GRADE 120 LIFTING CHAINS

pewag | GRADE 120

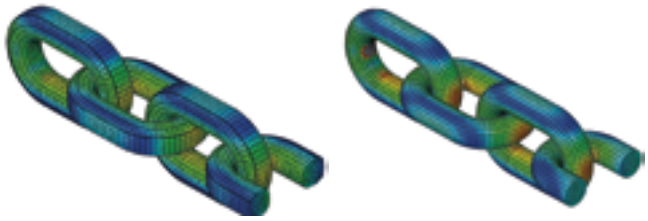
Advantages:

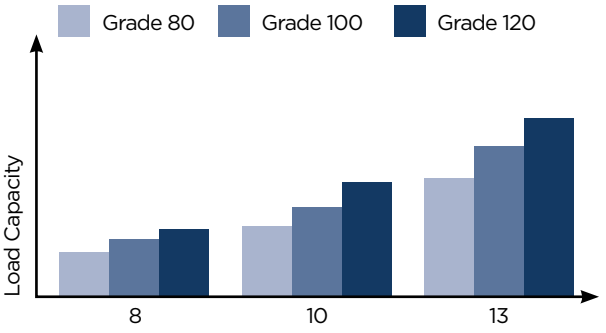
Intelligent profile: Thanks to the intelligent use of material, the same cross - section achieves a marked improvement of the key characteristics of the chain, for instance fatigue resistance and bending resistance, compared to conventional round - steel chains. The use of material was optimised in key areas (blue sections) and reduced in less relevant areas (red sections) to achieve the best possible technical effects.

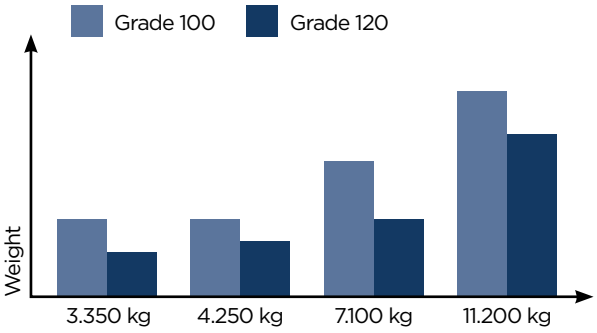
Optimised bending resistance: This crucial resistance factor that protects the chain from undesirable bending is up to 6% higher with the profile chain than with a round - link chain that has the same cross - section.

This reduces the maximum tension in the chain (no red sections).

Grade 120 items has 20% higher load capacity compared to Grade 100 items and has 50% higher load capacity compared to Grade 80 items. Significantly reduced weight and easier handling with Pewag Winner Pro for end - users.







Load Capacity (kg)	Pewag Winner Chain Diameter (mm)	Pewag Winner Pro Chain Diameter (mm)
4.250	10	8
7.100	13	10
11.200	16	13

Load Capacity (kg)	G8 Chain Weight (kg)	Pewag Winner Pro Chain (kg)	% Reduction
3.350	16,60	9,37	44 %
4.250	16,60	11,80	29 %
7.100	28,53	19,19	33 %
11.200	43,61	34,10	22 %

- Highly efficient for many load ranges, as the size of the chain slings is reduced by one dimension compared to Grade 80 and Grade 100 chain slings.
- Optimised strength and toughness characteristics at high and low temperatures thanks to patented material.
- High stability and a low level of wear guarantee a longer life span.
- Innovative chain system that may be used for lifting or lashing; also suitable for many other applications thanks to its robust design.
- Complete traceability thanks to identification stamp on chain and components, enabling users to track the entire manufacturing process.
- Easy visual identification thanks to profile chain and Grade 120 stamp on each chain link.
- The light blue powder coating on chains and components for corrosion protection is optionally available in the tried and tested corropro coating (PCP) for maximum corrosion resistance. WINPRO 200 Chains are painted in light gray.
- Maximum safety thanks to innovative load capacity tag made from rust - resistant material and including safety warnings.
- ISO 9001 certification as a testimony to quality - assured, European manufacturing.
- Simple spare parts ordering system and top - quality service provided by a global sales network.
- Pioneering role: Pewag is the first manufacturer to have launched the innovative Grade 120 chain system, based on its wealth of experience.

Exceptional conditions of use

Even premium quality products will lose some of their load capacity when exposed to high temperatures, asymmetrical loading, edge loading, shocks or other severe operating conditions. Please refer to the operating manuals if you think that any of these conditions apply. We are classifying the following factors as severe conditions.

Temparature Range	-60 °C to 200 °C	201 °C to 300 °C	Above 300 °C
Load Factor	1	0,6	Not permitted
Edge Load	R= Larger than 2 times the chain diameter 	R= Larger than chain diameter 	R= Smaller than or equal to chain diameter 
Load Factor	1	0,7	0,5
Shock Loading	Light shocks	Moderate shocks	Strong shocks
Load Factor	1	0,7	Not permitted
Please see the basic usage information for safe usage information.			

GRADE 120
WINPRO FLEX 300

Code	Chain Diameter dn	Pitch t	Inside Width b1 Min.	Outside Width b2 Max.	Load Capacity	Breaking Force	Weight
	(mm)	(mm)	(mm)	(mm)	(ton)	(kN)	(kg/m)
WINPRO FLEX 300 PC/B							
WINPRO 7 FLEX 300	7,00	22,0	10,0	26,0	2,36	92,6	1,36
WINPRO 8 FLEX 300	8,00	25,0	11,3	29,0	3,00	118,0	1,64
WINPRO 10 FLEX 300	10,0	33,0	14,2	37,0	5,00	196,0	2,70
WINPRO 13 FLEX 300	13,0	41,0	18,6	50,0	8,00	314,0	4,80
WINPRO 16 FLEX 300	16,0	51,0	22,8	60,0	12,5	491,0	7,17
WINPRO FLEX 300 PCP							
WINPRO 7 FLEX 300	7,00	22	10,0	26	2,36	92,6	1,36
WINPRO 8 FLEX 300	8,00	25	11,3	29	3,00	118	1,64
WINPRO 10 FLEX 300	10,0	33	14,2	37	5,00	196	2,70
WINPRO 13 FLEX 300	13,0	41	18,6	50	8,00	314	4,80
WINPRO 16 FLEX 300	16,0	51	22,8	60	12,5	491	7,10

GRADE 120
WINPRO FLEX 200

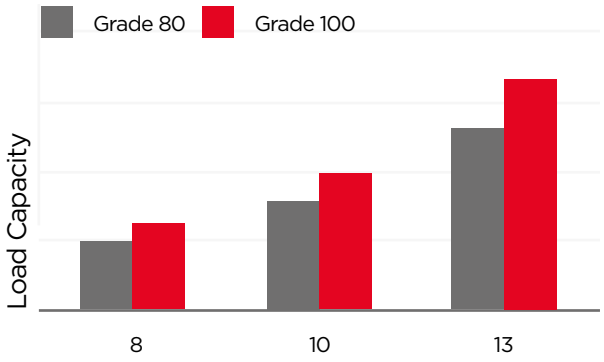
Code	Chain Diameter dn	Pitch t	Inside Width b1 Min.	Outside Width b2 Max.	Load Capacity	Breaking Force	Weight
	(mm)	(mm)	(mm)	(mm)	(kg)	(kN)	(kg/m)
WINPRO 7 FLEX 200	7,00	22,0	10,0	26,0	2.360	92,6	1,36
WINPRO 8 FLEX 200	8,00	25,0	11,0	29,0	3.000	118	1,64
WINPRO 10 FLEX 200	10,0	33,0	14,0	37,0	5.000	196	2,70
WINPRO 13 FLEX 200	13,0	41,0	19,0	50,0	8.000	314	4,80
WINPRO 16 FLEX 200	16,0	51,0	23,0	60,0	12.500	491	7,17

GRADE 100 LIFTING CHAINS

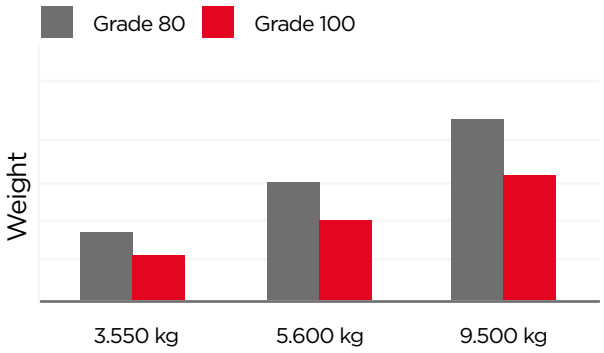
pewag | GRADE 100

Advantages:

- 25% more load capacity compared to Grade 80
- Simplified handling thanks to a 30% weight reduction



Load Capacity (kg)	G8 Chain Diameter (mm)	Pewag Winner Chain Diameter (mm)
3.550	10	8
5.600	13	10
9.500	16	13



Load Capacity (kg)	G8 Chain Weight (kg)	Pewag Winner Chain Weight (kg)	% Weight Reduction
3.550	16,2 kg	11,0 kg	32%
5.600	27,6 kg	17,6 kg	36%
9.500	42,2 kg	29,6 kg	30%

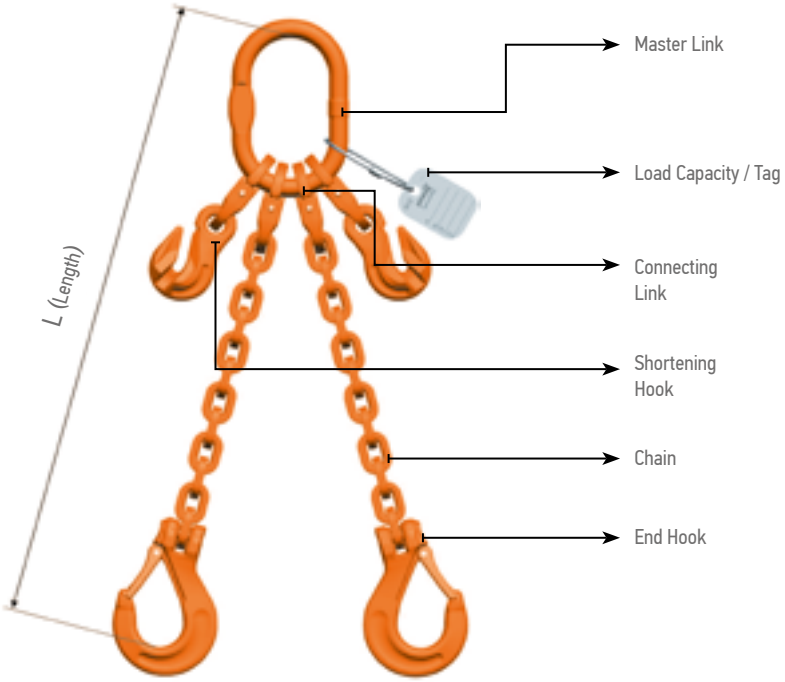
- Attractive price/performance ratio thanks to the small price differential compared to Grade 80.
- One dimension smaller than Grade 80 slings, for many load ranges – thus providing excellent value.
- Extended service life due to higher wear resistance.
- WIN 400 Easy identification – each link is marked with “W”. WIN 200 Easy identification – each link is marked with “10”.
- Code on chain and component ensures traceability of all manufacturing data
- Distinctive oval-shaped tags with precise information helps avoid confusion with Grade 80.
- High - visibility orange powder - coating for simple visual identification.
- Largest range of components in special Grade 100 quality – for 11 chain dimensions.
- Fastest and simplest assembly of slings thanks to VXKW set with unique shortening element.
- Thanks to XKW and PW, additional safety feature compared to shortening claws, thus reducing risks resulting from improperly attached chains of our shortening hooks.
- Easier and faster annual and daily inspection as fewer components are used.
- Compatible with our Grade 80 range – used slings are easy to repair.

  NOTE: Grade 10 components may be used to repair Grade 80, but not at an increased load capacity!
- First company to offer parallel hooks with 100% load capacity – shortening of the sling chain does not require a reduction in load caused by shear effect of the hook!
- 3 assembly systems of slings: Welded, Connex and Clevis system.

Sample Order Text:

Pewag Winner 200 13 mm 2 leg 3.500 mm with shortening device and hook.

WIN 13 200	Chain dia
II	Number of legs
AW	Master link
KHSW	End hook
PW	Shortening hook
CW	Connecting link
3.500	Length (mm)



Exceptional Conditions of Use:

Temperature		-40 °C to 200 °C	200 °C to 300 °C	300 °C to 380 °C
Load Factor	Pewag Winner 200	1	Not Permitted	Not Permitted
	Pewag Winner 400	1	0,9	0,75
Edge Load		R= Larger than 2 times the chain diameter 	R= Larger than chain diameter 	R= Smaller than or equal to chain diameter 
Load Factor		1	0,7	0,5
Shock Load		Light Shocks	Moderate Shocks	Strong Shocks
Load Factor		1	0,7	Not Permitted

Please see the basic usage information for safe usage information.

Chain Qualities

Pewag WINPRO FLEX 200: Based on EN 818-2 with modifications (profile, higher load capacity, reduced operating temperature).

Pewag WINPRO FLEX 300: based on PAS 1061 with modifications (profile, higher load capacity, reduced operating temperature).

Stress at capacity limit: 300 N/mm²

Test stress: 750 N/mm²

Breaking stress: 1200 N/mm²

Breaking elongation: Min. 20%

Bending according to EN 818-2 and PAS 1061: 0.8xd

Quality grade stamping:

pewag WINPRO FLEX 200: PEWAG12 / 200 on every 20th link and 12 on the back of each link.

pewag WINPRO FLEX 300: PEWAG12 every 300 mm and 12 on the back of each link.

Components: 12

Manufacturer's name or symbol: D16 and/or PEWAG

Surface:

Pewag WINPRO FLEX 200: Light gray coating

Pewag WINPRO FLEX 300: Light blue powder - coating or black corropro (PCP) coating.

Components: Light blue powder coating.

Sling tag: Shows required data according to EN 818-4

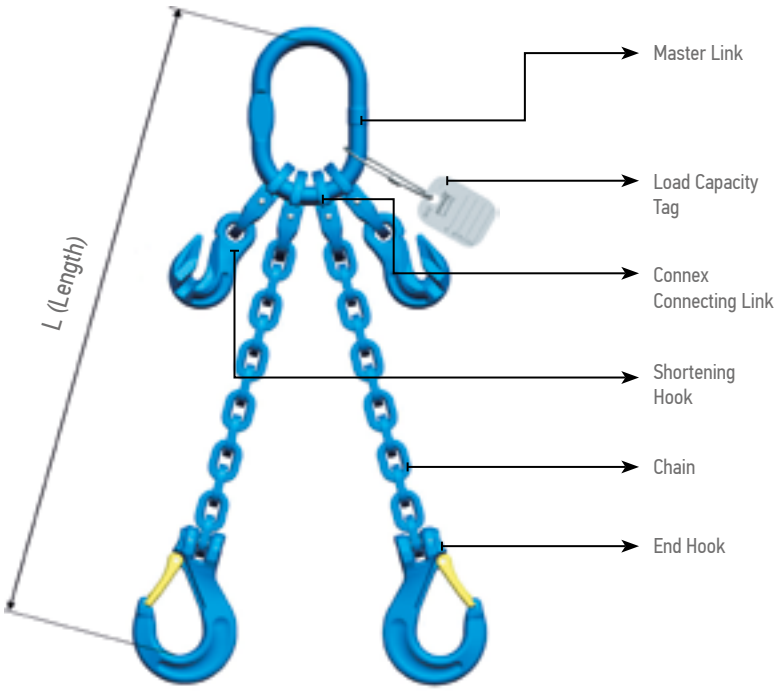
Compatibility:

Please note that the compatibility of Pewag Winner Pro chains and components with those of other grades and from other manufacturers is limited! For this reason, any combinations shall be approved by PEWAG in advance.

Sample order text for pewag winner pro lifting products:

Pewag Winner Pro Flex 200, 8 mm, 2 legs 3.500 mm, with shortening option and safety hook

WINPRO 8	Chain diameter
FLEX 200	Code of Pewag chains
II	Number of legs
AWP	Master link
KHSWP	End hook
PWP	Shortening hook
3.500	Length (mm)



WINNER 400 LIFTING CHAINS

Code	Chain Diameter	Pitch t	Inside Width b1 Min.	Outside Width b2 Max.	Load Capacity	Breaking Force	Weight
	(mm)	(mm)	(mm)	(mm)	(ton)	(kN)	(kg/m)
WIN 5 400	5,00	16,0	7,50	18,5	1,00	39,30	0,61
WIN 6 400	6,00	18,0	8,70	22,2	1,40	56,50	0,96
WIN 7 400	7,00	21,0	9,50	25,2	1,90	77,00	1,20
WIN 8 400	8,00	24,0	10,9	28,8	2,50	101,0	1,57
WIN 10 400	10,0	30,0	13,5	36,0	4,00	157,0	2,46
WIN 13 400	13,0	39,0	17,5	46,8	6,70	265,0	4,18
WIN 16 400	16,0	48,0	21,5	57,6	10,0	402,0	6,28
WIN 19 400	19,0	57,0	26,6	69,4	14,0	567,0	8,92
WIN 22 400	22,0	66,0	29,5	79,2	19,0	760,0	11,9
WIN 26 400	26,0	78,0	35,0	94,0	26,5	1.060	16,2
WIN 32 400	32,0	96,0	43,2	115	40,0	1.610	24,1

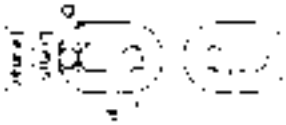
Chain is painted blue, optionally, tried and tested corrosive coating for maximum corrosion resistance can also be supplied with PCP.

WINNER 200 LIFTING CHAINS

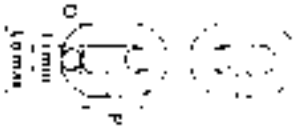
Code	Chain Diameter	Pitch t	Inside Width b1 Min.	Outside Width b2 Max.	Load Capacity	Outside Width b2 Max.	Weight
	(mm)	(mm)	(mm)	(mm)	(ton)	(kN)	(kg/m)
WIN 5 200	5,00	16,0	7,50	18,5	1,00	39,30	0,61
WIN 6 200	6,00	18,0	8,70	21,6	1,40	56,50	0,96
WIN 7 200	7,00	21,0	9,50	25,2	1,90	77,00	1,20
WIN 8 200	8,00	24,0	10,9	28,8	2,50	101,0	1,57
WIN 10 200	10,0	30,0	13,5	37,0	4,00	157,0	2,46
WIN 13 200	13,0	39,0	17,5	46,8	6,70	265,0	4,18
WIN 16 200	16,0	48,0	21,5	57,6	10,0	402,0	6,28
WIN 19 200	19,0	57,0	26,6	69,4	14,0	567,0	8,92
WIN 22 200	22,0	66,0	29,5	79,2	19,0	760,0	11,9
WIN 26 200	26,0	78,0	35,0	94,0	26,5	1.060	16,2
WIN 32 200	32,0	96,0	43,2	115	40,0	1.610	24,1

Chain is not coated, optionally, tried and tested corrosive coating for maximum corrosion resistance can also be supplied with PCP.

LASHING CHAIN SUPER ALLOY - EN 818-2

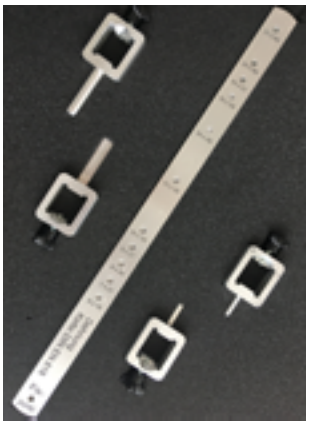


Chain Diameter	Pitch	Li Min.	Le Max.	Lashing Capacity	Breaking Force	Weight
(mm)	(mm)	(mm)	(mm)	(kN)	(ton)	(kg/m)
8,00	24,0	10,4	29,6	40,0	8,20	1,40
10,0	30,0	13,0	37,0	63,0	13,0	2,20
13,0	39,0	16,9	48,1	100	22,0	3,80



GRADE 80
SUPER ALLOY CHAIN EN 818-2

Chain Diameter	Tolerance	P	Tolerance	Li / min.	Le / max.	Working Load Limit	Breaking Load	Weight
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(ton)	(kg/m)
6,00	±0,24	18,0	±0,50	7,80	22,2	1.120	4,60	0,80
7,00	±0,28	21,0	±0,60	9,10	25,9	1.500	6,30	1,10
8,00	±0,32	24,0	±0,70	10,4	29,6	2.000	8,20	1,40
10,0	±0,40	30,0	±0,90	13,0	37,0	3.150	13,0	2,20
13,0	±0,52	39,0	±1,20	16,9	48,1	5.300	22,0	3,80
16,0	±0,64	48,0	±1,40	20,8	59,2	8.000	33,0	5,70
18,0	±0,90	54,0	±1,60	23,4	66,6	10.000	41,0	7,30
20,0	±1,00	60,0	±1,80	26	74,0	12.500	51,0	9,00
22,0	±1,10	66,0	±2,00	28,6	81,4	15.000	62,0	10,9
26,0	±1,30	78,0	±2,30	33,8	96,2	21.200	87,0	15,2
32,0	±1,60	96,0	±2,90	41,6	118	31.500	131	23,0



4 DIMENSION CHAIN CONTROL DEVICE

Uygulamalar:

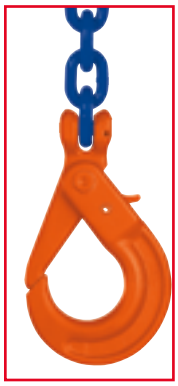
It is used to control the amount of elongation of load chains, electric chain cranes and lifting chains.

- Measurement possibilities from 6 mm to 22 mm in lifting chains offer.
- It is an ideal product for the detection of minimal elongations.
- It has a structure suitable for the type of chain to be tested.
- It is quick and easy to checked.
- It is safe and lightweight.

- Pioneer: In 1989, Pewag were the first to sell Grade 100 lifting chains and have a wealth of experience in this field from USA.

Welded System

Connex System



Clevis System

- Quality - approved European production by an ISO 9001 certified company.
- Worldwide distribution network – smooth supply of spare and replacement parts.
- All components comply with EN 1677.
- The Pewag WINNER 400 Chain meets the EN 818-2 with higher working load limit resp. PAS 1061 up to 16 mm and Machinery Directive 2006/42/EG.
- The Pewag WINNER 200 Chain meets the requirements of ASTM A973/A973M-01 and of EN 818-2 but with higher load capacity (however, admissible operating temperature of 200 °C max.) and 2006/42/EG Machinery Directive.

- Pewag winner – enviromentally friendly
- Significantly lowered energy and material consumption during manufacturing
- Reduced amount of materials used – preserving raw materials
- Low weight – ease of shipment
- Less material has to be recycled

Pewag Winner Characteristics Technical Features:

Chain Qualities:

Pewag Winner 200: Meets the requirements of ASTM A973/ A973M-01 and of EN 818-2 but with higher load capacity (however admissible operating temperature of 200 °C max.) and 2006/42/EG Machinery Directive.

Pewag Winner 400: Meets the EN 818-2 with higher working load limit resp. PAS 1061 up to 16 mm and Machinery Directive 2006/42/EC.

Stress at load capacity limit: 250 N/mm²
Test stress: 625 N/mm² – equals 2,5 times the load capacity.

Breaking stress: 1000 N/mm² – equals 4 times load capacity.

Breaking Elongation: Min. 20%

Bending according to EN 818-2 or PAS 1061:
0,8 x nominal diameter

Admissible operating temperature

Pewag Winner 200: 200 °C max.

Pewag Winner 400: 380 °C max.
(See load capacities table for reductions in special cases.)

Quality grade stamps:

Pewag Winner 200: 100 at a spacing of approx. 300 mm till 16 mm chain (0,9 mt for diameters above 16 mm) and 10 additionally on the back of each link.

Pewag Winner 400: "8W" at a spacing of approx. 300 mm up to 16 mm chain (0,9 mt for diameters above 16 mm) and "W" on the back of each link.

Components: Stamped "10" on each.

Manufacturer's name or symbol on the chain and components:

"PW" or "pewag

Surface:

Pewag Winner 200: Shot - blasted and clear coated.

Pewag Winner 400: Blue painted, alternatively PCP – please look at our private folder.

Components: Orange powder - coated.

Welded system: Blue painted, alternatively PCP – please look at our private folder.

Winner Identification Tags

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

These metal identification labels are only allowed to be used on predetermined pewag winner 200 and pewag winner 400 chain sling types.

In other words, the chain slings that are assembled are required to be completely made up of pewag winner accessories. When you use special lifting accessories on Pewag's Winner Chain Slings, metal labels can be used only when there is no change in Grade 100 lifting capacity.

Compatibility:

Pewag winner chains and components may be combined by a competent person under consideration of the manufacturer specifications with all Grade 80 components that meet the requirements of EN 818 and EN 1677. Furthermore, the pewag winner chains may be combined with all competitor chains and components that are compatible with EN 818 and EN 1677 qualified items. Please note that the products cannot be combined with items that do not comply with EN 818 or EN 1677! The maximum working load capacity of the overall system is always defined by its weakest part.

Only original pewag spare parts (e. g. pins and bolts, safety catches, etc.) may be used for pewag products, subject to inspection and approval by the competent person.

Product characteristics for stress crack corrosion are equal to those of Grade 80.

Standard Chain Sling Types

I AW-HSW
CONNEX

I AW-LHW
CONNEX

I AW-PSW
CONNEX

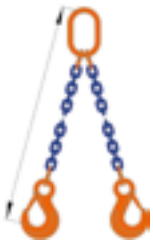
I AW-AW
CONNEX

I PSW
CONNEX

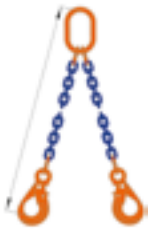
I HSW-HSW
CONNEX

I VXKW-KLHW
CONNEX

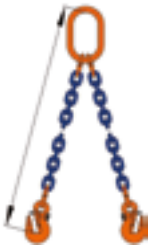
II AW-S-PW
CONNEX



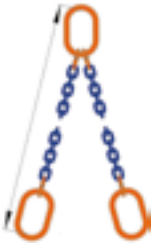
II AW-HSW
CONNEX



II AW-LHW
CONNEX



II AW-PSW
CONNEX



II AW-AW
CONNEX

II VXKW-HSW
CONNEX

II AW-HSW-AGWW
CONNEX

III VW-HSW
CONNEX

III VW-LHW
CONNEX

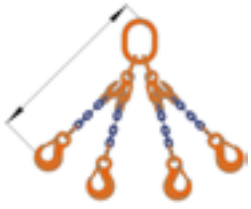
III VW-PSW
CONNEX

II VW-AW
CONNEX

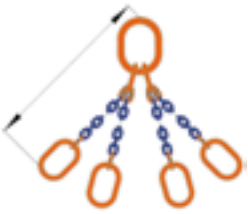
IV VXKW-HSW
CONNEX

IV VW-HSW-AGWW
CONNEX

IV VXKW-KLHW
CONNEX



IV VXKW-KLHW
CONNEX



IV VXKW-KLHW
CONNEX

S

SK
(up from dimension 8 mm!)

II AW-S
CONNEX

IV AW-S
CONNEX