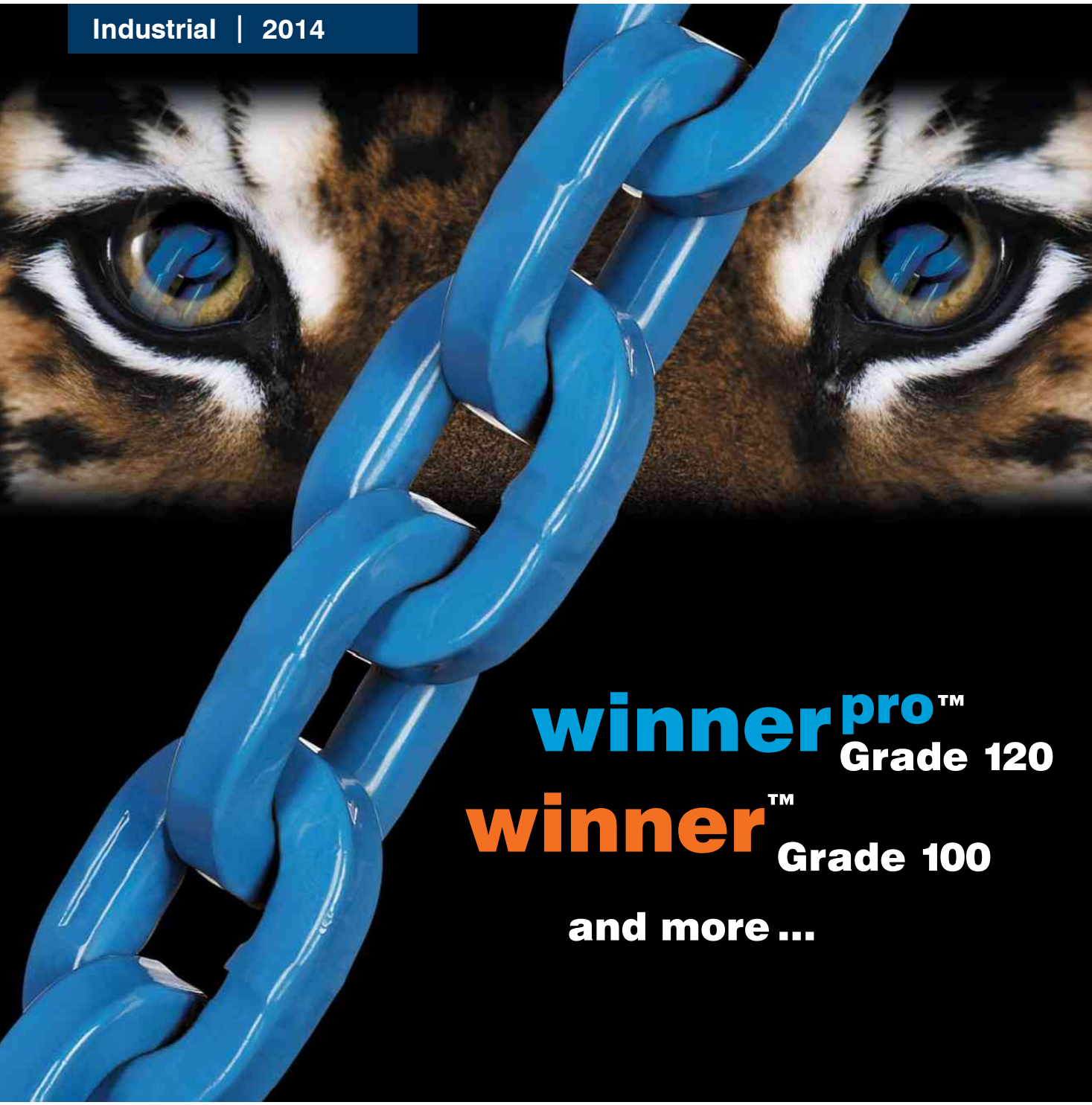
pewag

STRONG IS NOT ENOUGH
www.pewag.com

product catalog

Industrial | 2014



winner pro™ Grade 120

winner™ Grade 100

and more ...

Group pewag

History

At the core of chain innovation since 1479

pewag is one of the oldest chain manufacturers in the world and the company's history goes back over 535 years when the first production facility was established in the town of Bruckl, Austria in 1479. With over 535 years of engineering and manufacturing know-how, pewag has continued its research and development to provide the highest-quality innovative chain products to the market.
The pewag brand is well-known for premium-quality chain products around the world and is well established as a global market leader.

Today, pewag is the technological innovator in the high quality chain business and offers a diverse liveof round-link chains for overhead lifting, hoists, conveying, traction and tire protection chains.

Timetable of important events

1479 First documented references of a forging plant in Brückl
1787 Foundation of a chain forgery in Kapfenberg
1803 Foundation of a chain forgery in Graz
1836 Establishment of an iron casting plant in Brückl
1912 Production of the First Snow Chain worldwide
1923 Merger of plants in Graz and Kapfenberg – Creation of the name "pewag"
1947 Production of the first Tire Protection Chain
1975 Established pewag Inc. the North American Distribution Compnay
1991 pewag introduces Grade 100 Chain and components as the first manufacturer in the world
1992 pewag produces the largest tire protection chain in the world -recorde in the Guinness Book of World Records
1993 Establishment of a manufacturing facility in Czech Republic
2002 pewag introduces Grade 120 chains and components as the first manufacturer in the world - The World's strongest chain
2003 pewag manufactures the world's largest TPC for a 60/80-57 giant loader tire
2004 pewag wins the Pinnacle Award for the introduction of Grade 120 in the USA
2007 pewag launches it's new generation of 23mm TPC
2009 pewag Inc. opens it's new North American headquarters in Bolingbrook, Illinois
2014 pewag opens first chain production plant outside of Europe in Pueblo, CO

Lithography forging plant Brückl 1855

Anchor chain forgery 1878

Chain forgers 1956

Business areas

Working with pewag products

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

Our Products range from:
- **Traction Chains** for cars, trucks, special purpose vehicles
- **Tire Protection Chains** for mining vehicles
- **Industrial Lifting Chains**.

Contact

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Grade 120

Grade 100

Grade 80

Grade 50

Other Chains

Lifting Points

Information

Specifications
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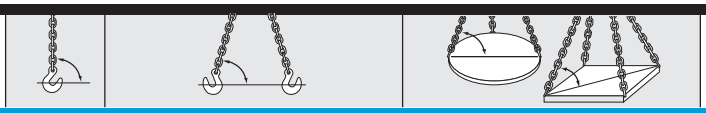
Maximum Work Load *[lbs]* of Various Chain Sling Applications

Design Factor 4:1



Grade 120 Alloy Winner Pro

Chain	Diameter	Angle: Load Factor:	90 degrees 1	60 degrees 1.7	45 degrees 1.4	30 degrees 1	60 degrees 2.6	45 degrees 2.1	30 degrees 1.45	Temperature Resistance
NI720	9/32″		5,200	9,000	7,400	5,200	13,500	11,000	7,800	Retains 100% of work load limit at -40 to 400°F. Not for temperatures over 400°F.
NI820	5/16″		6,600	11,400	9,300	6,600	17,100	14,000	9,900	
NI1020	3/8″		10,600	18,400	15,000	10,600	27,500	22,500	15,900	
NI1320	1/2″		17,900	31,000	25,300	17,900	46,500	38,000	26,900	

Grade 100 Alloy Winner

Chain	Diameter	Angle: Load Factor:	90 degrees 1	60 degrees 1.7	45 degrees 1.4	30 degrees 1	60 degrees 2.6	45 degrees 2.1	30 degrees 1.45	Temperature Resistance
NI5.50	7/32″		2,700	4,700	3,800	2,700	7,000	5,700	4,000	Retains 100% of work load limit at -40 to 400°F. Not for temperatures over 400°F.
NI70	9/32″		4,300	7,400	6,100	4,300	11,200	9,100	6,400	
NI80	5/16″		5,700	9,900	8,100	5,700	14,800	12,100	8,500	
NI100	3/8″		8,800	15,200	12,400	8,800	22,900	18,700	13,200	
NI130	1/2″		15,000	26,000	21,200	15,000	39,000	31,800	22,500	
NI160	5/8″		22,600	39,100	32,000	22,600	58,700	47,900	33,900	
NI200	3/4″		35,300	61,100	49,900	35,300	91,700	74,900	53,000	
NI220	7/8″		42,700	74,000	60,400	42,700	110,900	90,600	64,000	
NI260	1″		59,700	103,400	84,400	59,700	155,100	126,600	89,550	
NI320	1-1/4″		90,400	156,600	127,800	90,400	234,900	191,800	135,600	

Grade 80 Alloy

Chain	Diameter	Angle: Load Factor:	90 degrees 1	60 degrees 1.7	45 degrees 1.4	30 degrees 1	60 degrees 2.6	45 degrees 2.1	30 degrees 1.45	Temperature Resistance
NI5.5	7/32″		2,100	3,600	3,000	2,100	5,500	4,400	3,200	Retains 100% of work load limit at -40 to 400°F, 90% at 400 to 570°F, and 75% at 570 to 750°F. Not for temperatures over 750°F.
NI7	9/32″		3,500	6,100	4,900	3,500	9,100	7,400	5,200	
NI8	5/16″		4,500	7,800	6,400	4,500	11,700	9,500	6,800	
NI10	3/8″		7,100	12,300	10,000	7,100	18,400	15,100	10,600	
NI13	1/2″		12,000	20,800	17,000	12,000	31,200	25,500	18,000	
NI16	5/8″		18,100	31,300	25,600	18,100	47,000	38,400	27,100	
NI20	3/4″		28,300	49,000	40,000	28,300	73,500	60,000	42,400	
NI22	7/8″		34,200	59,200	48,400	34,200	88,900	72,500	51,300	
NI26	1″		47,700	82,600	67,400	47,700	123,900	101,200	71,500	
NI32	1-1/4″		72,300	125,200	102,200	72,300	187,800	153,400	108,500	

Grade 50 Stainless Steel

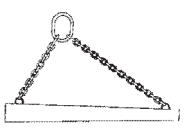
Chain	Diameter	Angle: Load Factor:	90 degrees 1	60 degrees 1.7	45 degrees 1.4	30 degrees 1	60 degrees 2.6	45 degrees 2.1	30 degrees 1.45	Temperature Resistance
NIK5	3/16″		1,100	1,900	1,600	1,100	2,900	2,300	1,700	Retains 100% of work load limit at -50 to 700°F.
NIK7	9/32″		2,200	3,800	3,100	2,200	5,700	4,600	3,300	
NIK10	3/8″		4,400	7,500	6,200	4,400	11,500	9,300	6,600	
NIK13	1/2″		7,100	12,100	10,000	7,100	18,500	14,900	10,700	
NIK 16	5/8″		11,000	18,700	15,600	11,000	28,600	23,100	16,500	

Reduction Factors

To be used for various slinging methods and conditions without shock loads.

Load factor: 0.8 1.4 1.4 1.6

Reduction factor: 0.7



Asymmetrical distribution of load

1

R = more than 2 x chain dia

0.7

R = more than chain dia.

0.5

Sharp corners

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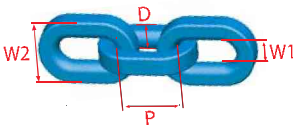
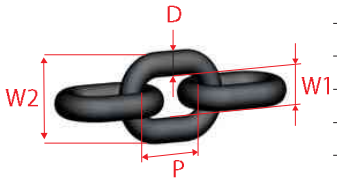
Chain | Dimensions, Weights



Grade 120 Alloy							
Code	Nominal Thickness D	Pitch p	Width Inside W1 min.	Width Outside W2 max	WLL lb Design Factor 4:1	Breaking Load [lb]	Weight [lb/ft]
NI720 (9/32″)	0.276 (7mm)	0.866	0.393	1.024	5,200	20,800	0.874
NI820 (5/16″)	0.315 (8mm)	0.984	0.433	1.142	6,600	26,400	1.040
NI1020 (3/8″)	.394 (10mm)	1.300	0.559	1.457	10,600	42,400	1.747
NI1320 (1/2″)	.512 (13mm)	1.614	0.732	1.949	17,900	71,600	3.091



Diameter	Grade 100 Alloy	Grade 80 Alloy	Grade 50 Stainless Steel	Nominal Dia. D	Pitch P	Inside W1 min	Outside W2 max.	Weight [lb/ft]
3/16″	-	-	NiK5	0.197	0.630	0.295	0.728	0.376
7/32"	NI5.50	NI5.5	-	0.217	0.680	0.319	0.787	0.470
9/32″	NI70	NI7	NIK7	0.276	0.826	0.375	0.992	0.738
5/16″	NI80	NI8	-	0.315	0.945	0.430	1.134	0.939
3/8″	NI100	NI10	NIK10	0.394	1.181	0.531	1.417	1.475
1/2″	NI130	NI13	NIK13	0.512	1.535	0.689	1.843	2.548
5/8″	NI160	NI16	NIK16	0.630	1.890	0.846	2.268	3.830
3/4″	NI200	NI20	-	0.787	2.440	1.008	2.776	5.780
7/8″	NI220	NI22	-	0.866	2.598	1.161	3.118	7.324
* 1″	NI260	NI26	-	1.024	3.071	1.378	3.704	10.214
1-1/4″	NI320	NI32	-	1.260	3.780	1.657	4.646	15.455

* Dimensions are for Grade 100, for Grade 80 the inner width W1 minimum is smaller, also W2 max is bigger.

Chain | Load Rating

Grade 120 Alloy				Grade 100 Alloy				Grade 80 Alloy				Grade 50 Stainless Steel			
Diameter	Working load [lb] Design factor 4:1	Manufacturing test load [lb]	Breaking load [lb]	Diameter	Working load [lb] Design factor 4:1	Manufacturing test load bracket [lb]	Breaking load [lb]	Diameter	Working load [lb] Design factor 4:1	Manufacturing test load [lb]	Breaking load [lb]	Diameter	Working load [lb] Design factor 4:1	Manufacturing test load [lb]	Breaking load [lb]
												3/16″	1,100	2,200	4,400
				7/32″	2,700	5,400	10,800	7/32″	2,100	4,200	8,400				
9/32″	5,200	10,400	20,800	9/32″	4,300	8,600	17,200	9/32″	3,500	7,000	14,000	9/32″	2,200	4,400	8,800
5/16″	6,600	13,200	26,400	5/16″	5,700	11,400	22,800	5/16″	4,500	9,000	18,000				
3/8″	10,600	21,200	42,400	3/8″	8,800	17,600	35,200	3/8″	7,100	14,200	28,400	3/8″	4,400	8,800	17,600
1/2″	17,900	35,800	71,600	1/2″	15,000	30,000	60,000	1/2″	12,000	24,000	48,000	1/2″	7,100	14,200	28,200
				5/8″	22,600	45,200	90,400	5/8″	18,100	36,200	72,400	5/8″	11,000	22,000	44,000
				3/4″	35,300	70,600	141,200	3/4″	28,300	56,600	113,200				
				7/8″	42,700	85,400	170,800	7/8″	34,200	68,400	136,800				
				1″	59,700	119,400	238,800	1″	47,700	95,400	190,800				
				1 1/4″	90,400	180,800	361,600	1 1/4″	72,300	144,600	289,200				

Continuous Maintenance

Chain and fittings must be withdrawn from service if any damage or deformation is noticed.

Maintenance

Keep a record for all chain slings, and inspect them regularly in accordance with federal regulations and standards. (ASME B30.9)

Inspection Procedure

Each link and each attachment shall be examined individually, taking care to expose inner link surfaces of the chain and attachments.

Visual Inspection

Check for wear, nicks, cracks, breaks, gouges, stretch, bends, weld splatter, discoloration from excessive heat and throat opening of hooks.

Measuring

The medium link thickness must not be reduced by more than 10% of the nominal diameter on any part of the chain.
The elongation of the chain should not exceed 5% at any point.

WARNING

Inspection and testing should be carried out in accordance with all relevant regulations.

Lifting...

...is dangerous work only competent persons are allowed to do. Please keep in mind all the hazards and risks covered in ASTM-A906, ISO 3056, EN 818-6 and other relevant standards.

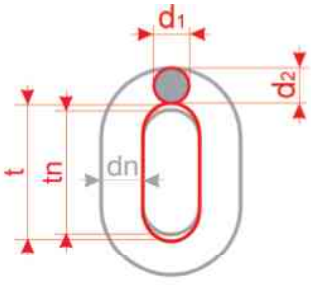
Maximum Tolerance

(For all chain and components).

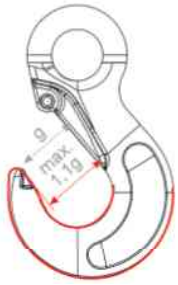
Maximal approved dimensional change:

Designation	Dimensions (as show on product page)	Admissible deviation
chain	dn	-10%
	tn	+5% = (t)
links	dn	-10%
	tn	+10% = (t)
hooks *	e	+5%
	d2 and h	-10%
	g	+10%
C, CAR, CL	Halves loose	no changing admissible
	e	+5%
	c	-10%
BW,	e	+5%
	d1	+5%
	angle change	≤3%
LH, KLH, WLH(B)W	d2	-10%
	h	-10%
	opening of hook (dimension s)	2x s max.

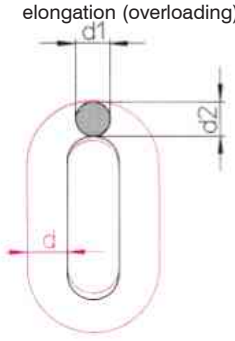
* HS, F, P, KHS, KSCH, KCH KF, KP, XK, KO, KR, DF



stretched due to elongation (overloading)



Hook bent open



Pitch (p) increased due to wear

To be removed whenever a deformation is noticed

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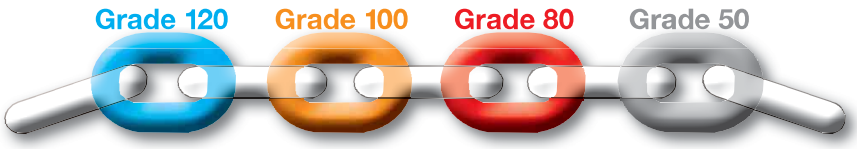
Identification And Testing



Pewag lifting chain and fitings are marked with a batch identification number and the manfaturer's identifcation marking: the number "120" or "12" to indicate Grade 120 Alloy, "100", "10" to indicate Grade 100 Alloy, "8" to indicate Grade 80 Alloy and "50" to indicate grade 50 Stainless.

All Alloy chains are 100% tested to 2 times the working load values and are furnished with a test certificate to this effect.

Every chain sling manufactured by pewag is supplied with a steel tag and test certificate as shown.

Messrs.

TEST CERTIFICATE

Order No.

Works Ref. No.

	Nominal Diameter D	Pitch P	Outside Length L	Width W	Weight Lbs.
Dimension of Chain					

Norm-Designation

Material	Welding Process	Heat Treatment

Pieces	Length in Feet	Weight in Lbs.	Safe Working Load in Lbs.	Production Proof Test Load in Lbs.	Breaking Load in Lbs.	Minimum Elongation

Total safe working load for multiple-leg chain

30° LBS.
45° LBS.
60° LBS.

Result of test

MEETS ALL STANDARDS

PEWAG INCORPORATED

DATE: