

# pewag winner lashing system in G10

## Lashing





# Content

## The pewag product range – tailor-made with safety in mind

For pewag, the focus always lies on service, quality and tradition. For centuries, the company has been continuously expanding its expertise in the field of chain systems and today it is among the global leaders in the industry.

Innovation, safety and sustainability are key features of all our products.

Our lifting technology and load-securing chain system in G10 is currently the most comprehensive range on the market and customers all over the world appreciate the fact that we go far beyond standard market requirements. Application-specific, customised solutions and a great eye for details are part and parcel of the pewag philosophy – in the past, in the present, and in future.

### pewag group

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# Welcome to the pewag group

**We are an internationally operating group of companies. Our track record goes back to the year 1479.**

## Mission Statement

**pewag group's Mission Statement expresses the goals of our actions as follows:**

With our joy for innovation, we strive to make all products of the pewag group the best in the respective markets. The high quality of our products and services as well as our employees' passionate dedication are the foundation to our pursuit of outstanding services and complete customer satisfaction.

## Principles of pewag group

### Leading in Quality

The values of our product brands are demonstrated by our first-class quality and innovations and are communicated consistently and coherently.

We anticipate market demands and changes in the environment and adapt our strategies, organizations and actions accordingly to satisfy our customers' needs through providing an optimal price-performance ratio: timely delivery, efficient and obliging service.

### Leading in Responsibility

We commit ourselves to careful treatment of the environment, by reducing the use of energy and raw materials, ensuring the longevity of our products and making them recyclable.

We value an open, honest and team-oriented work-style, which is based on transparent communication honoring ideas, opinions and experience of our employees as valuable inputs for our decision making process.

We strive for stable and fair partnerships with our employees, customers, suppliers and other business partners and take social aspects into consideration when making business decisions.

### Leading in Technology

We secure our technological strength by striving for product quality, constant improvements and innovations of products, as well as manufacturing processes.

We strive to be the best in product technology. This ensures that our customers always have optimal solutions available and that we expand and protect our market position.

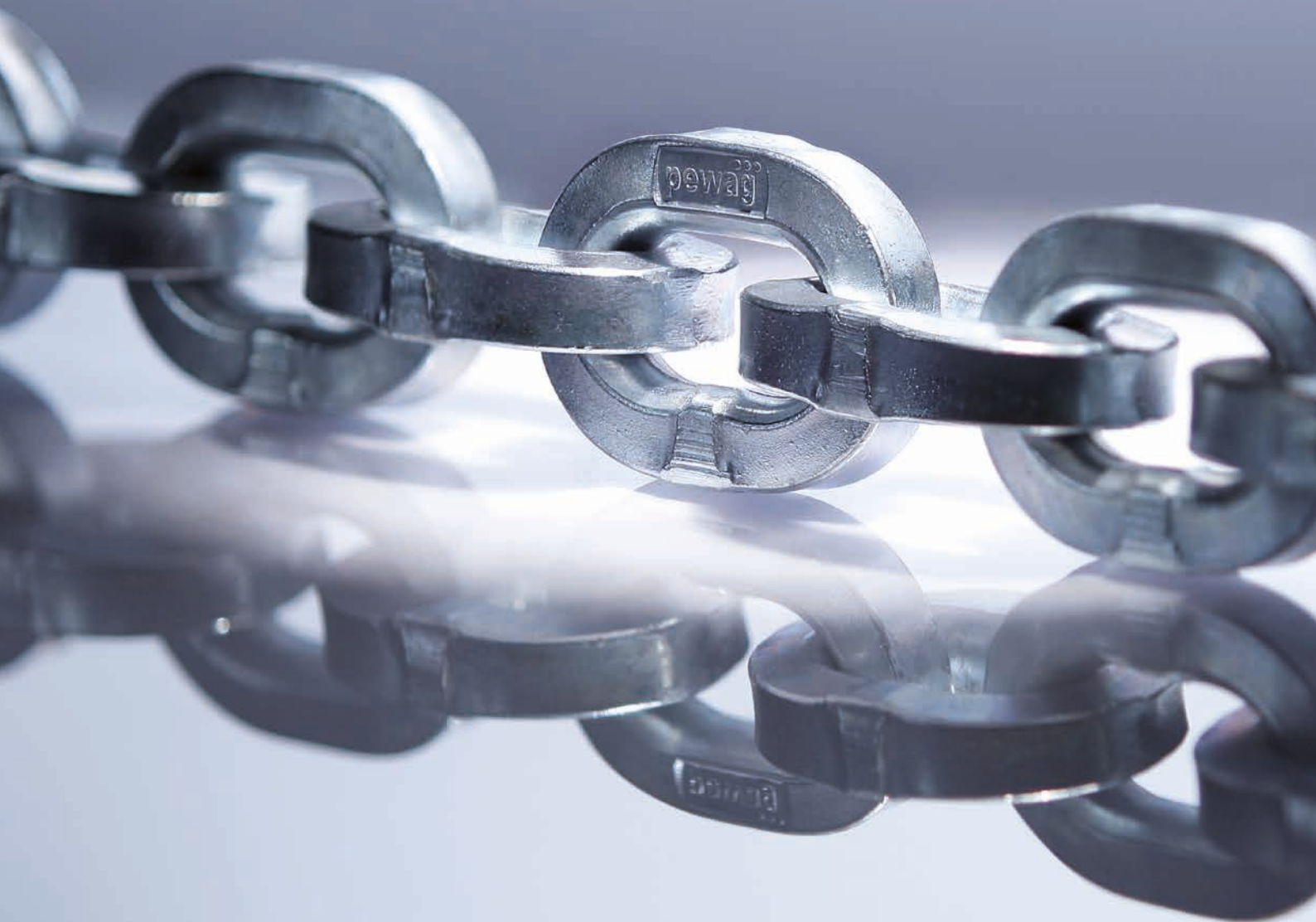
### Leading in Economics

In all our processes we use due diligent business practices and efficiency and strive to improve these continuously.

In the long-term, we will continuously increase our economic performance to raise corporate value, achieve sustained growth and thus secure a successful future of the organization.

We are a modern group of companies which looks back to a tradition and experience of more than 500 years. Since our founding years, a lot has changed, but the values that made our success possible from the beginning remain.

**pewag group –  
Innovation. Quality. Partnership.**





# History of the pewag group

## Advantage through tradition

The history of pewag group goes back to the 15<sup>th</sup> century and therefore makes us one of the oldest chain manufacturer worldwide. With our experience we are ready for the future.

### Timetable of important events

- 1479** First documented references of a forging plant in Brückl
- 1787** Foundation of a chain forge in Kapfenberg
- 1803** Foundation of a chain forge in Graz
- 1836** Establishment of an iron casting plant in Brückl
- 1912** Production of the first pewag snow chain
- 1923** Merger of plants in Graz and Kapfenberg –  
Creation of the name “pewag”
- 1972** Foundation of a sales company in Germany
- 1975** Foundation of a sales company in the USA
- 1993** Foundation of pewag austria GmbH
- 1994** Foundation of the first subsidiary in Czech Republic
- 1999** Acquisition of the Weissenfels Group
- 2003** Separation from the Weissenfels Group
- 2005** Reorganization into 2 groups:  
Schneeketten Beteiligungs AG Group – Snow Chains  
pewag austria GmbH Group – Technical Chains
- 2009** Acquisition of Chaineries Limousines S.A.S.
- 2012** Foundation of the first manufacturing company  
in the USA
- 2013/** Foundation of various international sales  
**2014** companies



Lithography forging plant Brückl 1855



Anchor chain forge 1878



Chain forgers 1956

# Quality management

## Our main goal is customer satisfaction.

In this instance, quality means that only those products and services are developed, manufactured and delivered which completely and without compromise satisfy the customer.

The pewag group’s quality policy, is underlined by the following basic principle: **“we supply high-end products and services to our customers that conform to the technical standards and requirements”**, can be summarised in the subsequent four points.

### Market-oriented Quality

In order to maintain and to widen the competitive position of the pewag group, the quality of finished goods and services must be consistent with the specifications of the customer and also with their expectations of one of the leading companies. No product should ever pose a danger to people or the environment.

### Economic Quality

As a profit-oriented company, quality is achieved by taking into consideration the material, personnel and financial resources; this means that we establish an appropriate best price/performance ratio for the customer within the acknowledged framework.

### Quality Responsibility

Stringent demands are placed on all employees to ensure high standards of quality. No matter what hierarchical level, all managers are in charge of managing quality. Every employee within the pewag group should be educated, motivated and instructed by the management team. It is important for promoting high quality awareness that the education and training of employees is at the forefront, as each employee is responsible for the quality of his/her own work.

For each of our employees, the statement **“QUALITY STARTS WITH ME”** must be true!

### Process-oriented Quality

The close interaction between sales, product development, production and customer service is regulated within the individual companies by fixed processes and activities, as well as responsibilities with the aim to reach and maintain the defined quality standards.



# Business areas

# Environment – we take responsibility

## Working with pewag products

The pewag group has a substantial and diverse spectrum of products and services.

Our range of products varies from traction chains for tires (snow chains for passenger cars, trucks and special-purpose vehicles, tire protection chains for mining vehicles) over different industrial chains to products for the do-it-yourself sector (light chains, belts, etc.)



**Segment A**  
Snow and forestry chains



**Segment B**  
Hoist and conveyor chains



**Segment C**  
Do-it-yourself



**Segment D**  
Engineering



**Segment F**  
Lifting and lashing chains and accessories



**Segment G**  
Tire protection chains

## Ecological awareness in all areas



Our company's manufacturing location in Kapfenberg, Austria, has been used for iron and steel production for over 270 years. A second facility located in Brückl, Austria, was first documented in records dating back to 1479.

Based on this long manufacturing tradition, we take serious responsibility for our products, employees and the environment at all our international locations. Hence, one of our major concerns is to improve energy efficiency and, in doing so, to minimise energy consumption over a long period of time with the development of new production technologies. An important goal is to increase energy efficiency and consequently lower energy demand. Consequently, we develop our products to achieve longer product life-cycles and lower weight but simultaneously, increasing their working load capacities and the safety for our customers. We are committed to upholding all relevant energy and environmental standards by setting clearly defined goals and continually improving our performance. To achieve this goal, we use modern manufacturing technologies. An important step is to provide the necessary resources and to include our employees in the process. We are convinced that well-informed and motivated employees can actively participate in environmental conservation.

Wherever we are unable to avoid an environmental impact, we have set ourselves the goal to continually reduce our energy consumption, waste and environmentally harmful emissions. When purchasing new equipment, we strive to find the best and most efficient technical solution possible. It is important for us to promote the purchase of energy efficient products and services.

Our process-oriented management system regulates the documentation concerning all environmental relevant procedures. It also encompasses preventative measures for possible failures, as well as behavioural instructions for regular and/or extraordinary operational procedures. By systematically monitoring and assessing our environmental activities, we are quickly able to resolve deviances and to take corrective action. This process extends throughout the whole organisation to optimise all business processes. We strive to engage in an open dialogue with our customers, neighbours and authorities to inform them of our energy and environmental engagements.

Through specific communication we want to inform our customers about the environmental aspects of our products – specifically inform them about the longevity of our products. Through meaningful communication, we strive to motivate our suppliers and customers to think – in turn – about their environmental footprint and to put into practice similar environmental standards in their businesses.

# Customer proximity

## International presence

In the ambitious five-hundred year history pewag has evolved from a small and modest company to a global organization with several subgroups.

With 12 production and 39 sales and other locations on all five continents, pewag documented its claim as one of the world's leading chain manufacturers.

In addition to the numerous locations pewag as an international company relies on his capillary, strong, and professional partner network. These collaborations provide optimal customer service in currently more than 100 countries around the world.

## Production and sales locations

### Europe

Austria	pewag austria GmbH, Graz pewag austria GmbH, Kapfenberg pewag Schneeketten GmbH & Co KG, Graz pewag Schneeketten GmbH & Co KG, Brückl pewag engineering GmbH, Kapfenberg pewag austria Vertriebsgesellschaft mbH, Graz pewag Ketten GmbH, Klagenfurt pewag International GmbH, Klagenfurt
Germany	pewag Deutschland GmbH, Unna pewag Schneeketten Deutschland GmbH, Unna
France	pewag france SAS, Echirolles / Grenoble Chaineries Limousines SAS, Bellac
Italy	pewag italia srl, Andrian
Croatia	pewag d.o.o, Kroatien, Zagreb
The Netherlands	pewag nederland BV, Hillegom APEX International BV, Hillegom APEX Automotive BV, Hillegom
Poland	pewag polska Sp z.o.o., Buczkowice
Portugal	pewag Portugal – Comercio de Produtos e Eqibamentos Industriais, Lda, Santo Antão do Tojal
Romania	pewag Romania SRL, Sibiu County
Russia	OOO "PEWAG", Moscow
Sweden	pewag sweden AB, Emmaboda
Slovakia	pewag Slovakia sro, Nitra
Czech Republic	pewag Czech sro, Vamberk pewag Snow Chains sro, Vamberk pewag sro, Vamberk pewag Czech sro, Česká Trebová peform Chrudim sro, Chrudim

### Europe

Ukraine	TOV pewag Ukraine GmbH, Lviv
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### North America

USA	pewag Inc, Bolingbrook, Illinois pewag Inc, Rocklin, California pewag Traction Chain Inc, Pueblo, Colorado
Mexico	pewag Mexico SA de CV, Mexico

### South America

Brazil	pewag Brasil Comércio de Correntes Ltda., São Paulo
Colombia	pewag Columbia S.A.S, Medellin

### Africa

South Africa	pewag chain south africa (pty) ltd., Rivonia
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### Australia

Australia	pewag australia Pty Limited, Barrack Heights
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### Asia

India	pewag India Private Limited, Bangalore
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pewag group presents  
itself on the internet. More ...

[www.pewag-group.com](http://www.pewag-group.com)

[www.pewag.com](http://www.pewag.com)

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Innovation. Quality. Partnership.**





# peTAG solution



## peTAG solution Keyfacts



**Intelligent software**

User-specific adaptation of object data, testing processes and steps. Automates the creation, sending and archiving of test reports. Sophisticated authorisation concept.



**Linked-up partnerships**

Straightforward exchange and efficient interaction between service providers, merchants and customers. Improved service and data quality. Increased satisfaction and loyalty.



**Save time & money**

Efficient documentation of work processes, thus simplified daily workflows. Data exchange without media breaks, fault-free data communication.



**Always up to date**

Access to the latest product data and information, overview of all test data, documentation of test procedures. Traceability of object history.



**Mobile solution**

Direct, location-independent data access (e.g. load capacity, safety information, latest test reports etc.) Smart servicing of objects via mobile app. Offline availability.



# Lashing in G10

## Benefits and information

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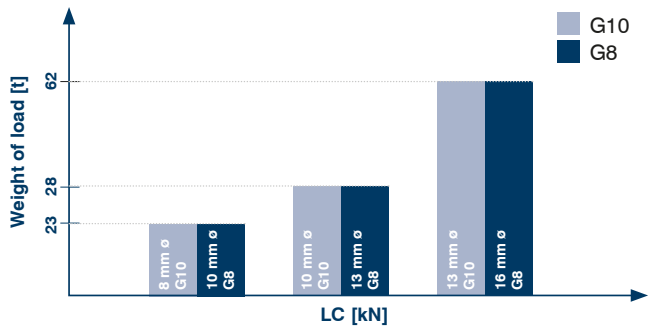
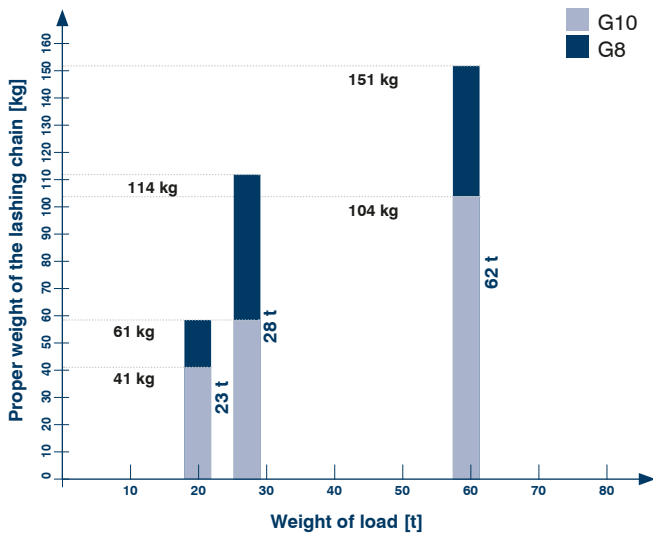




## pewag lashing chains in G10 quality – benefits that speak for themselves.

On a global scale, pewag is a true pioneer when it comes to the production of lashing chains. User-friendliness and compliance with all legal stipulations for securing loads are par for the course and constitute a solid foundation for all our products. These characteristics are clearly measurable and are influential factors during product development and manufacturing. Quite simply, only the best products get made!

- 25 % increase in lashing capacity and therefore also in load-securing capacity compared to G8.



- The same chain dimension secures a heavier and/or bulkier load - a performance increase of no less than 25 % compared to direct lashing in G8!

Admissible lashing LC	Previous weight of	pewag winner chains-ø	% Reduction
50	13.4	10.1	25 %
80	21.9	15.1	31 %

- Large product range for 5 chain dimensions
- Significant improvements for direct lashing: chain dimension is reduced, resulting in significantly lower weight and costs!

Admissible lashing LC	Chains up to ø	pewag winner chains-ø
50	10	8
80	13	10
134	16	13

- For lashing-down operations with the same securing capacity (STF), you can always downsize to a smaller chain dimension, thereby reducing weight and costs.
- Lashing operations using pewag winner result in considerably reduced weight and easier handling.
- Highest level of thanks to clear identification tag according to EN12195-3 with G10 values.

## pewag winner key data – facts that speak for themselves.

### Top of the range:

- **Chain quality:** pewag winner meets the EN818-2 standard with modifications (higher mechanical values, reduced operating temperature)
- **Lashing force:** 500 N/mm<sup>2</sup>
- **Test stress:** 625 N/mm<sup>2</sup>
- **Breaking stress:** 1,000 N/mm<sup>2</sup>
- **Breaking elongation:** min. 20 %
- **Bending:** 0.8 x d
- **Stress crack corrosion:** Same stress crack corrosion characteristics as in G8
- **Operating temperature:** -40 °C to +200 °C
- **Quality grade stamping:** pewag winner chain – 100 resp. 10 at a distance of 300 mm and 10 on the back of each link pewag winner components – 10
- **Manufacturer's name or symbol** on the chain and the components: **PW or pewag**
- **Surface:**  
**Chain** – clear-coated  
**Components** – orange powder-coated – RAL 2004
- **Lashing tag** contains all the user-relevant data
- **Compatibility:** pewag winner chains and components may be combined by a competent person under consideration of the manufacturer specifications with all components of G8 meeting the requirements of EN 818 and EN 1677. Furthermore, pewag winner chains may be combined with all competitor chains and components that are also compatible with EN 818 and EN 1677. Please note that pewag winner

chains and components are not compatible with products that do not comply with EN 818 and/or EN 1677!

The maximum working load capacity of pewag sling chains is always defined by their weakest part. Only original pewag spare parts (esp. pins and bolts, safety catches, etc.) may be used for pewag products, following the inspection and approval by a competent person

- **Product characteristics:** Same stress crack corrosion characteristics as in G8

## Sample order text for pewag winner lashing system.

Below you will find a detailed example of a finished and commercially available pewag lashing chain (pewag winner 8 mm – single lashing chain with shortening components and clevis hook, mounted with Connex connecting links, length: 3,500 mm)

## Labelling and documentation, taken seriously.

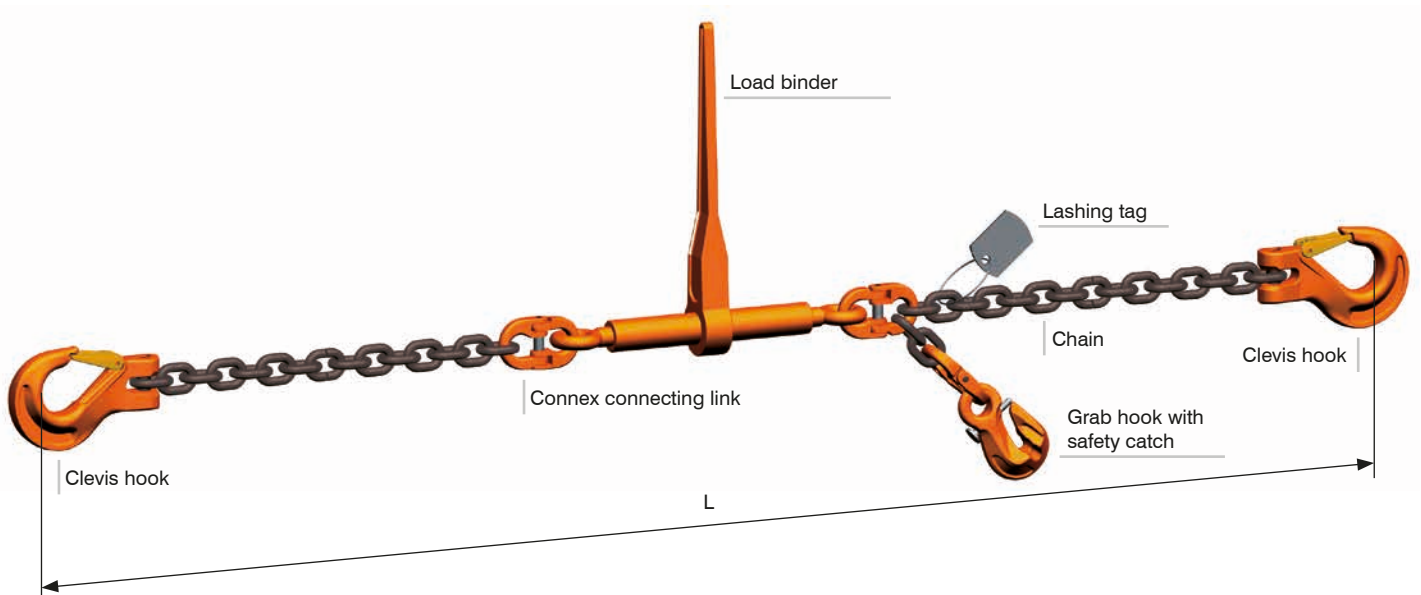
The lashing chains are supplied with the following labels and documents in accordance with EN 12195-3:

- Lashing chain tag
- Manufacturer's certificate
- User information
- Test certificate/lashing chain file



## ZRSW 8 200 I - KHSW - KHSW - PSW 3500

Nominal diameter	Single-part	Clevis hook	Grab hook with safety catch	Length [mm]
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## Direct lashing

### ZRSW 7 with RSW 7/8 load binder (LC 38 kN; for 4 lashing chains)

Angle $\alpha$	Angle $\beta$	Max. load at dynamic friction factor						
		0.01	0.1	0.2	0.3	0.4	0.5	0.6
15 - 35°	21 - 30°	-	-	-	13,350	17,800	24,450	37,650
15 - 35°	31 - 40°	6,050	7,400	9,400	12,150	16,000	22,000	34,000
15 - 35°	41 - 50°	5,100	6,300	8,100	10,600	13,750	19,000	29,450
15 - 35°	51 - 60°	3,950	5,050	6,600	8,500	11,100	15,500	24,250
36 - 50°	21 - 30°	-	-	8,950	11,950	16,350	23,800	38,600
36 - 50°	31 - 40°	4,800	6,150	8,150	10,950	15,150	22,150	36,150
36 - 50°	41 - 50°	4,000	5,300	7,150	9,750	13,650	20,150	33,150
36 - 50°	51 - 60°	-	4,300	6,000	8,350	11,900	17,650	28,750

### ZRSW 8 with RSW 7/8 load binder (LC 50 kN; for 4 lashing chains)

Angle $\alpha$	Angle $\beta$	Max. load at dynamic friction factor						
		0.01	0.1	0.2	0.3	0.4	0.5	0.6
15 - 35°	21 - 30°	-	-	-	17,600	23,450	32,150	49,550
15 - 35°	31 - 40°	8,000	9,750	12,350	15,950	21,050	28,950	44,750
15 - 35°	41 - 50°	6,700	8,300	10,650	13,950	18,100	25,000	38,800
15 - 35°	51 - 60°	5,250	6,650	8,700	11,200	14,650	20,400	31,900
36 - 50°	21 - 30°	-	-	11,800	15,700	21,550	31,300	50,800
36 - 50°	31 - 40°	6,300	8,100	10,750	14,400	19,950	29,150	47,600
36 - 50°	41 - 50°	5,300	6,950	9,400	12,850	17,950	26,500	43,600
36 - 50°	51 - 60°	-	5,650	7,900	11,000	15,650	23,250	37,850

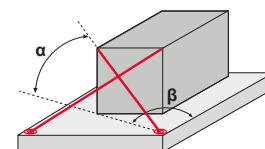
### ZRSW 10 with RSW 10 load binder (LC 80 kN; for 4 lashing chains)

Angle $\alpha$	Angle $\beta$	Max. load at dynamic friction factor						
		0.01	0.1	0.2	0.3	0.4	0.5	0.6
15 - 35°	21 - 30°	-	-	-	28,200	37,550	51,500	79,300
15 - 35°	31 - 40°	12,800	15,650	19,750	25,550	33,700	46,350	71,600
15 - 35°	41 - 50°	10,750	13,300	17,100	22,350	28,950	40,000	62,050
15 - 35°	51 - 60°	8,400	10,650	13,950	17,900	23,450	32,650	51,050
36 - 50°	21 - 30°	-	-	18,900	25,150	34,500	50,100	81,300
36 - 50°	31 - 40°	10,100	13,000	17,200	23,100	31,950	46,650	76,150
36 - 50°	41 - 50°	8,500	11,150	15,100	20,550	28,750	42,450	69,800
36 - 50°	51 - 60°	-	9,050	12,650	17,600	25,100	37,200	60,550

### ZRSW 13 with RSW 13 load binder (LC 134 kN; for 4 lashing chains)

Angle $\alpha$	Angle $\beta$	Max. load at dynamic friction factor						
		0.01	0.1	0.2	0.3	0.4	0.5	0.6
15 - 35°	21 - 30°	-	-	-	47,200	62,900	86,250	132,900
15 - 35°	31 - 40°	21,450	26,200	33,150	42,850	56,500	77,650	119,950
15 - 35°	41 - 50°	18,050	22,350	28,600	37,400	48,500	67,000	104,000
15 - 35°	51 - 60°	14,050	17,850	23,400	30,000	39,250	54,700	85,500
36 - 50°	21 - 30°	-	-	31,700	42,150	57,800	83,900	136,150
36 - 50°	31 - 40°	16,950	21,750	28,800	38,700	53,500	78,200	127,550
36 - 50°	41 - 50°	14,250	18,750	25,250	34,450	48,200	71,100	116,900
36 - 50°	51 - 60°	-	15,200	21,150	29,500	42,050	62,350	101,450

This table provides information on how to get the best use from the pewag lashing systems. The loads specified are maximum loads that may be secured using four equal lashing chains and given the specified angles and dynamic friction factors. Additional securing methods (i.e. wedges or similar) that may be used to secure even heavier weights have not been taken into account. Please contact our customer service for more information. Every lashing dimension has its own table. The maximum forces resulting from acceleration, braking and avoidance manoeuvres in road traffic acc. to EN 12195-1 were taken into account. Different tables apply for transport by rail and sea. Our customer service team will be pleased to provide additional information.





## Frictional lashing

### ZRSW 7 with RSW 7/8 load binder STF 1900 [daN]

Angle to surface $\alpha$	Max. load at dynamic friction factor					
	0.1	0.2	0.3	0.4	0.5	0.6
90°	400	950	1,710	2,850	4,750	8,550
85°	400	940	1,700	2,830	4,730	8,510
80°	400	930	1,680	2,800	4,670	8,420
70°	380	890	1,600	2,670	4,460	8,030
60°	350	820	1,480	2,460	4,110	7,400
50°	310	720	1,300	2,180	3,630	6,540
40°	260	610	1,090	1,830	3,050	5,490
30°	200	470	850	1,420	2,370	4,270

### ZRSW 8 with RSW 7/8 load binder STF 1900 [daN]

Angle to surface $\alpha$	Max. load at dynamic friction factor					
	0.1	0.2	0.3	0.4	0.5	0.6
90°	400	950	1,710	2,850	4,750	8,550
85°	400	940	1,700	2,830	4,730	8,510
80°	400	930	1,680	2,800	4,670	8,420
70°	380	890	1,600	2,670	4,460	8,030
60°	350	820	1,480	2,460	4,110	7,400
50°	310	720	1,300	2,180	3,630	6,540
40°	260	610	1,090	1,830	3,050	5,490
30°	200	470	850	1,420	2,370	4,270

### ZRSW 10 with RSW 10 load binder STF 3000 [daN]

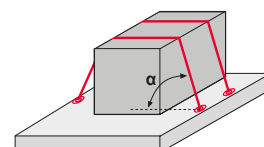
Angle to surface $\alpha$	Max. load at dynamic friction factor					
	0.1	0.2	0.3	0.4	0.5	0.6
90°	640	1,500	2,700	4,500	7,500	13,500
85°	640	1,490	2,680	4,480	7,470	13,440
80°	630	1,470	2,650	4,430	7,380	13,290
70°	600	1,400	2,530	4,220	7,040	12,680
60°	550	1,290	2,330	3,890	6,490	11,690
50°	490	1,140	2,060	3,440	5,740	10,340
40°	410	960	1,730	2,890	4,820	8,670
30°	320	750	1,350	2,250	3,750	6,750

### ZRSW 13 with RSW 13 load binder STF 2500 [daN]

Angle to surface $\alpha$	Max. load at dynamic friction factor					
	0.1	0.2	0.3	0.4	0.5	0.6
90°	530	1,250	2,250	3,750	6,250	11,250
85°	530	1,240	2,240	3,730	6,220	11,200
80°	520	1,230	2,210	3,690	6,150	11,070
70°	500	1,170	2,110	3,520	5,870	10,570
60°	460	1,080	1,940	3,240	5,410	9,740
50°	410	950	1,720	2,870	4,780	8,610
40°	340	800	1,440	2,410	4,010	7,230
30°	260	620	1,120	1,870	3,120	5,620

This table provides information on how to get the best use from the pewag lashing systems. The loads specified are maximum loads that may be secured using four equal lashing chains and given the specified angles and dynamic friction factors.

**Please note:** Use at least two lashing devices for lashing-down operations! Additional securing methods (i.e. wedges, using the side panel as a blocker etc.) that may be used to secure even heavier weights have not been taken into account in the table. Please contact our customer service, for more information. The values specified in the table only apply to situations where the lashing system on both sides of the load is not subject to the same tension force (STF) due to the deflection and edges. If this can be determined (e.g. using a pretensioning gauge), the values in the table may be increased by a factor of 1.3. The maximum loading weight depends on the STF value of the tensioning system, which is shown on the lashing system's tag. Every lashing system has its own table. The maximum forces resulting from acceleration, braking and avoidance manoeuvres in road traffic acc. to EN 12195-1 were taken into account. Different tables apply for transport by rail and sea. Our customer service team will be pleased to provide additional information.



## Dynamic friction values of frequently transported goods

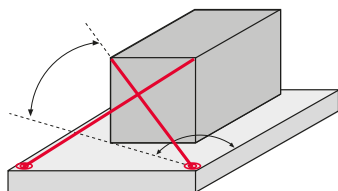
Combination of materials on the contact surface	Dynamic friction value
<b>Sawn wood</b>	
Sawn wood on laminated wood/plywood	0.35
Sawn wood on grooved aluminium	0.30
Sawn wood on steel plate	0.30
Sawn wood on crimped foil	0.20
<b>Crimped foil</b>	
Crimped foil on laminated wood/plywood	0.30
Crimped foil on grooved aluminium	0.30
Crimped foil on steel plate	0.30
Crimped foil on crimped foil	0.30
<b>Cardboard boxes</b>	
Cardboard box on cardboard box	0.35
Cardboard box on wooden pallet	0.35
<b>Big Bags</b>	
Big Bags on wooden pallet	0.30
<b>Steel and metal sheets</b>	
Oiled steel plate on oiled steel plate	0.10
Flat steel bars on sawn wood	0.35
Unpainted rough steel plate on sawn wood	0.35
Painted rough steel plate on sawn wood	0.35
Unpainted rough steel plate on unpainted rough steel	0.30
Painted rough steel plate on painted rough steel plate	0.20
Painted steel barrel on painted rough steel barrel	0.15
<b>Concrete</b>	
Wall on wall without intermediate layer (concrete/concrete)	0.50
Finished part with wooden intermediate layer on wood (concrete/wood/wood)	0.40
Wall on wall without intermediate layer (concrete/lattice girder)	0.60

Combination of materials on the contact surface	Dynamic friction value
Steel frame with wooden intermediate layer	0.40
Wood on steel frame with wooden intermediate layer (concrete/wood/steel)	0.45
<b>Pallets</b>	
Resin-bonded plywood, smooth – Europallet (wood)	0.20
Resin-bonded plywood, smooth – box pallet (wood)	0.25
Resin-bonded plywood, smooth – plastic pallet (PP)	0.20
Resin-bonded plywood, smooth – wooden press board pallets (PP)	0.15
Resin-bonded plywood, sieve structure – Europallet (wood)	0.25
Resin-bonded plywood, sieve structure – box pallet (steel)	0.25
Resin-bonded plywood, sieve structure – plastic pallet (PP)	0.25
Resin-bonded plywood, sieve structure – wooden press board	0.20
Aluminium beams in the load-bearing platform (punched bars) – Europallet (wood)	0.25
Aluminium beams in the load-bearing platform (punched bars) – box pallet (steel)	0.35
Aluminium beams in the load-bearing platform (punched bars) – plastic pallet (PP)	0.25
Aluminium beams in the load-bearing platform (punched bars) – wooden press board pallets	0.20

- The friction coefficients are based on EN12195-1 and apply to clean surfaces under ideal conditions.
- Please note: Dirty, wet or icy surfaces will reduce friction factors. Be aware that changes in the friction coefficients may occur even during transportation, depending on the time of year!
- Always be on the safe side – if in doubt, choose the lower value!

## Comparison between G8, G10 and G12 lashing chains

### Direct lashing of loads on trucks



When using 4 lashing chains of type

Admissible load of weight when using 4 lashing chains  $\alpha = 35^\circ$ ,  $\beta = 30^\circ$ , friction coefficient  $\mu = 0.3$

	ZRS G8	ZRSW G10	ZRSWP G12
Lashing chain 8 mm	14,100	17,600	21,150
Lashing chain 10 mm	22,200	28,200	35,250
Lashing chain 13 mm	35,250	47,200	56,400



# Chains and accessories

## Product overview

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# pewag winner 200 Lashing chain

## Tested by fire and resistant to cold temperatures.

This lashing chain complies with EN 8181-2 with the mechanical values of G10 and has a 25 % higher lashing capacity than grade 8. It is used to assemble lashing chains in the one- or two-part system in accordance with EN 12195-3 and is suitable for operating temperatures from -40 °C to +200 °C.

The chain is easy to assemble using the Connex or clevis system. A full operating manual is provided.



	Code	Nominal diameter d [mm]	Standard length [m]	Pitch t [mm]	Inner width b1 min. [mm]	Outer width b2 max. [mm]	LC Lashing capacity [kN]	Brea-king force [kN]	Weight [kg/m]
	WIN 7 200	7	50	21	10	25	38	77	1.20
	WIN 8 200	8	50	24	11	29	50	101	1.57
	WIN 10 200	10	50	30	14	36	80	157	2.46
	WIN 13 200	13	50	39	18	47	134	265	4.18
	WIN 16 200	16	25	48	22	58	200	402	6.28

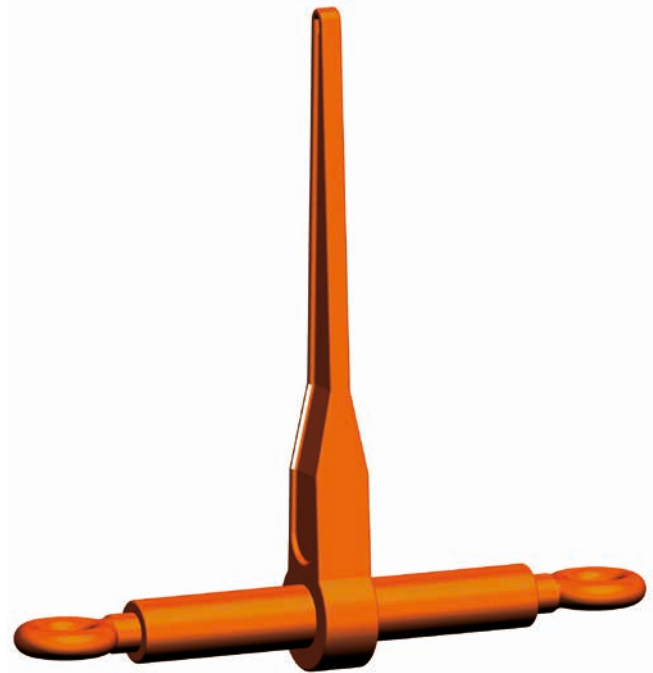
# pewag RSW Load binder G10

## Powerful and popular.

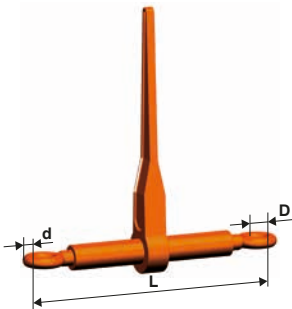
This load binder for one-part lashing chains in accordance with EN 12195-3 is also suitable for frictional lashing, depending on the selected lever length (always take the STF value into account!). It has a 25 % higher lashing capacity than grade 8 and is manufactured according to EN 12195-3.

Please note that the product must not be used for the lifting or attaching of loads. A full operating manual describes areas of application as well as the assembly process. Assembly into a lashing chain is simple and quick thanks to Connex connecting links.

Please refer to the tables on pages 16 and 17 to ensure safe handling!



	Code	Stamp	LC lashing capacity [kN]	STF standard tension force [daN]	Length RSW closed L [mm]	Length RSW open L [mm]	Tension distance [mm]	Lever length l [mm]	D [mm]	d [mm]	Weight [kg/unit]
<b>RSW load binder G10</b>											
	RSW 7/8	Type A	50	1,900	355	500	145	237	20	16	3.20
	RSW 10	Type B	80	3,000	365	510	145	355	26	18	3.80
	RSW 13	Type C	134	2,500	576	866	290	359	31	22	9.90



# pewag RSPSW Load binder G10

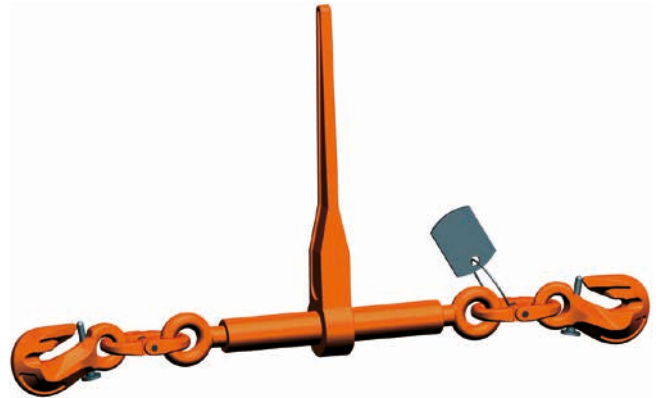
## Flexible tension.

This load binder for two-part lashing chain systems in accordance with EN 12195-3 is intended for the ZKW lashing chain – the two are always used in conjunction.

The shortening hook with the PSW safety catch is already assembled. Depending on the selected lever length (always take the STF value into account!), all sizes are also suitable for frictional lashing.

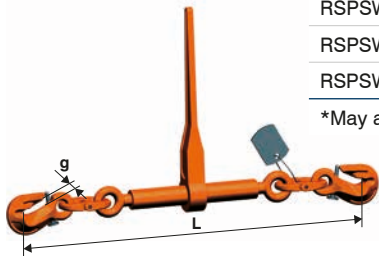
The lashing capacity is 25 % higher than for grade 8. As specified in the full operating manual, this load binder is not suitable for lifting or attaching loads. Thanks to the pre-mounted shortening hook, the RSPSW load binder may be positioned anywhere in the ZKW lashing chain.

The tables on pages 16 and 17 provide a useful overview.



	Code	Stamp	LC lashing capacity [kN]	STF standard tension force [daN]	Length when closed L [mm]	Length when open L [mm]	Tension distance [mm]	Lever length l [mm]	Opening g [mm]	Weight [kg/unit]
<b>RSPSW Load binder G10</b>										
	RSPSW 8*	Type A	50	1,900	621	766	145	237	11	4.40
	RSPSW 10	Type B	80	3,000	685	830	145	355	13	6.30
	RSPSW 13	Type C	134	2,500	978	1.268	290	359	17	15.00

\*May also be used with a 7 mm chain. LC with 7 mm chain = 38 kN!



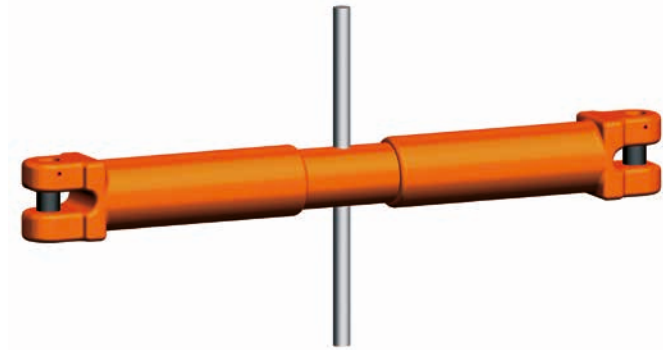
# pewag KSSW Clevis turnbuckle

## Versatile suspension.

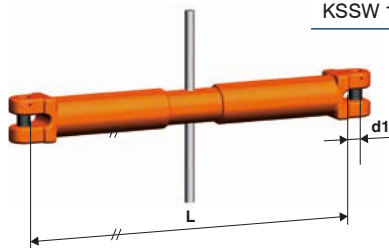
The grade 10 clevis system of this extremely robust turnbuckle is die-forged and tempered on both sides.

The turnbuckle is manufactured according to EN 12195-3 and comes with a full operating manual. It can be assembled easily and quickly thanks to its clevis structure, without the need for special tools. Its lashing capacity is 25 % higher than that of G8 and it is ideally suited for lashing chains according to EN 12195-3. Please note that the product is not suitable for lashing down!

As an additional bonus, the clevis load pin and the safety pin are available as the KBSW spare parts set.



Code	LC lashing capacity [kN]	STF standard tension force [daN]	Length KSSW closed [mm]	Length KSSW open [mm]	Tension distance [mm]	d1 [mm]	Weight [kg/unit]
KSSW 16	200	-	530	780	250	20	10.00





# pewag CW Connex connecting link

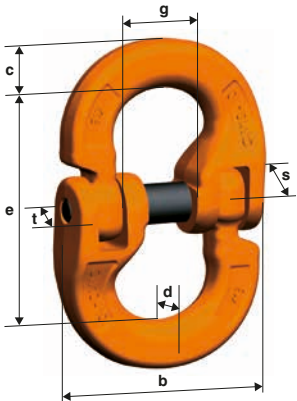
## For connections that last.

The universal CW Connex connecting link consists of two symmetrical, die-forged halves, one bolt and one safety sleeve. It links load binder and chain, master link and chain, chain and chain, chain and hook, master link and hook as well as other elements and is suitable for straight pull only. The connecting link can be assembled easily and quickly, without the need for special tools.

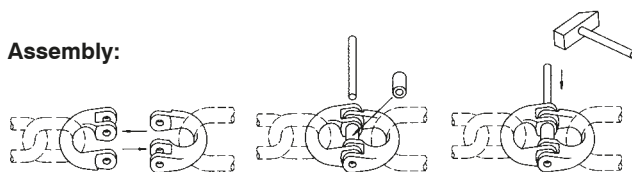
It is manufactured according to EN 1677-1, with the lashing capacity of G10 that exceeds that of G8 by no less than 25 %.

The bolt and the safety bush are available as a CBHW spare parts set. The product comes with CE marking, BG approval and a full operating manual. To ensure premium quality, we recommend replacing the bolt and the tensioning sleeve after three assemblies/ disassemblies.



CW Connex connecting link	Code	LC lashing capacity [kN]	e [mm]	c [mm]	s [mm]	t [mm]	d [mm]	b [mm]	g [mm]	Weight [kg/unit]
	CW 7	38	51	10	13	14	9	47	17	0.12
	CW 8	50	62	12	14	20	10	55	18	0.23
	CW 10	80	72	15	18	22	13	64	24	0.42
	CW 13	134	88	20	22	26	17	79	28	0.84
	CW 16	200	103	21	29	31	21	106	33	1.40

**Assembly:**



## pewag KHSW Clevis sling hook

### The direct approach.

This universal clevis sling hook has a 25 % higher lashing capacity than grade 8.

Thanks to the clevis system, the sling hook can be linked to the chain quickly and easily, without the need for an additional connecting element. The product is designed for straight pull only. Care must be taken to protect the tip of the hook and the safety catch against loading.

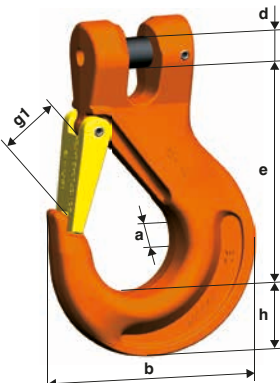
The chain is easily and quickly assembled by a competent person – no special tools required!

The coupling pin and the retaining pin are available as a KBSW spare parts set.

The safety catch set consists of a die-forged safety catch, a rust-proof spring and a retaining pin.

The comprehensive operating manual ensures that all your questions are answered in full. This is premium quality you can count on – thanks to EN 1677-2 compliance, G10 lashing capacity, BG-approval and CE marking.



KHSW Clevis sling hook	Code	LC lashing capacity [kN]	e [mm]	h [mm]	a [mm]	d [mm]	g1 [mm]	b [mm]	Weight [kg/unit]
	KHSW 7	38	95	28	19	9	26	90	0.60
	KHSW 8	50	95	28	19	10	26	90	0.60
	KHSW 10	80	109	35	25	12.50	31	108	1.10
	KHSW 13	134	136	41	34	16	39	131	2.00
	KHSW 16	200	155	49	37	20	45	153	3.48

## pewag HSW Eye sling hook

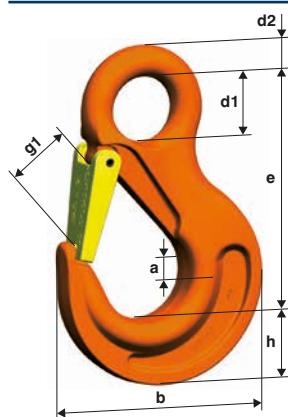
### A hook for all seasons.

The eye sling hook may be used universally and comes with a die-forged safety catch that locks into the tip of the hook, thereby providing excellent protection against lateral shifts. The hook is suitable for Connex and the welded system and is manufactured according to EN 1677-2 with the lashing capacity of G10.

Assembly of the safety catch set is simple and quick and does not require any special tools. It consists of a die-forged safety catch, a rust-proof spring and a retaining pin for extra reliability. Please note that the eye sling hook is suitable for straight pull only. Loads on the tip of the hook or the safety catch are not permitted. The standard package includes CE-marking, BG approval and full operating manual.



HSW Eye sling hook	Code	LC lashing capacity [kN]	e [mm]	h [mm]	a [mm]	d1 [mm]	d2 [mm]	g1 [mm]	b [mm]	Weight [kg/unit]
	HSW 7/8	50	106	27	19	25	11	26	88	0.50
	HSW 10	80	131	33	26	34	16	31	109	1.10
	HSW 13	134	164	44	33	43	19	39	134	2.20
	HSW 16	200	183	50	40	50	25	45	155	3.50



# pewag PSW Grab hook with safety catch

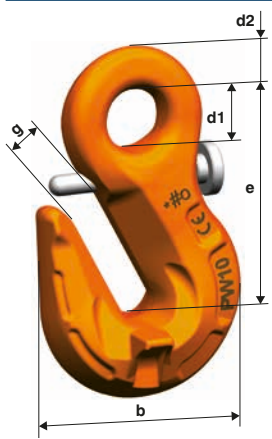
## All-round safety at all times.

This standard shortening hook ensures optimal interaction between chain and hook thanks to the special design of the chain contact area. Moreover, the integrated safety catch protects the chain from an accidental release. Tip loading is not allowed as well as the assembling with Unilock connecting links. Further, the usage in the welded system has to be prevented.

Even when shortened, the load capacity is not reduced. The product comes with a full operating manual and is compatible with the Connex system and can also be retrofitted. It complies with EN 1677-1 with the mechanical values for G10 and comes with CE marking.

The safety catch is also available as a spare part. The PSGW spare parts set consists of pin, spring and nut.



PSW Grab hook with safety catch	Code	LC lashing capacity [kN]	e [mm]	b [mm]	d1 [mm]	d2 [mm]	g [mm]	Weight [kg/unit]
	PSW 7/8	50	65	57	16	12	9	0.37
	PSW 10	80	77	71	20	14	12	0.70
	PSW 13	134	101	92	26	19	15	1.56
	PSW 16	200	121	113	32	23	19	2.90

### pewag – one step ahead, also in terms of design

pewag sets great store on the further development of its product range and far exceeds market expectations in this respect. A lot of progress has been made in terms of design and appearance, and it is now even easier to recognise when exactly the pewag winner chain is fitted correctly.

However, it is important to emphasise that, for technical reasons, the chain must not touch the bearing surface of the pewag grab hook or clevis grab hook. The winner chain is in fact supported by the side faces of the pewag grab hook, thus ensuring the high safety standard that all pewag products have in common when handled correctly.

Note: This is applicable for grab hooks without saddles.



## pewag KPSW Clevis grab hook with safety catch

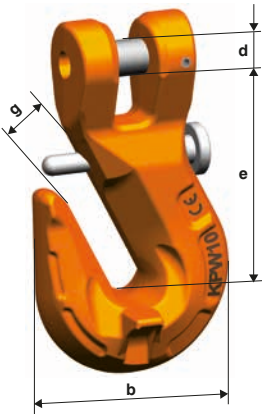
### Perfect interplay.

This standard shortening hook ensures optimal interaction between chain and hook thanks to the special design of the chain contact, providing extra protection from accidental chain release. Even when shortened, the load capacity is not reduced. Moreover, the product is suitable for retrofitting. The clevis system makes it possible to link the chain to the hook quickly and simply, without the need for an additional connecting element. The coupling pin and retaining pin are available as a KBSW spare parts set.

The safety set PSGW consists of bolt, spring and nut and is also available as a spare parts set.

The clevis grab hook is manufactured according to EN 1677-1 with the mechanical values for G10 and comes with CE marking. As specified in the full operating manual, tip loading must be avoided and assembly must always be performed by a competent person to ensure safe usage. No special tools are required for assembling this product.



KPSW Clevis grab hook with safety catch	Code	LC lashing capacity [kN]	e [mm]	b [mm]	d [mm]	g [mm]	Weight [kg/unit]
	KPSW 7	38	63	57	9	9	0.44
	KPSW 8	50	63	57	10	9	0.44
	KPSW 10	80	78	71	12.50	12	0.85
	KPSW 13	134	93	92	16	15	1.75
	KPSW 16	200	115	113	20	19	3.30



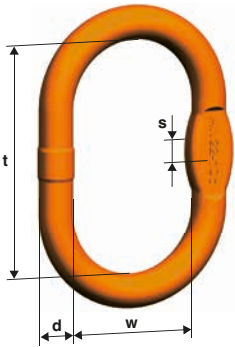
## pewag AW Master link

### Link by link towards perfection.

Thanks to the flattened sections incorporated in the design, this master link opens up universal connection possibilities. It is ideally suited as an end or intermediate link to hook lashing chains into lashing points and has a 25 % higher lashing capacity than grade 8.

The master link is manufactured according to EN 1677-4, with the lashing capacity of G10 and comes with BG approval, CE-marking and a full operating manual. A simple and easy connection using the CW Connex connecting link is guaranteed.



AW Master link	Code	For chains- $\emptyset$	LC lashing capacity [kN]	d [mm]	t [mm]	w [mm]	s [mm]	Weight [kg/unit]
	AW 13	7	46	13	110	60	10	0.34
	AW 16	8	70	16	110	60	14	0.53
	AW 18	10	100	19	135	75	14	0.92
	AW 22	13	152	23	160	90	17	1.60
	AW 26	16	200	27	180	100	20	2.46

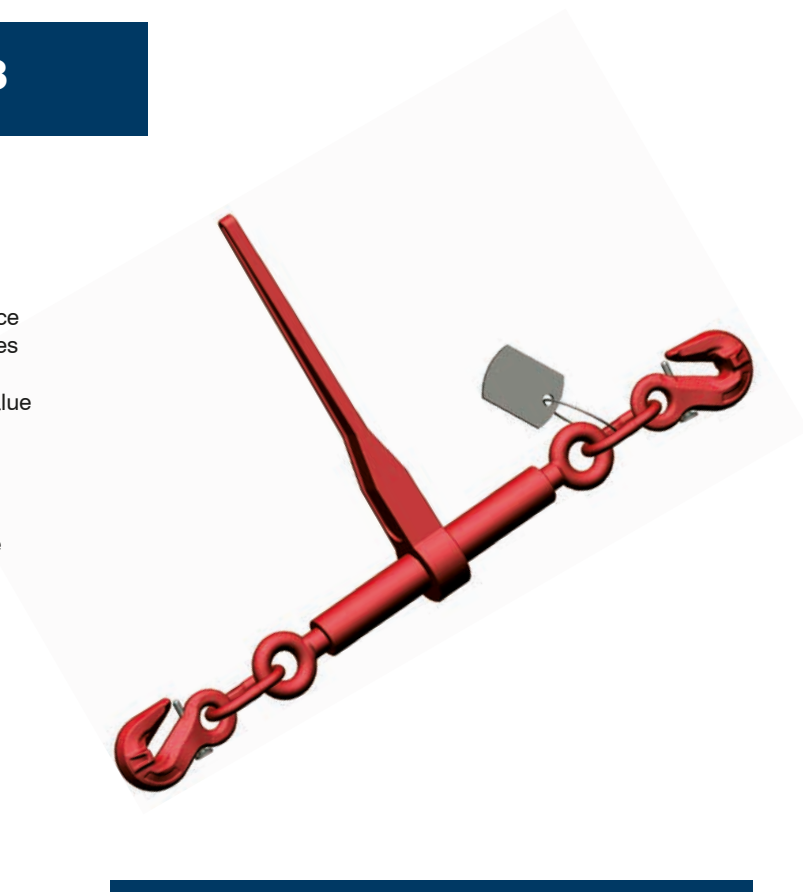
# pewag RSPS Load binder G8

## The element for tension.

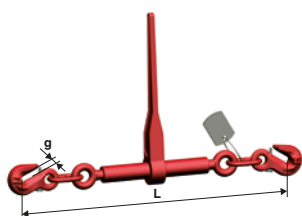
This load binder for two-part lashing chain systems in accordance with EN 12195-3 is intended for the ZKW lashing chain. It includes a pre-mounted shortening hook including safety catch and, depending on the selected lever length, (always take the STF value into account!), all sizes are also suitable for frictional lashing.

As specified in the full operating manual, this load binder is not suitable for lifting or attaching loads. Please also note that, if used with grade 10 lashing chains, the lashing capacity must be assessed in accordance with G8!

Thanks to the pre-mounted shortening hook, the load binder may be positioned anywhere in the ZKW lashing chain. In short, this element is bound to create some tension!



	Code	LC lashing capacity [kN]	STF Standard tension force [daN]	Length when closed L [mm]	Length when open L [mm]	Tension distance [mm]	Lever length l [mm]	Jaw size g [mm]	Weight [kg/unit]
RSPS Load binder G8	RSPS 8	40	1,900	586	731	145	237	12	4.60
	RSPS 10	63	1,900	626	771	145	237	15	5.40
	RSPS 13	100	3,000	708	853	145	355	19.5	8.00



## pewag KSS Clevis turnbuckle G8

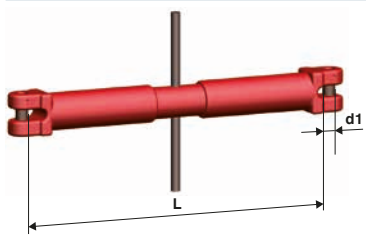
### A permanent position.

The clevis system of this extremely robust turnbuckle is die-forged and tempered on both sides, in compliance with grade 8 and manufactured according to EN 12195-3. The turnbuckle comes with a full operating manual and is suitable for the assembly of one-part lashing chains. Its great benefit: the chain may be assembled directly, without the need for a connecting link.

Thanks to its clevis system, the turnbuckle is easy to install – no special tools are required. Please note that the turnbuckle is not suitable for frictional lashing. In combination with grade 10 chains, the lashing capacity must be assessed according to grade 8!

The coupling pin and the retaining pin are available as a KBS-KSS spare parts set.



KSS Clevis turnbuckle G8	Code	LC lashing capacity [kN]	Tension distance [mm]	L min. [mm]	L max. [mm]	d1 [mm]	Weight [kg/unit]
	KSS 7	30	90	230	320	8	2.90
	KSS 8	40	120	330	450	10	3.20
	KSS 10	63	215	455	670	12	3.90
	KSS 13	100	280	515	795	16	6.50

# pewag KVS Clevis connector G8

## Smooth operator.

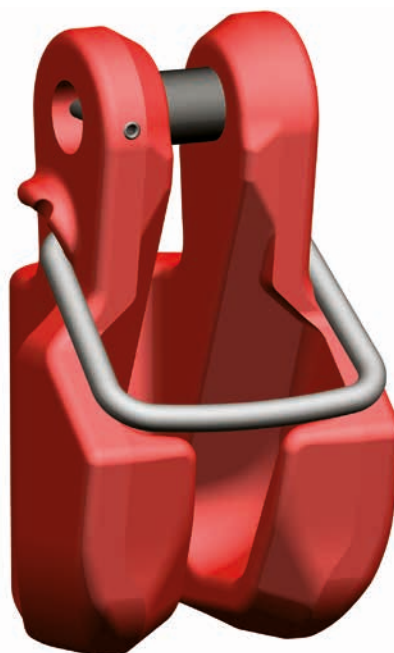
For grade 8 lashing chains, we recommend using a shortening claw with a safety catch to prevent the accidental release of the load and the coarse shortening of lashing chains.

Watch out for the correct load direction of the chain as outlined in the full operating manual.

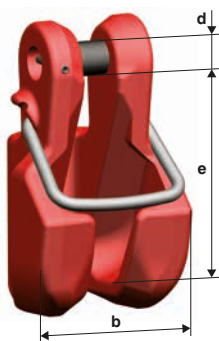
The clevis connector is manufactured according to EN 1677-1 and comes with CE marking and BG approval.

Please ensure that the lashing capacity of the connector is assessed in accordance with grade 8 if the product is used in combination with grade 10 chains!

The clevis system makes this product easy and quick to assemble. The coupling pin and the retaining pin are available as a KBSW spare parts set.



KVS Clevis connector G8	Code	LC lashing capacity [kN]	e [mm]	b [mm]	d [mm]	Weight [kg/unit]
	KVS 7	30	58	44	9	0.50
	KVS 8	40	58	44	10	0.50
	KVS 10	63	70	55	12.5	0.80
	KVS 13	100	90	70	16	1.53

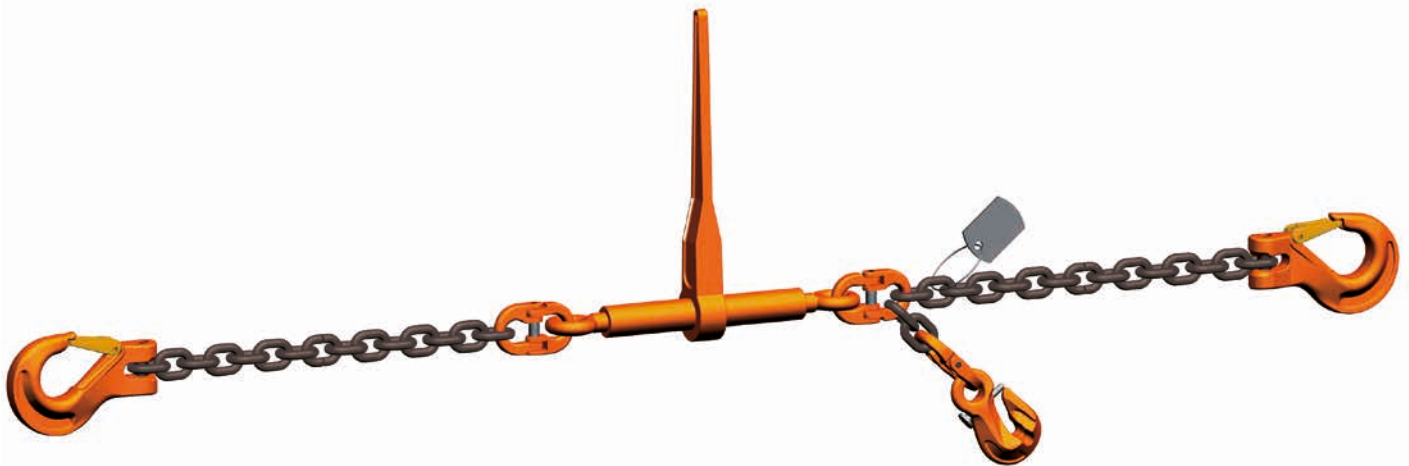


# pewag ZRSW | KHSW-KHSW-PSW Lashing chain G10

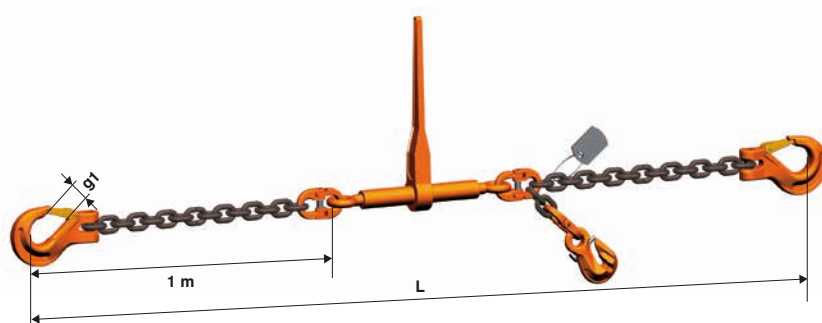
## Build your own.

This lashing chain surpasses the requirements of EN 12195-3 as it has a 25 % higher lashing capacity than standard G8 lashing chains. The lashing chain comes in a modular design with a standard length of 3,500 mm and is also suitable for frictional lashing, provided that the STF value is taken into account. Other end fittings and/or combinations and delivery lengths are available upon request and with short delivery times.

Please note that the product must not be used for lifting or attaching loads. A full operating manual tells you all you need to know about how to use the chain to its best advantage. Make sure you also refer to the tables on pages 16 and 17 for a useful overview.



Code	LC lashing capacity [kN]	STF standard tension force [daN]	Length RSW closed L [mm]	Length RSW open L [mm]	Tension distance [mm]	Jaw size g1 [mm]	Weight [kg/unit]
ZRSW 7 200   KHSW-KHSW-PSW 3500	38	1,900	355	500	145	26	8.40
ZRSW 8 200   KHSW-KHSW-PSW 3500	50	1,900	355	500	145	26	10.10
ZRSW 10 200   KHSW-KHSW-PSW 3500	80	3,000	365	510	145	31	15.30
ZRSW 13 200   KHSW-KHSW-PSW 3500	134	2,500	576	866	290	39	26.10





# pewag ZRSW I KHSW-KHSW-KPSW Lashing chain G10

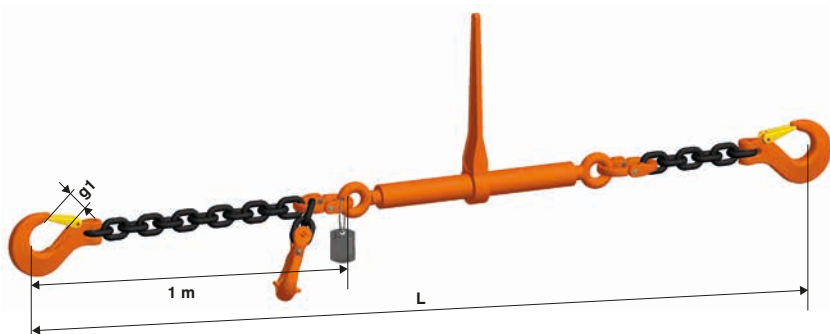
## Build your own.

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Please note that the product must not be used for lifting or attaching loads. A full operating manual tells you all you need to know about how to use the chain to its best advantage. Make sure you also refer to the tables on pages 16 and 17 for a useful overview.



Code	LC lashing capacity [kN]	STF standard tension force [daN]	Length RSW closed L [mm]	Length RSW open L [mm]	Tension distance [mm]	Jaw size g1 [mm]	Weight [kg/unit]
ZRSW 7 200 I KHSW-KHSW-KPSW 3500	38	1,900	355	500	145	26	8.40
ZRSW 8 200 I KHSW-KHSW-KPSW 3500	50	1,900	355	500	145	26	10.10
ZRSW 10 200 I KHSW-KHSW-KPSW 3500	80	3,000	365	510	145	31	15.30
ZRSW 13 200 I KHSW-KHSW-KPSW 3500	134	2,500	576	866	290	39	26.10

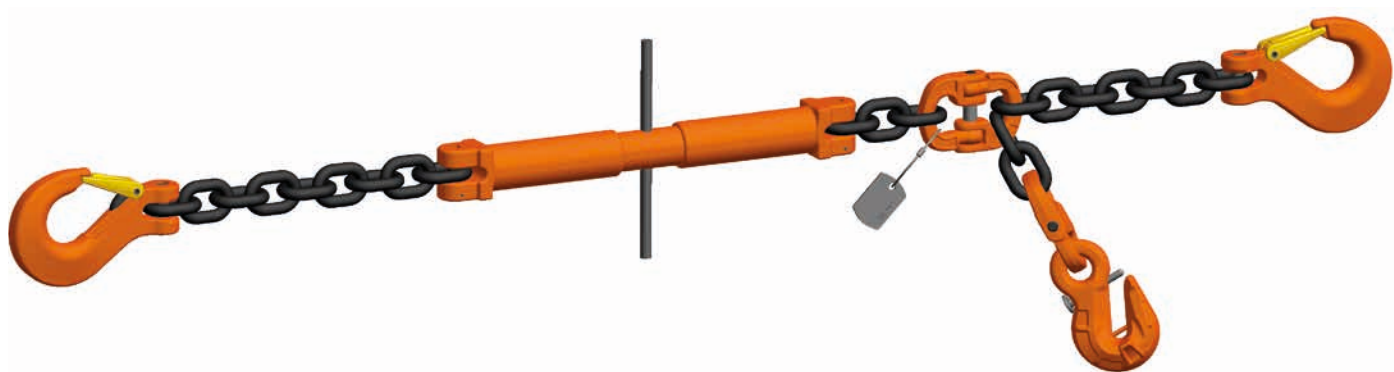


# pewag ZKSW I KHSW-KHSW-PSW Lashing chain G10

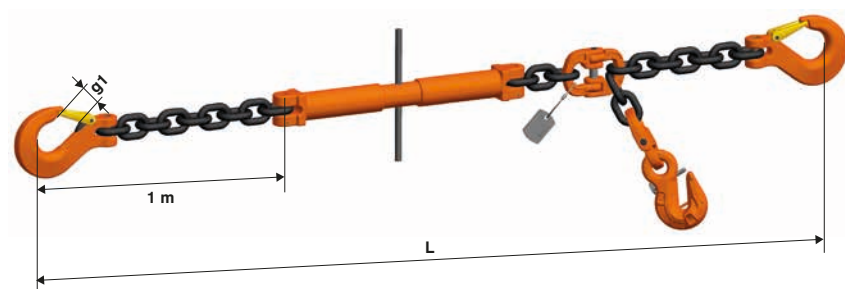
## Short-term delivery time for long-term benefits.

This lashing chain surpasses the requirements of EN 12195-3 as it has a 25 % higher lashing capacity than standard G8 lashing chains. The lashing chain comes in a modular design with a standard length of 3,500 mm. Other end fittings/combinations and delivery lengths are available upon request and with short delivery times.

Please note that the product must not be used for lifting or attaching loads. A full operating manual tells you all you need to know on how to use the chain to its best advantage. Make sure you also refer to the tables on pages 16 and 17 for a useful overview.



Code	LC lashing capacity [kN]	STF standard tension force [daN]	Length RSW closed L [mm]	Length RSW open L [mm]	Tension distance [mm]	Jaw size g1 [mm]	Weight [kg/unit]
ZKSW 16 200 I KHSW-KHSW-PSW 3500	200	-	530	780	250	45	3.70



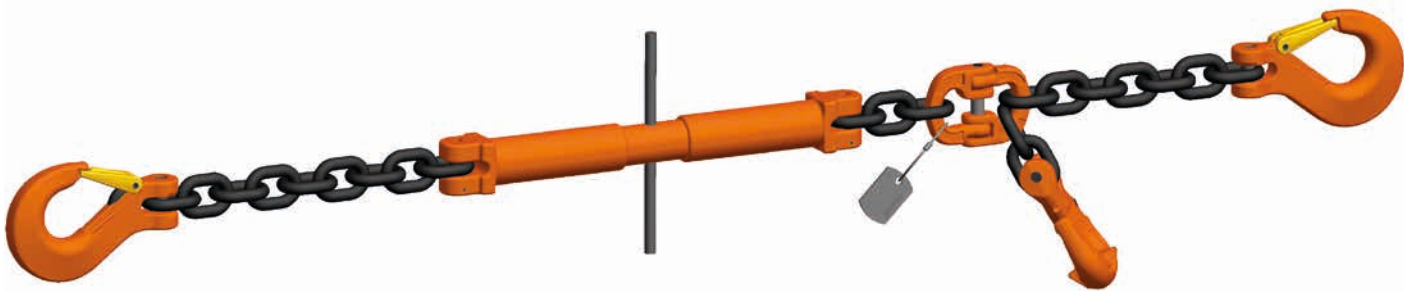
# pewag ZKSW I KHSW-KHSW-KPSW Lashing chain G10

## Outstanding quality for lasting benefits.

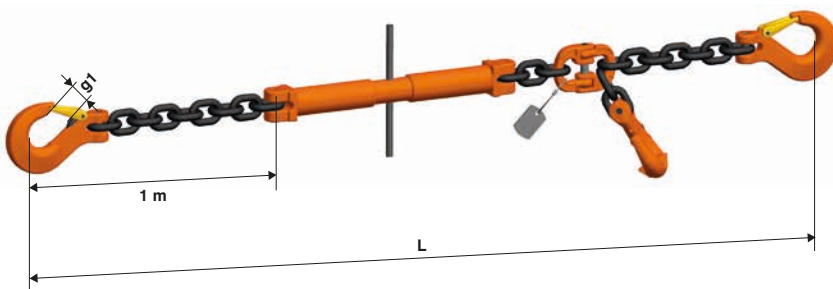
This lashing chain for securing loads has a 25 % higher lashing capacity than standard G8 lashing chains and thus surpasses EN 12195-3. The lashing chain has a standard length of 3,500 mm and comes in a modular design.

Other end fittings/combinations and delivery lengths are available upon request and with short delivery times.

Please note that the product must not be used for lifting or attaching loads. For details, please refer to the full operating manual. Make sure you also refer to the tables on pages 16 and 17 for a useful overview.



Code	LC lashing capacity [kN]	STF standard tension force [daN]	Length RSW closed L [mm]	Length RSW open L [mm]	Tension distance [mm]	Jaw size g1 [mm]	Weight [kg/unit]
ZKSW 16 200 I KHSW-KHSW-KPSW 3500	200	-	530	780	250	45	37.70



## pewag ZKW Lashing chain for two-part system

### Short-term delivery times for long-term benefits.

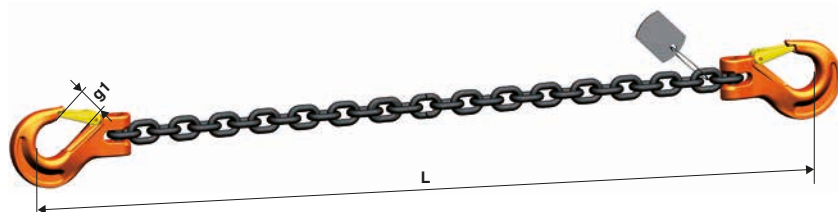
This lashing chain surpasses the requirements of EN 12195-3 as it has a 25 % higher lashing capacity than standard G8 lashing chains. It comes in a modular design and a standard length of 3,500 mm and is also suitable for frictional lashing, provided that the STF value of the tensioner is taken into account. Other end fittings/combinations and delivery lengths are available upon request and with short delivery times.

Please note that the product must not be used for lifting or attaching loads. A full operating manual tells you all you need to know about how to use the chain to its best advantage.

Make sure you also refer to the tables on pages 16 and 17 for a useful overview.



Code	LC lashing capacity [kN]	L [mm]	g1 [mm]	Weight [kg/unit]
ZKW 7 200   KHSW-KHSW 3500	38	3,500	26	5.17
ZKW 8 200   KHSW-KHSW 3500	50	3,500	26	6.40
ZKW 10 200   KHSW-KHSW 3500	80	3,500	31	10.27
ZKW 13 200   KHSW-KHSW 3500	134	3,500	39	17.49



# Spare parts

## Product overview

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Clevis load pin	42
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# pewag<sup>®</sup> KBSW Clevis load pin

## Easily identified.

The KBSW clevis load pin set is a spare part for pewag clevis components. To facilitate identification, it is stamped with grade „10“ and the manufacturer logo „PWW“. Please see Table 2 for a list of parts that require special clevis load pins.



KBSW Clevis load pin	Code	L [mm]	d [mm]	L1 [mm]	d1 [mm]	Weight [kg/unit]
	KBSW 7	23.00	9.00	22.00	3.00	0.01
	KBSW 8	23.00	10.00	22.00	3.00	0.01
	KBSW 10	29.50	12.50	28.00	3.50	0.03
	KBSW 13	37.00	16.00	36.00	4.00	0.06
	KBSW 16	52.00	20.00	40.00	4.50	0.10


KBS-KSS Clevis load pin special	Code [mm]	d x l [mm]	For accessory part
	KBS-KSS 7	8 x 22.5	KSS 7
	KBS-KSS 8	10 x 27.2	KSS 8
	KBS-KSS 10	12 x 32.2	KSS 10
	KBS-KSS 13	16 x 45.7	KSS 13

## pewag SFGW Safety catch sets

### Good at their job.

These SFGW safety catch sets with a die-forged and electro-galvanised safety catch and a spring from rust-proof spring steel are all about safety and security.

The sets are suitable for pewag winner accessories. Please refer to the tables to determine which set goes with which hook. These safety catch sets are truly in a league of their own – even the tiniest pewag parts offer outstanding quality!

	Code	For accessory part
 <p>SFGW Forged safety catch sets for HSW, KHSW</p>	SFGW 7/8	HSW 7/8, KHSW 7, KHSW 8
	SFGW 10	HSW 10, KHSW 10
	SFGW 13	HSW 13, KHSW 13
	SFGW 16	HSW 16, KHSW 16


## pewag CBHW Bolts + safety bush

### Quality assurance.

The spare parts set for CW Connex connecting links knows no compromises when it comes to safety. To maintain our outstanding quality standards, we recommend replacing each safety set after it has been assembled/disassembled three times.

The bolt comes with a black coropro coating and looks rather unremarkable – however, its modest exterior hides an unsurpassed level of know-how and expertise!




	Code	For accessory part
 <p>CBHW bolts + safety bush for CW</p>	CBHW 7 G10	CW 7
	CBHW 8 G10	CW 8
	CBHW 10 G10	CW 10
	CBHW 13 G10	CW 13
	CBHW 16 G10	CW 16

## pewag PSGW Safety catches

### Optimal safety.

When it comes to safety catches, the name says it all. They are regarded ideal replacement parts for PSW and KPSW grab hooks with safety catches. The spring is particularly user-friendly and made from rust-proof spring steel. We recommend protecting the nut from accidental release by using a prick-punch or glue.




PSGW Safety catches for PSW and KPSW	Code	For accessory part
	PSGW 7/8 G10	PSW 7/8 + KPSW 7 + KPSW 8
	PSGW 10 G10	PSW 10 + KPSW 10
	PSGW 13 G10	PSW 13 + KPSW 13
	PSGW 16 G10	PSW 16 + KPSW 16

## pewag PSG Safety catches

### So far, so safe.

When it comes to PSG safety catches, the name says it all. They are considered the ideal spare parts for grab hook with safety catches in RSPS load binders. The spring is particularly user-friendly and made from rust-proof spring steel. We recommend protecting the nut from accidental release by using a prick-punch or glue. As the saying goes – it's better to be safe than sorry!

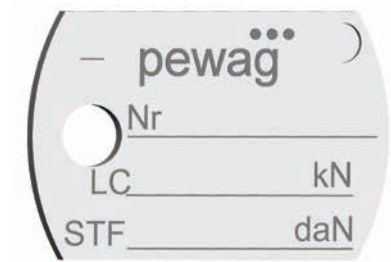



PSG Safety catches for RSPS	Code	For accessory part
	PSG 8	RSPS 8
	PSG 10	RSPS 10
	PSG 13	RSPS 13

## pewag IDW Tag set for lashing

### We've nailed it.

pewag lashing chains of the winner G8 and G10 ranges also come with their own recommendations for spare parts in the form of this tag set for lashing. Quality-assured and as safe to use as the original parts – for peace of mind with all your applications!



Tag set for lashing	Code	For lashing chains acc. to EN 12195-3	Consists of
	IDW tag set for lashing		Tags + S hooks 7 mm

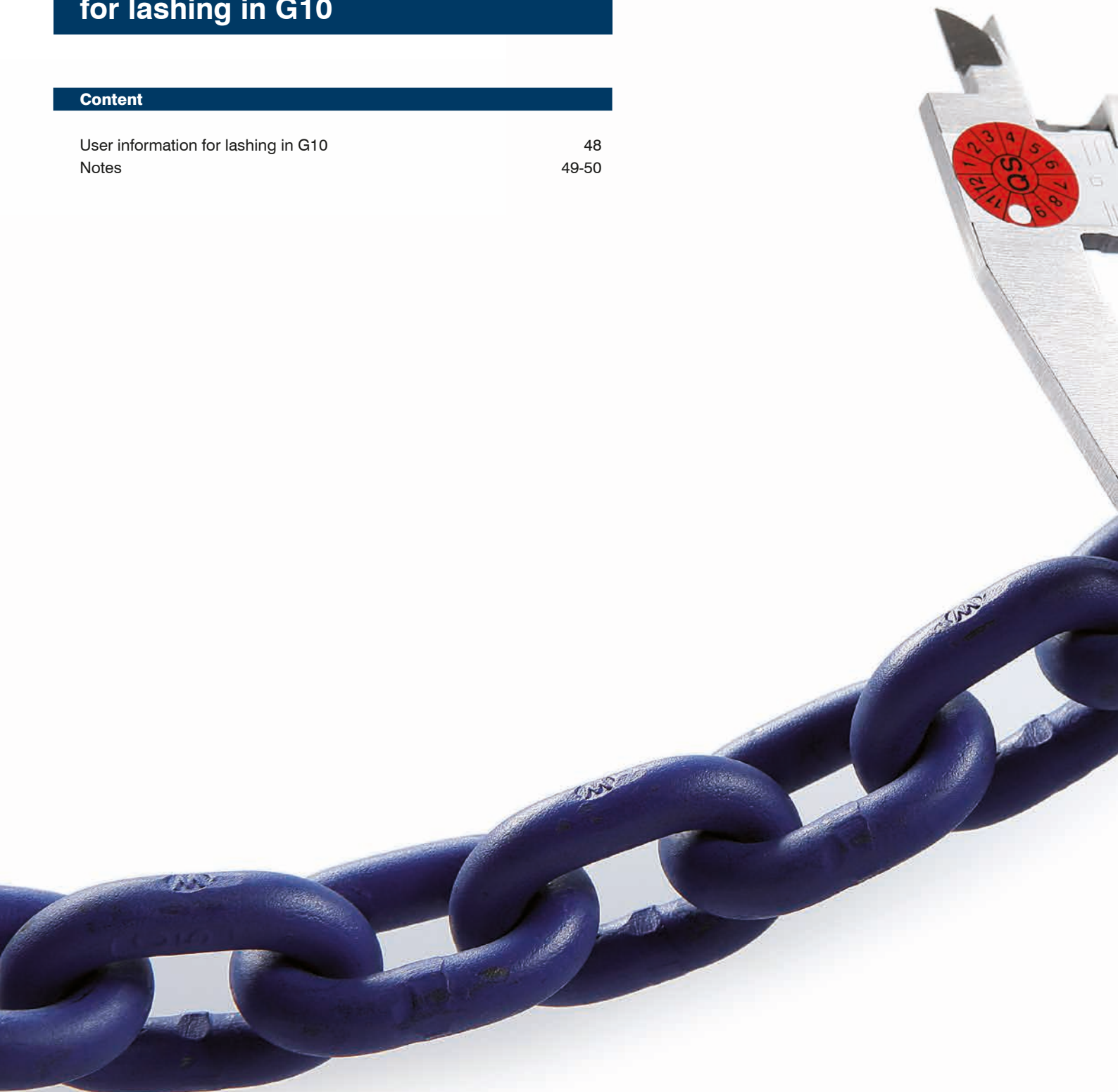


# User information

## for lashing in G10

### Content

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# User information

## User information on pewag winner lashing equipment

### General information

Overall, the same information applies to the pewag lashing chains as to the pewag winner lifting chain system. However, the following additional information must be taken into account:

- pewag winner lashing chains were developed to secure loads during transport. If used correctly, the lashing chains have a long lifespan and provide the highest possible safety standards. Personal and material damage are best prevented by ensuring correct use. Please note that pewag winner lashing chains may only be used once the user information has been read and understood in full. A responsible, provident approach towards load-securing is crucial at all times.
- We offer tools to assist with selection and proper usage of the lashing chain assemblies. Nevertheless, adequate experience of load securing and use of lashing equipment is indispensable.
- Only authorised and competent persons as defined by EN 12195-1 and 2 are allowed to assemble and use pewag winner lashing chain systems.
- Please note: lashing chains have safety factor = 2, lifting chains have safety factor = 4. This means that, for safety reasons, lashing chains must not be used as lifting chains! Therefore, lashing chains must always have the correct identification tag with the appropriate warning.
- When the number of the lashing assemblies is calculated according to EN 12195-1, some impact loads may arise that are not reflected in the calculation but which will be balanced by the vehicle and by the flexibility of the lashing system.

### Information on use

#### Lashing points

Choose lashing points in such a way that the angles of the lashing chain assemblies are within the range given in our lashing table and the lashing chain assemblies are symmetrical to the driving direction. Use only lashing points with adequate strength. Any deviations are subject to prior consultation with the pewag technical service department.

#### Safe selection

When selecting the appropriate lashing chain system, consider the lashing method required and the load that needs to be secured. Size, shape and weight of the load as well as the intended usage category (friction lashing, direct lashing,...) and the transport environment (additional utilities, lashing points,...) must be taken into account for selecting the appropriate system.

For **lashing down**, we recommend using lashing straps because of their low weight and higher elongation. Only select lashing equipment where the label or tag specifies an STF value.

For **direct lashing**, we recommend using lashing chains because of the high lashing capacity and low elongation. To

ensure that the minimum number of lashing systems is used, we recommend direct lashing to secure loads, especially for heavy loads.

The number of lashing systems may be calculated according to EN12195-1.

In accordance with this standard, pewag has integrated the commonly used lashing methods in easy-to-use lashing tables. For more detailed information, please refer to pages 16 and 17.

For optimal stability, always use at least two lashing chains for lashing down and two pairs of lashing chains for diagonal lashing. Always ensure that the lashing chains are both long and strong enough for the application you have in mind! When in doubt, always opt for a **higher level of safety** to prevent overloading the chains.

All connecting parts of the lashing chains such as hooks and rings must be **free to move** within the lashing point and **adjustable in the tensile direction**. Bending stress on the accessories and tip loading of the hooks are not permissible. Hooks may only be loaded at the bearing area.

**Lashing chains should never be used in conjunction with lashing straps** as different lashing devices display different behaviours and elongation properties under load (for instance lashing chains and lashing straps made from synthetic fibres). If you have any further questions or require information on possible exceptions, please contact the pewag technical customer service.

#### Proper use

**Proper and correct lashing practice** is at the centre of any safe application. Before lashing, plan the lashing process and the release/opening of the lashing system. During a longer trip, consider possible partial unloading. Watch out for overhead lines during loading and unloading and remove all lifting devices before starting the lashing process.

Also check the **tension of the lashing chain** regularly during transport. Before opening the lashing chain system, always check that the load is safe and that there is no risk of goods falling off or toppling down. Where required, attach any lifting equipment for further transport to the load immediately.

**Prior to unloading**, the lashing chains must be released far enough to ensure that the load is free-standing. Always ensure that there is no risk of the lashing chain getting tangled up during unloading.







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