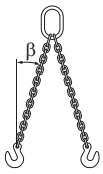
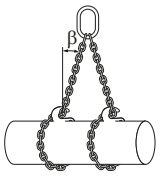
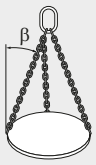
Chain and Accessory System in G12

Advantages and information

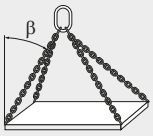
pewag winner pro load capacities

The load capacities listed are maximum values of the various sling types, stated according to the standard (Uniform Load) method of rating.

Safety factor 4		I-leg chains		II-leg chains		III- + IV-leg chains		III- + IV-leg chains
								
Angle of inclination β		-	-	0°–45°	45°–60°	0°–45°	45°–60°	0°–45°
Load factor		1	0,8	1,4	1	1,12	0,8	2,1
Code	**d**	**Load capacity [kg]**						
WINPRO 7	7	2.360	1.900	3.350	2.360	2.650	1.900	5.000
WIN 7	7	1.900	1.500	2.650	1.900	2.120	1.500	4.000
Ni 7 G8	7	1.500	1.200	2.120	1.500	1.700	1.200	3.150
WINPRO 8	8	3.000	2.360	4.250	3.000	3.350	2.360	6.300
WIN 8	8	2.500	2.000	3.550	2.500	2.800	2.000	5.300
Ni 8 G8	8	2.000	1.600	2.800	2.000	2.240	1.600	4.250
WINPRO 10	10	5.000	4.000	7.100	5.000	5.600	4.000	10.600
WIN 10	10	4.000	3.150	5.600	4.000	4.250	3.150	8.000
Ni 10 G8	10	3.150	2.500	4.250	3.150	3.550	2.500	6.700
WINPRO 13	13	8.000	6.300	11.200	8.000	9.000	6.300	17.000
WIN 13	13	6.700	5.300	9.500	6.700	7.500	5.300	14.000
Ni 13 G8	13	5.300	4.250	7.500	5.300	5.900	4.250	11.200

If the chain slings are used in severe conditions (e.g. high temperature, asymmetric load distribution, edge load, impact/shock loads) the maximum load capacity values in the table must be reduced by the load factors on page 20.

Please also note the user information on this topic.

III- + IV- leg chains	III- + IV- leg chains with load distributor		Endless chain sling	Single lifting sling		Double lifting sling	
							
45°–60°	0°–45°	45°–60°	-	0°–45°	45°–60°	0°–45°	45°–60°
1,5	2,8	2	1,6	1,4	1	2,1	1,5
3.550	6.700	4.750	3.750	3.350	2.360	5.000	3.550
2.800	5.300	3.750	3.000	2.650	1.900	4.000	2.800
2.240	4.000	3.000	2.500	2.120	1.500	3.150	2.240
4.500	8.500	6.000	4.750	4.250	3.000	6.300	4.500
3.750	7.100	5.000	4.000	3.550	2.500	5.300	3.750
3.000	5.600	4.000	3.150	2.800	2.000	4.250	3.000
7.500	14.000	10.000	8.000	7.100	5.000	10.600	7.500
6.000	11.200	8.000	6.300	5.600	4.000	8.000	6.000
4.750	8.500	6.300	5.000	4.250	3.150	6.700	4.750
11.800	-	-	12.500	11.200	8.000	17.000	11.800
10.000	-	-	10.600	9.500	6.700	14.000	10.000
8.000	-	-	8.500	7.500	5.300	11.200	8.000

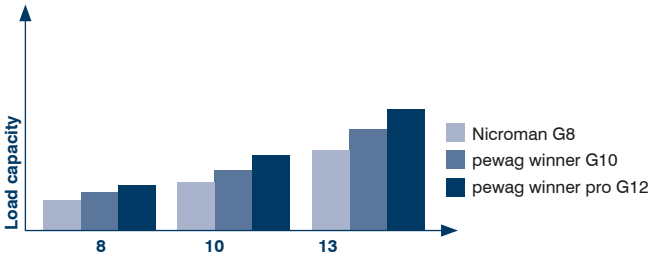
Features and benefits of pewag lifting chains in G12 quality

The higher Working Load Limits (WLL) of the pewag winner G12 program (50% more compared to G8 programs) allows significant weight reduction. Reducing the weight of the chain sling makes the assembly easier to use for the end-user. Additionally, the profile of the chain improves the bending resistance of the chain. This is significant when loading the chain over a corner.

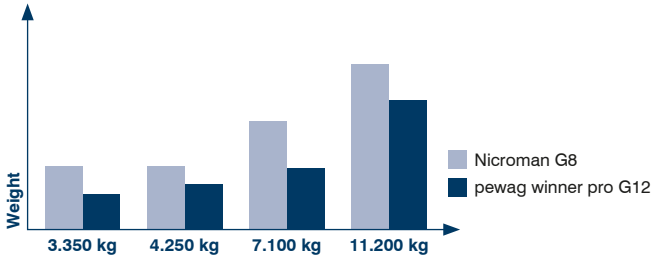
- **Intelligent profile** – because of the intelligent use of material, the major characteristics of the chain (i.e. fatigue resistance and bending resistance) were improved in a remarkable way, when you compare the same cross section of the profile chain versus the round steel chain. In order to reach the best mechanical performance, the material use was optimized on effective areas (blue area) and reduced on less relevant areas (red area)

- **Optimized bending resistance:** The section modulus which is important for preventing undesirable bending deformation is up to 16% higher with the profile chain compared to round steel chain with the same cross section. Therefore the max. stress in the chain is reduced (no red areas)

- **50% higher load capacity** compared to G8, **20% higher load capacity** compared to G10



- **Obvious weight** reduction and consequently easier handling



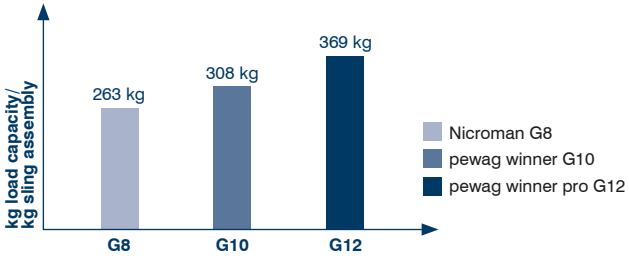
Load capacity [kg]	Previous chain weight [kg]	pewag winner pro chain weight [kg]	% Reduction
3.350	16,60	9,37	44%
4.250	16,60	11,80	29%
7.100	28,53	19,19	33%
11.200	43,61	34,10	22%

- **One dimension smaller** compared to G8 and G10 chain slings for many load ranges – thus providing excellent value.

Load capacity [kg]	Previous chain-ø	pewag winner pro chain-ø
4.250	10 mm	8 mm
7.100	13 mm	10 mm
11.200	16 mm	13 mm

- **Patent-registered material** with optimized strength and toughness properties at both high and low temperatures

- **Weight based performance** – pewag winner pro represents the „Formula 1“ of technical chains



- **Longer lasting** due to higher wear resistance and less abrasion

- **Innovative chain system** that due to its ruggedness can be used for many applications not just for lifting or lashing

- **Complete traceability –** chains and components are stamped with an identification mark so that the whole production process can be tracked

- **Easy visual identification** due to profiled chain and G12 marking on every link

- **Corrosion protection** by means of light blue powder coating of chains and components. pewag offers as an alternative the proven corropro coating (PCP) for pewag winner pro G12 chains for a maximum corrosion protection. Please find further details in our special folder

- **Maximum security** due to novel identification tag made from stainless steel with warning notes

- **Quality approved European production** by an ISO 9001 certified company

- **Worldwide distribution network –** easy delivery of spare parts – premium service

- **Experience –** pewag is the first supplier of an innovative G12 chain system

pewag winner pro Data

- **Chain quality:** pewag winner pro meets the PAS 1061 standard with modifications (higher mechanical and impact strength values, reduced application temperature)
- **Stress at load capacity limit:** 300 N/mm²
- **Fatigue test:** 20.000 cycles at 450 N/mm² nominal stress
- **Test stress:** 750 N/mm²
- **Breaking stress:** 1.200 N/mm²
- **Breaking elongation:** min. 20% regardless of surface
- **Bending:** 0.8 x d
- **Stress crack corrosion:**
  Harmless against stress crack corrosion acc. to PAS 1061
- **Impact strength toughness:** 42J at -60°C
- **Admissible operating temperature:** -60°C – 300°C (please note WLL reduction at high temperatures)
- **Quality grade stamping:** pewag winner pro chain – 12 resp. 120 at a distance of 300 mm apart and 12 on the back of each link pewag winner pro components – 12
- **Manufacturer's Name or Symbol:** D16 and/or pewag
- **Surface:**
  Chain – light blue powdercoated – RAL 5012 or
  black corropro (PCP) coated – similar to RAL 9005
  Components – light blue powdercoated – RAL 5012
- **Working load tag** / **Identification tag:** all the required data is shown on the tag. A specially shaped tag was created for easy identification and avoidance of confusion
- **Compatibility:** pewag winner pro chains and components have only limited compatibility with chains and components of other suppliers. Compatibility should be checked in advance with the manufacturer

pewag winner pro History

1997 Commencement of development of a profiled and case-hardened hoist chain

1998 Approval of profile hoist chain by German employer's liability insurance association in accordance with EN 818-7 for chain type DAT with H16 as the first manufacturer worldwide

2000 Use of profile hoist chain in series production

2001 Development of the next generation of chains and accessories in G12

2003 G12 program was established successfully in the US market - first company worldwide

2004 Patent specification for high-performance chain steel for manufacturing G12-chains PCT/CH 2004/000568

2004 Pinnacle Award – prestige award for the most innovative product in the lifting industry from the renowned US magazine „Lift and Access"

2004 Utility model specification no. AT 006 802 U1 for lifting chains with break stress of 1.200 N/mm²

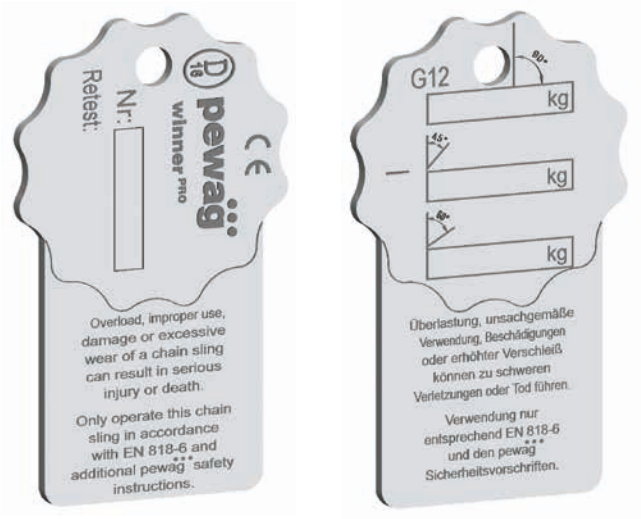
2008 Approval of pewag winner pro chain system G12 by German employer's liability insurance association – Authorization for marking „D16"

2008 5th anniversary of G12 program on the occasion of CeMAT 2008 in Hannover

pewag winner pro Identification

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

pewag winner pro - old chain ID Tag:



New rectangular lifting identification tags

During the first half of 2014, pewag will change the design of the lifting identification tags to a rectangular shape made of corrosion-resistant material attached to the sling with an undetachable, rustproof quick release fastener. Through this measure, pewag has taken another great step forward towards establishing better safety.

Within all norm documents for lifting chains, the number of corners that the identification tag features corresponds to the grade category of the lifting chain. Many users of lifting chains use this and the chain dimensions to estimate the load carrying capacity of the lifting chain without taking the markings (stamping) on the identification tag into consideration. This can lead to more serious consequences; for example when a component of lower grade classification – and therefore of lower carrying capacity – or a component with differing characteristics than the recommended classification on the identification lable, e.g. operating temperature, is built in.

We pursue the goal of continuously increasing the user's safety.

The benefits you will enjoy as a result of this new safety feature are:

- Looking at the indentification tag before each lifting procedure becomes unavoidable thus reducing erroneous assessments of the lifting chain's carrying capacity
- When the marking is not observed, the lifting chain will be classed as a maximum grade 4
- Corrosion-resistant: therefore resistant to solvents, acids, caustics and their vapours
- Easily replaceable due to the rustproof cable with quick fastener
- All information is engraved allowing for customer-specific markings
- Pre-stamped year dates for the periodic inspections make it immediately apparent when the last inspection took place. For the periodic inspection it is only necessary to stamp the month

pewag winner pro load capacities, Demanding conditions, Example of order text

Informations

Demanding conditions

Temperature	-60°C – 200°C	201°C – 300°C	above 300°C
Load factor	1	0,6	not permissible
Asymmetric load distribution	In this case the working load limit must be reduced by at least one chain leg, for example a III-leg or IV-leg sling is to be classified as a II leg chain sling. In case of doubt, it must be supposed that only one of the chain legs carries the entire load.		
Edge load*	R = larger than 2x d* 	R = larger than d* 	R = smaller than d* 
Load factor	1	0,7	0,5
Shock	slight shocks	medium shocks	strong shocks
Load factor	1	0,7	not permissible

* d = thickness of the material

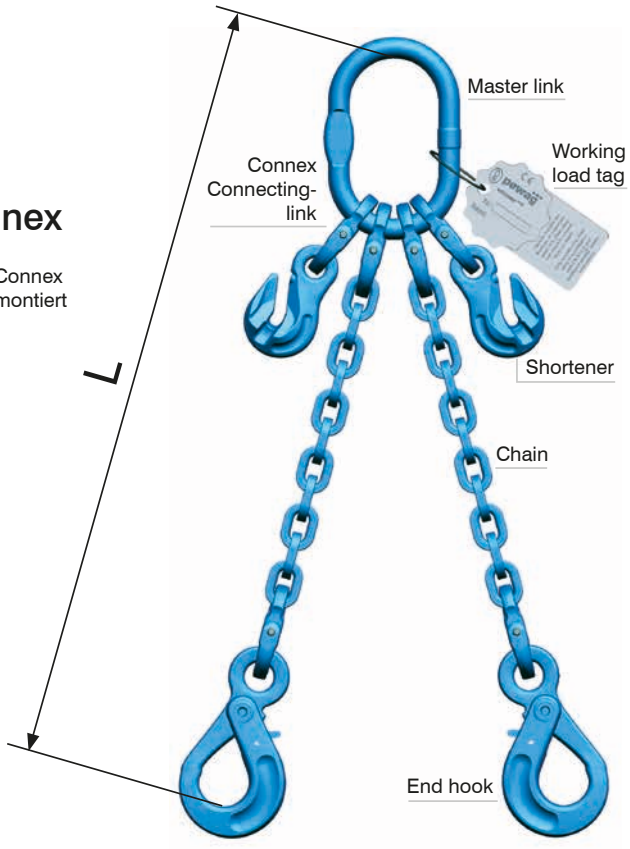
pewag winner pro Lifting Example of order text

Below you will find an example of a finished pewag chain sling that can be commercially ordered.

pewag winner pro 8 mm – II-leg chain sling with shortener and safety hook, assembled with connex-connecting links, Length: 3.500 mm

WINPRO 8 II AWP – LHWP – PWP 3.500 Connex

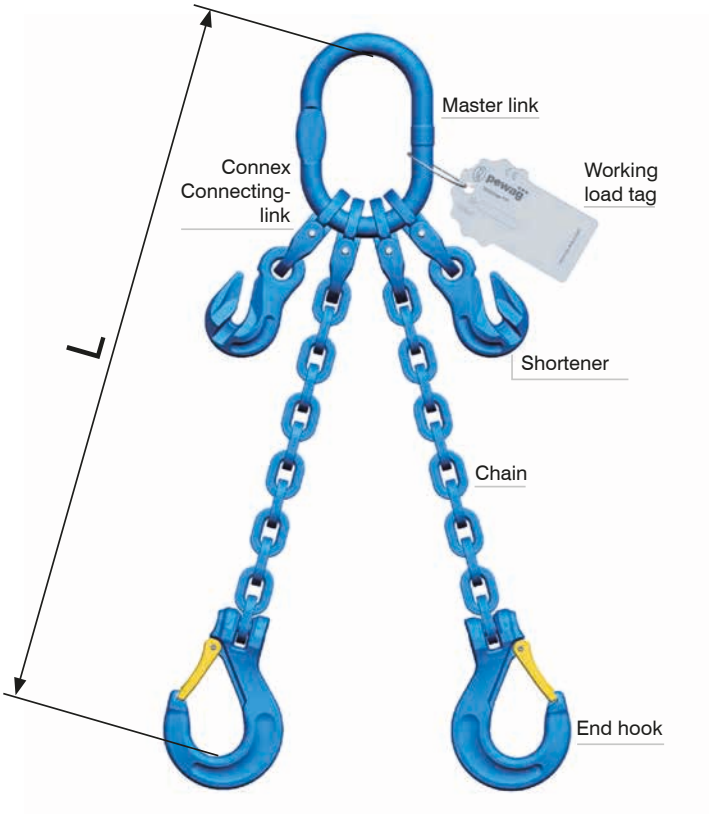
Nenndurch-messer	Strang-anzahl	Aufhänge-glied	End-haken	Verkürzungs-haken	Länge [mm]	Connex montiert



Connex System

WINPRO 8 II AWP – KHSWP – PWP 3.500 Connex

Nominal diameter		Number of legs	Master link	End hook	Shortener	Length [mm]	Connex mounted

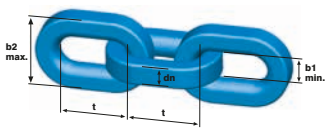


Chains in G12

Product overview

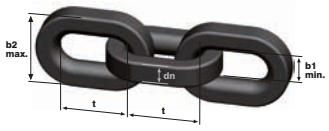
PC/B Lifting chain pewag winner pro

Corresponding to PAS 1061 with modifications.
The heavy duty chain in grade 12.
Specially rugged profile chain in G12.

WINPRO Chain PC/B	Code	Material thickness dn [mm]	Standard delivery length [m]	Pitch t [mm]	Inside width b1 min. [mm]	Outside width b2 max. [mm]	Load capacity [kg]	Breaking force [kN]	Weight [kg/m]
	WINPRO 7	7	50	22	10	26	2.360	92,60	1,36
	WINPRO 8	8	50	25	11	29	3.000	118,00	1,64
	WINPRO 10	10	50	33	14	37	5.000	196,00	2,70
	WINPRO 13	13	50	41	19	50	8.000	314,00	4,80

PCP Lifting chain pewag winner pro

Corresponding to PAS 1061 with modifications.
The heavy duty chain in grade 12.
Specially rugged profile chain in G12.

WINPRO Chain PCP	Code	Material thickness dn [mm]	Standard delivery length [m]	Pitch t [mm]	Inside width b1 min. [mm]	Outside width b2 max. [mm]	Load capacity [kg]	Breaking force [kN]	Weight [kg/m]
	WINPRO 7	7	50	22	10	26	2.360	92,60	1,36
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	WINPRO 10	10	50	33	14	37	5.000	196,00	2,70
	WINPRO 13	13	50	41	19	50	8.000	314,00	4,80

As leading innovater pewag is the first supplier of a G12 chain system in an outstanding quality worldwide.

pewag winner pro chain systems