documents according to Appendix VII, part B, have been compiled and shall, further to a substantiated request from a competent national authority, be made available in electronic form.

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