KWS INC. | THIELE®

KWS CATALOG 6.0

Rev. 1

Made in Germany

> Lifting Technology

> Load Securing Technology

> Light Material Handling

> Application Technology

CONTACT US

Sales & Service

Our friendly sales team is available for quotes, receiving & processing orders, and technical service.

Address

KWS Inc.
P.O. Box 470487
Tulsa, OK 74147
USA

Toll Free: +1 (800) 872-9313
Phone: +1 (539) 367-2274
Fax: +1 (539) 367-2278
email: sales@kwschain.com

Business hours

Monday to Friday:
8.00 am – 5:00 pm Central Time

WARNINGS:

Warning instructions are included in this catalog. Operating instructions for each product are either included with the products and / or are available at www.kwschain.com.
Manual instructions must always be reviewed before operation. Failure of the product can occur due to misapplication, abuse or improper maintenance, resulting in possible property damage, personal injury, or death.
Ratings shown are applicable to new products. Working Load Limits indicate the greatest force or load a product can take. Extraordinary conditions must be taken into account.
The working load limit of a chain sling must not exceed the working load limit of the weakest component in the system. The proof load on all items in this catalog is 2 times the working load limit unless otherwise shown.
Please also read the manual instructions and users guide on page 173-179 and download manuals using the QR-code below or from our website www.kwschain.com.

QR-Code for downloading operating and mounting instructions

CONTENT

Company Profile

KWS INC.
A MEMBER OF THE THIELE-GROUP

Our parent Company

THIELE was established in Iserlohn-Kalthof, Germany more than 85 years ago and the company is now one of the world's leading manufacturers of chain systems. The forging of quality components has become our focus and our strength. Customers benefit from our established expertise in product design and manufacturing, with everything we supply being produced at our plant in Iserlohn, Germany.

In addition to supplying the traditional markets for conveying and lifting equipment, we also operate in new future-oriented sectors like mobility and renewable energies.

Our ultimate goal is customer satisfaction based on fulfillment of high quality products that exceed enviromental and safety requirements. THIELE has a quality management system certified according to ISO 9001 and an environmental management system certified according to ISO 14001.

THIELE is also certified according to ISO 50001 energy management system and ISO 45001 occupational health and safety management system.

The longevity of our high-quality products saves resources and protects the environment.

Therefore, they enjoy an excellent reputation among our customers worldwide.

KWS Inc.

In 1995 the company THIELE GmbH & Co. KG established operations in the United States specifically focused on the sales of the THIELE brand of overhead lifting chain and components. Since then, Conveying Chain, Fishing Chain, Lifting Points, Manual Cranes, Hoist Chains as well as Magnet Chain Slings have been added to the product line. New products are continually being added, most recently various fittings and additional trade sizes to the Grade 100-Product range. Today, KWS Inc., with its main warehouse in Beckley, WV and regional warehouses in Chicago, IL and Los Angeles, CA, is able to supply German-made quality products to its valuable customers quickly. Our commitment is: "You need it, we have it"! Our logistics system ensures stock availability of at least 6-month sales, unique in the industry! THIELE GmbH & Co. KG is an innovative manufacturer with a long tradition in the production of round steel chains and forged parts for the Lifting technology sector.

Still today the company is family-owned. In close cooperation with our customers we are always searching for better and more innovative solutions. We are also supported by renowned universities and leading research institutes. We are continuously researching new knowledge in material technique and shaping in order to develop lighter, more solid, and safer products.


DNV

MANAGEMENT SYSTEM
CERTIFICATE

This is to certify that the management system of
THIELE
Thiele GmbH & Co. KG
Werkstr. 3, 58640 Iserlohn / Kalthof, Germany

has been found to conform to the Energy Management System standard:
ISO 50001:2018

This certificate is valid for the following scope:
Design, Development, Production, Sales and Service of link and conveyor chains as well as components and accessories for:
- mining
- lifting technology
- debris handling

The scope of the system includes all processes and assets under the company's control at the certified site.

IAF

In addition to aforementioned companies, the following also belong to the THIELE-group:

Schlieper GmbH & Co. KG (GER)
RH THIELE GmbH & Co. KG (GER)
Reilloc Chain Ltd. (UK)
THIELE Asia Pte. (SIN)
RM Wilson Comp. (USA)
T-Con Ltd. (CN)

KWS Inc. Conditions of Sale & Limited Warranty

Payment Terms: 1% 10 days, net 30 days from date of invoice

Delivery Terms: F.O.B. shipping point (within continental US only)
Freight prepaid at lowest tariff rate on shipments of 2,000+ lbs.

Cut Chain: A minimum charge of 20% per foot will be applied to each length of chain cut from stock

Special Items: All orders for non-stock items will be accepted based on the understanding that the delivered quantity can vary plus or minus 10% from the original quantity and invoice will be issued accordingly.

Returns: Return requests will only be honored on standard items in new condition and within 90 days from original invoice date. The customer is responsible for return freight. If returned item is part of original prepaid shipment, a portion of original freight will also be assessed against the returned item. Minimum standard restocking charge is 20% or US$ 50.00 whichever is greater. If item is not in new condition, credit will not be issued and item will be discarded.

WARNINGS: Download and read operating instructions before usage! Please use the QR-code below to retrieve the files or go to www.kwschain.com.
To prevent accidents, proper selection, application, and loading of chains and accessories is absolutely necessary.

NEVER exceed the published working load limits of chains and accessories and NEVER use slings outside the specified temperature range.
Accessories must always have equal or higher working load limits than the chain.

THIELE Plant Standard (TWN) THIELE products acc. to THIELE Plant Standards (TWN) fulfill the requirements of the EC Machinery Directive CE for Machines, particularly for the safety relevant components.

Disclaimer: KWS Inc. conditions of sale apply error and omissions excepted.

KWS | THIELE®

YOUR ONE-STOP PROVIDER

Our range of services:

- Bending
- Forging
- Different welding processes
- Laser, plasma and flame cutting
- Multi-spindle milling machines
- CNC machining
- Assembly and end production
- Heat treatment
- Painting and surface finishing

General Information

Product development

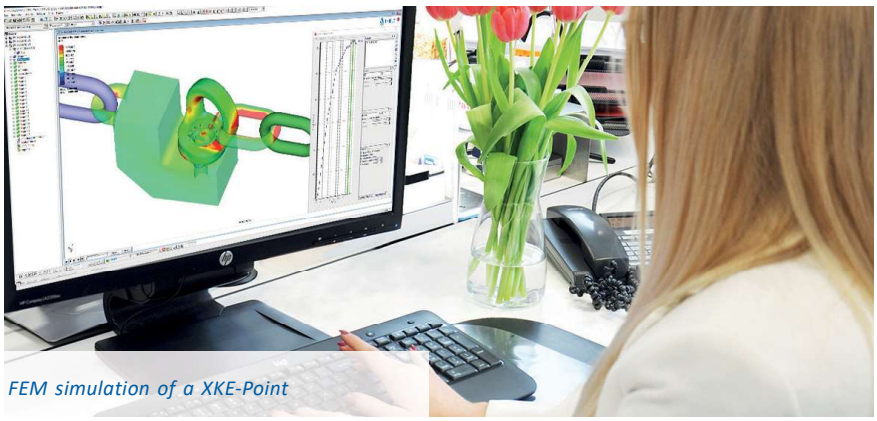
Our in-house manufacturing base covers the entire process from raw material through to the final product.
High-level expertise leads to short developing times, especially when new products are designed.

Modern 5-spindle machining centre

Manufacture of dies, trim dies and calibration tools

FEM simulation

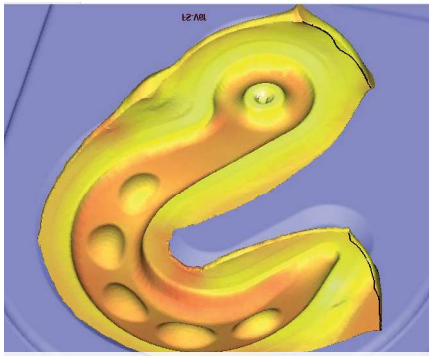
With precise calculations and the experience of our engineering team, we carry out stress analysis before production begins. This makes the product development process highly efficient and optimized to the maximum.



FEM simulation of a XKE-Point

Material flow simulation

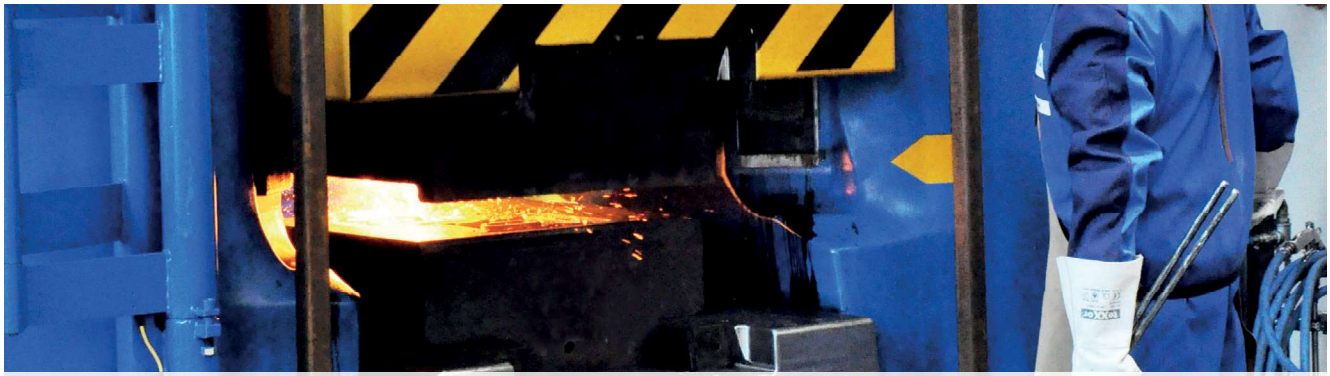
3D simulations optimize the forging process, enable precise volume calculations, increase efficiency and have a positive impact on the product quality.



Material flow simulation

CNC machining


Lasco



WHAT YOU CAN EXPECT FROM US

High added value and state-of-the-art forging aggregates

Our range services:

Forging machines (16 - 160 kJ) | forging presses (up to 1,600 t)
component weights from 100 g to 100 kgs | lengths up to 1,350 mm

Our forged products are based around a large selection of materials:

- Chain steels (DIN 17115)
- Non-alloy heat-treatable steels (DIN EN ISO 683-1)
- Alloy heat-treatable steels (DIN EN ISO 683-2)
- Case-hardened steels (DIN EN ISO 683-3)
- Non-alloy structural steels (DIN EN ISO 10025-2)

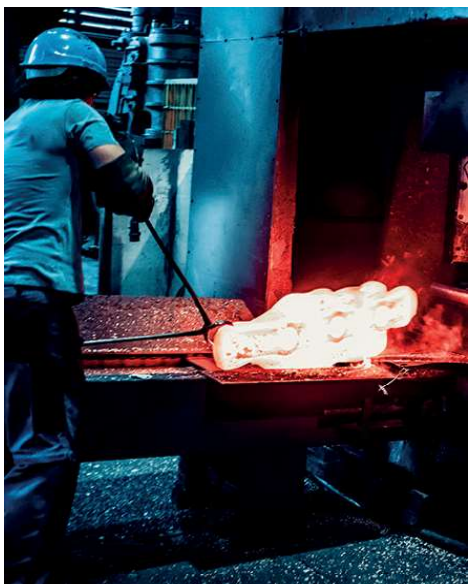
Special steels, e.g. high-alloy corrosion-resistant, heat-resistant and antimagnetic steels, are available on request.

Heat treatment:

A process-based heat treatment stage delivers the final product characteristics. Our state-of-the-art, fully automated heat treatment plant ensures that the end-products meet the highest mechanical requirements.

QR-Code to movie of Mr. Thiele making the first blow forge of the new forging hammer.

Square billets (edge length 50 to 120 mm) or round bar material (18.5 to 200 mm in diameter) can be used as raw material.



KWS SERVICE

KWS Catalog 6.0

You can download our KWS Catalog.

KWS Catalog 6.0

3D CAD Data

All user information, geometry data and CAD download can be found on the respective product pages of our website *www.kwschain.com*. Our website provides an excellent resource for engineer-friendly files!

Website/ Products

Operating and Mounting Instructions

The operating and assembly instructions for all THIELE lifting products contain important information for a safe operation in the sense of the EC Machinery Directive. They must be read before operation.

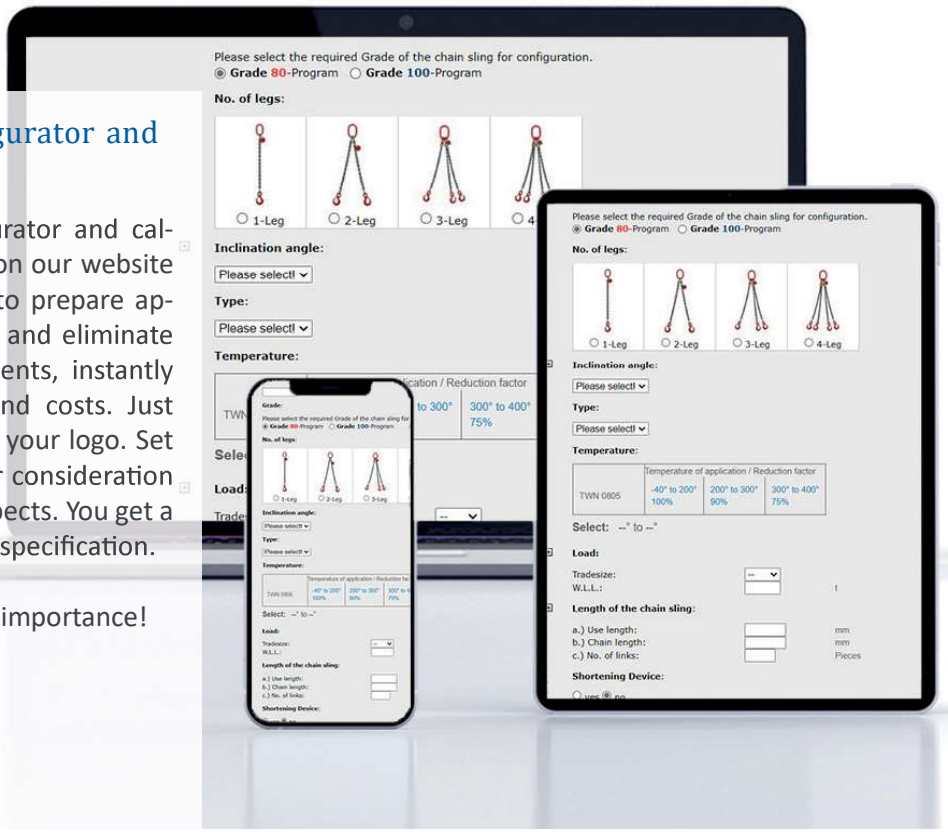
Operating and mounting instructions

THIELE Chain Sling Configurator and Calculator (TKGK)

The THIELE chain sling configurator and calculator in the customer portal on our website makes it much easier for you to prepare appropriate offers. You save time and eliminate errors when selecting components, instantly calculating lengths, weights, and costs. Just upload your company data and your logo. Set up your customized offer under consideration of commercial and technical aspects. You get a structured offer with a detailed specification.

At THIELE, SERVICE is of utmost importance!

Please ask for your login data.



THIELE-LIFTING-EVOLUTION

THIELE lifting evolution is the brand feature of the THIELE Lifting components.

All new THIELE lifting components offered by KWS Inc. are developed with a new patented design.
The design ensures you can differentiate THIELE products from the other brands.
For more than 85 years, THIELE stands for world class quality with our rugged design.
The ellipses style design adds value by improving consumer confidence while using THIELE components for their lifting application needs. Our in the field knowledge with lifting products have shown that the assured product properties are not always being upheld. Standards are often cited but not extensively fulfilled.
The requirements on safety for lifting products are more than a determination of a breaking force.

The intensity of intermediate quality controls within the production cycle creates a difference in the end result of the quality of the product. Our motto:
"At THIELE you always know, what you get!"
The ellipses style hooks will improve the orientation while in use. The enhanced design makes our product more modern, and dynamic compared to the competition. "Lifting, moving and securing of loads in shape". The improved design is a reflection of our consumers' expectations of THIELE for decades. We are committed to investing in our superior quality standards.
The result of years of experience with controlled and safer sophisticated processes in our production.
"MADE BY THIELE!"

Not available on Connectors, Master Links and Lifting Points.

Our Product Range

Lifting Products
Grade 100

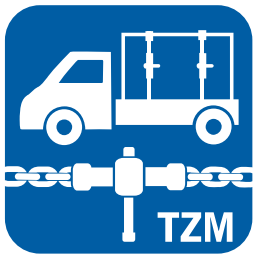
Lifting Products
Grade 80

Lifting Products
Offshore

Lifting Points

Hoist Chains

Load Lifting Equipment



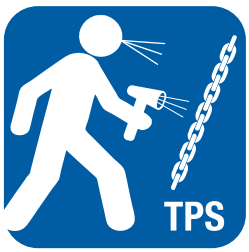
Lashing Products

Poultry Chains

Farming Chains

Chain Sprockets

Fishing Chains



Inspection Service

Engineering

TA10

KWS INC. | THIELE®

TA10

THIELE
LIFTING PRODUCTS

Grade 100

Product Overview - Lifting Products Grade 100

Page	Round Steel Chains
24	TWN 0072A (XL200) 

Pages	Suspension Components				
25-31	TWN 1795 	TWN 1803 	TWN 1804 	TWN 1817 	TWN 1821 
	TWN 1822 	TWN 1823 	TWN 1810/1 	TWN 1810/2 	TWN 1810/4 
	TWN 1819 				

Pages	Connectors				
31-32	TWN 1820 	TWN 1847 			

Product Overview - Lifting Products Grade 100

Pages 32-36 — Hooks

TWN 1836	TWN 1837	TWN 1838	TWN 1840/1	TWN 1841/1
				
TWN 1856	**TWN 1899**	**TWN 1869**	**TWN 0869/1**	
				

Pages 37-39 — Shortening Components

TWN 1827	TWN 1827/1	TWN 1851/1	TWN 1852	TWN 1896
				

Page 39 — Shackles

TWN 1871


Page 40 — Chain Tensioners

TWN 1454	TWN 1455
	

Product Overview - Lifting Products Grade 100

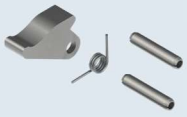
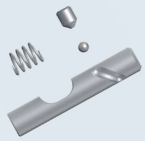
Pages 40-41 — Special Sling Components

TWN 1812	TWN 1846			
				

Page 41 — Lashing Chains

TWN 1410	TWN 1411
	

Pages 42-46 — Spare Parts and Accessories

TWN 0944	TWN 0945	TWN 0968	TWN 0969	TWN 0970
				
TWN 0971	**TWN 1402**	**TWN 1904/0**	**TWN 1908/0**	**TWN 1921**
				
TWN 1922	**TWN 1930/0**	**TWN 1931/0**	**TWN 1933/0**	**TWN 1933/0A**
				
TWN 1935	**TWN 1935A**	**TWN 1940A**	**TWN 1946**	**TWN 1950**
				

Product Overview - Lifting Products Grade 100

Pages 47-48 — Chain Slings

TWN 1601 1-leg	TWN 1651 2-legs	TWN 1751 4-legs
		

Page 49 — Shortening Options



Page 50 — Endless Chains

Form K11	Form K12	Form K22
		

Comparison between Grade 80 and Grade 100

Up to 35 % weight reduction on a 2-leg Grade 100 chain sling compared to equivalent Grade 80 chain sling.

Article	THIELE Plant Standard	Pieces
Master Link	TWN 1803	1
XL-LOK	TWN 1820	2
6.5 ft. Round Steel Link Chain	TWN 0072	2
Clevis Sling Hook	TWN 1840/1	2

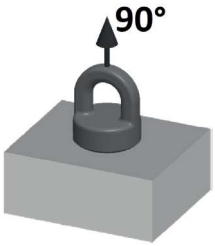
Working Load Limit [lbs]	TA8 Weight [lbs]	TA10 Weight [lbs]	Weight reduction [%]
9,900	20.5	14.3	-30
15,200	36.4	23.4	-35
26,000	59.0	40.7	-31

Properties / Grade	TA8	TA10 - XL200
Working Load Limit (WLL)		app. 25 % higher than Grade 80
Safety Factor	4	4
Elongation at break (completed finish)	min. 20 %	min. 20 %
Weight		reduced up to 35 %
Nominal Breaking Stress	800 N/mm²	1000 N/mm²
Component Strength	1150-1250 MPa[1)]	1450-1650 MPa[1)]
Temperature Application Range	-40 °F – 400 °F (-40 °C – 205 °C) = 100 %[2)] 400 °F - 572 °F (205 °C – 300 °C) = 90 %[2)] 572 °F - 752 °F (300 °C – 400 °C) = 75 %[2)]	-40 °F - 400 °F (-40 °C– 205 °C) = 100 %[2)]
Acids and Lyes	not permitted	not permitted
Compatibility with other systems	permitted	restricted
Colour Round Steel Link Chains (AQUA lacquer)	Black (RAL 9005)	Grey (RAL 7011) for sizes up to 5/82" and Blue (RAL 5002) for sizes 3/4" and bigger
Colour Components	Red powder coated (RAL 3003)	Ultramarine Blue powder coated (RAL 5002)
Standards	ASTM A391/ A391M, DIN EN 818, DIN EN 1677	ASTM A973/ A937M
Wear Resistance	standard	increased

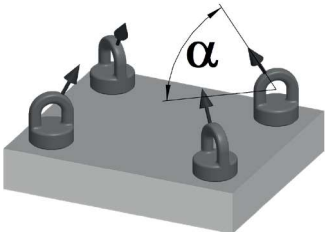
[1)] *Reference value*
[2)] *Related to Working Load Limit*

Selection criteria for chain slings

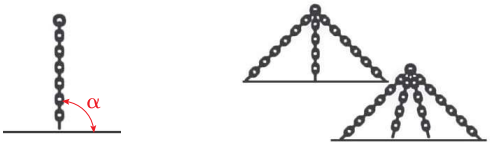
1. Determine the weight of the load to be lifted.



2. Determine number of chain-legs required (depending on the number of available lifting points).

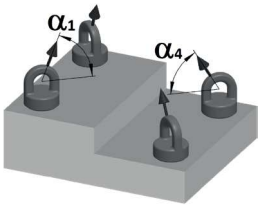


3. Determine the trade size by taking the inclination angle into consideration (see table 1 and table 2 on page 22 and table 3 on page 23).

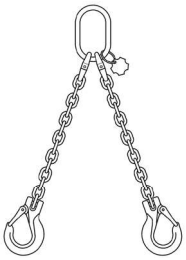


4. Consider possible temperature impacts (see load reductions on page 27).

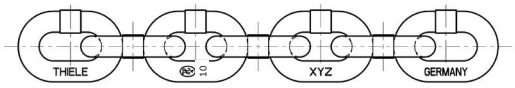
5. Consider that asymmetry may influence the load factor.



6. Specify the sling using components for the selected chain trade size.



7. Determine the chain length for each strand by considering the required effective reaches.



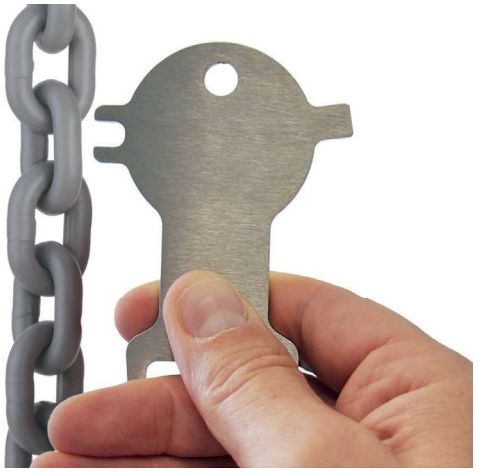
8. Control selected components and/or chain slings to ensure that they meet applicable safety laws and regulations (e.g. DGUV).

Keep in Mind:
Please also consider special conditions of use, such as intermittent impacts on loads when selecting the grade 100 chain slings. If the chain slings were used above the maximum admissible temperature, they have to be immediately rejected. The THIELE-assembly systems must not be used with chemical influences such as acids and/or lyes.

THIELE-chain slings fulfill the requirements of the EC-Machinery Directive, represented by the EN 818-4, as well as the requirements of the ASTM A906/A906M-02.

Chain Inspection Gauges

Check of diameter



TWN 1946

The THIELE chain measuring gauges TWN 1946 are used for the dimensional assessment of the state of wear and elongation of grade 100 round steel chains XL400 and XL200. It helps the user to inspect the round steel chains to ensure that they meet the requirements regarding to diameter, elongation and pitch tolarance.

Check of pitch

Check of permanent elongation

Liability, Assembly, Material and Safety Information

The DGUV-approved round steel chains **XL400** are stamped with »XL10«, »XL400«, »Germany« and traceability code.

Round steel chains **XL200** are stamped with »T3-10«, »XL200«, »Germany« and traceability code.

Liability

THIELE does not take over liability of Grade 100 slings being combined with products from other manufacturers.

Assembly

The combination of different grades when mounting chain slings is prohibited.
Grade 100 round steel chains are only allowed to be assembled to original Grade 100 Components of the corresponding trade size.
Only original THIELE spare parts may be used when making repairs.

Material

For the production of Grade 100 products, only alloy steels according to DIN 17115 are used.

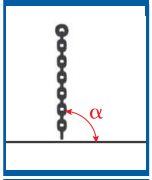
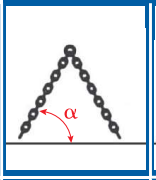
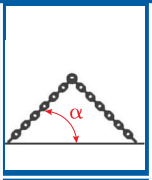
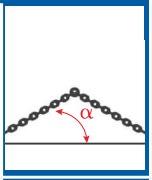
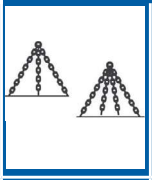
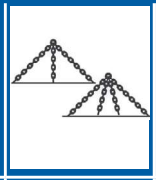
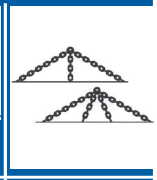
Safety Information

Our products are to be used only according to the prescribed guidelines.
Incorrect use, overload or damage can lead to injury or death!
Installation and operation of chain slings only permitted by trained and skilled personnel. Before commissioning slings, please pay attention to the mounting and operating instructions.
They may be found on our website www.kwschain.com.

Operating and mounting instructions

Load Reduction Factors and Working Load Limit Tables

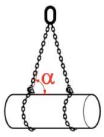
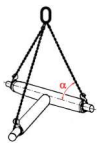
Working Load Limit* – Type: Direct Lift (Chain Slings)

		1-Leg	2-Leg			3- and 4-Legs		
								
Inclination Angle		α = 90°	60°≤ α ≤ 75°	45°≤ α ≤ 60°	30°≤ α ≤ 45°	60°≤ α ≤ 75°	45°≤ α ≤ 60°	30°≤ α ≤ 45°
Trade Size	Nominal Size [inch]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]
6-10	1/4	3,100	5,400	4,400	3,100	8,000	6,600	4,600
7-10	9/32	4,300	7,400	6,100	4,300	11,200	9,100	6,400
8-10	5/16	5,700	9,900	8,100	5,700	14,800	12,100	8,500
10-10	3/8	8,800	15,200	12,400	8,800	22,900	18,700	13,200
13-10	1/2	15,000	26,000	21,200	15,000	39,000	31,800	22,500
16-10	5/8	22,600	39,100	32,000	22,600	58,700	47,900	33,900
18-10	11/16	27,600	47,800	39,000	27,600	71,700	58,500	41,400
20-10	3/4	35,300	61,100	49,900	35,300	91,700	74,900	53,000
22-10	7/8	42,700	74,000	60,400	42,700	110,900	90,600	64,000
26-10	1	59,700	103,400	84,400	59,700	155,100	126,600	89,500
32-10	1-1/4	90,400	156,600	127,600	90,400	234,800	191,700	135,600

THIELE chain slings are available in mounted and welded execution.
**WLL acc. to ASTM*

Table 1

Working Load Limit* – Type: Choke Hitch (Chain Slings)

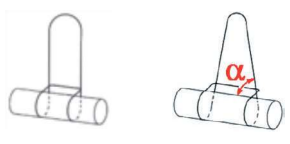
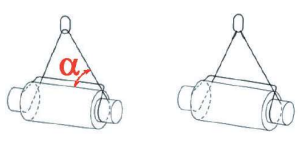
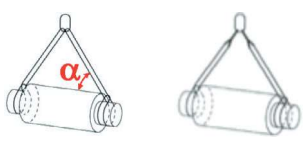
		1-Leg	2-Legs		3-/4-Legs		
							
Inclination Angle		α = 90°	60°≤ α < 90°	45°≤ α < 60°	30°≤ α < 45°	60°≤ α < 90°	45°≤ α < 60°	30°≤ α < 45°
Trade Size	Nominal Size [inch]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]
6-10	1/4	2,500	4,300	3,500	2,500	6,400	5,300	3,700
7-10	9/32	3,400	6,000	4,900	3,400	8,900	7,300	5,100
8-10	5/16	4,600	7,900	6,400	4,600	11,800	9,700	6,800
10-10	3/8	7,000	12,200	10,000	7,000	18,300	14,900	10,500
13-10	1/2	12,000	20,800	17,000	12,000	31,200	25,500	18,000
16-10	5/8	18,100	31,300	25,600	18,100	47,000	38,300	27,100
18-10	11/16	22,100	38,200	31,200	22,100	57,400	46,800	33,100
20-10	3/4	28,200	48,900	39,900	28,200	73,400	59,900	42,300
22-10	7/8	34,200	59,200	48,300	34,200	88,700	72,500	51,200
26-10	1	47,800	82,700	67,500	47,800	124,100	101,300	71,600
32-10	1-1/4	72,300	125,300	102,300	72,300	183,300	149,700	108,400

THIELE chain slings are available in mounted and welded execution.
**WLL acc. to ASTM*

Table 2

Working Load Limit Tables

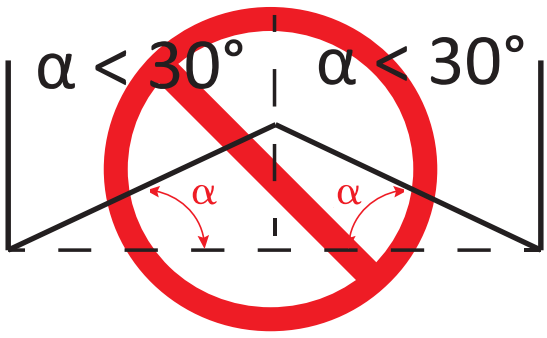
Working Load Limit* – Type: Choke Hitch (Endless Chains)

		K11		K12/K13		K22/K23	
							
Inclination Angle		α = 90°	60°≤ α ≤ 90°	45°≤ α ≤ 90°	30°≤ α ≤ 45°	45°≤ α ≤ 90°	30°≤ α ≤ 45°
Trade Size	Nominal Size [inch]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]
6-10	1/4	5,000	4,500	3,500	2,500	5,300	3,700
7-10	9/32	6,800	6,200	4,900	3,400	7,300	5,200
8-10	5/16	9,200	8,300	6,400	4,600	9,700	6,800
10-10	3/8	14,000	12,800	10,000	7,000	14,900	10,600
13-10	1/2	24,000	21,700	17,000	12,000	25,500	18,000
16-10	5/8	36,200	32,800	25,600	18,100	38,300	27,100
18-10	11/16	44,200	40,000	31,200	22,100	46,800	33,100
20-10	3/4	56,400	51,200	39,900	28,200	59,900	42,400
22-10	7/8	68,400	61,900	48,300	34,200	72,500	51,200
26-10	1	95,600	86,600	67,500	47,800	101,300	71,600
32-10	1-1/4	144,600	131,000	102,200	72,300	153,400	108,400

THIELE chain slings are available in mounted and welded execution. *Table 3*
**WLL acc. to ASTM*

Inclination Angle

Inclination angles less than 30° are prohibited



Temperature Application Range of Lifting Chains XL200 Grade 100

Temperature Application Range	Working Load Limit
-40 °F to 400 °F (-40 °C to 205 °C)	100 %

TWN 0072A

Lifting Chains XL200

Grade 100 lifting chains XL200 TWN 0072A are made from CrNiMo alloyed steel and are used to assemble chain slings and lashing chains. The max. application temperature is 205 °C. The testing requirements for these high-quality lifting chains are based on DIN EN 818 and ASTM 973.

TWN 0072A - XL200

SAFETY 4 : 1

CE

Trade Size	Article-No.	Working Load Limit [lbs]	Nominal Size d_n [inch]	Pitch p_n [inch]	Inside Width w_1 min. [inch]	Outside Width w_2 max. [inch]	Weight app. [lbs/ft]
1/4"	F01616A	12,700	0.24	0.71	0.33	0.87	0.54
9/32"	F01621A	17,200	0.28	0.83	0.38	1.02	0.74
5/16"	F01617A	22,800	0.31	0.94	0.44	1.17	1.01
3/8"	F01618A	35,200	0.39	1.18	0.53	1.46	1.55
1/2"	F01619A	60,000	0.51	1.54	0.71	1.89	2.62
5/8"	F01620A	90,400	0.63	1.89	0.84	2.33	3.90
3/4"	F01638A	35,300	0.79	2.36	1.06	2.91	6.66
7/8"	F01650A	42,700	0.87	2.60	1.16	3.20	8.07
1"	F01660A	59,700	1.02	3.07	1.37	3.79	11.22
1-1/4"	F01670A	90,400	1.26	3.78	1.69	4.66	17.54

TWN 0072A sim. to ASTM 973
Elongation at break, self colored: min. 25%;
other surface finishes min. 20%.
Factor: Load- to Proof- to Breaking Stress 4 : 2 : 1
Finish: Grey, RAL 7011 or Blue, RAL 5002

Standard lengths

Trade Size	1/4"	9/32"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"
Standard lenghts [ft.]	800	800	500	400	200	150	100	100	50/100	50/100
Weight/ lengths app. [lbs.]	440	590	500	620	525	585	665	808	560/1.120	875/1.750

Characteristics of Lifting Chains XL200 Grade 100

Properties \ Chain Type	XL200
Standard	ASTM 973
Material	Alloy steel
Temperature Application Range	-40 °F - 400 °F (-40 °C - 205 °C)
Working Load Limit (WLL)	25 % higher than Grade 80
Manufacturers Proof Force (MPF)	min. 2 x WLL
Breaking Force (BF)	min. 4 x WLL
Elongation at break	min. 20 %
Charpy Notch Value	min. 36 J at -30 °C, min. 27 J at -40 °C
Deflection	min. 0,8 x d
Fatigue	No requirement
Material properties (stress corrosion)	No requirement
Finish	Galvanizing not permitted
Colour (solvent-free)	Grey (RAL 7011) for sizes up to 5/8" and Blue (RAL 5002) for sizes 3/4" and bigger
Marking	XL200; T3-10, Germany, ID-Code
Certification	THIELE
Market compliance	ASME, MD / EAC

Oblong Master Link Form A for 1- and 2-leg Chain Slings

TWN 1803

The oblong Master Link Form A TWN 1803 are designed to use for single- and double-leg Grade 100 Lifting chains acc. to ASTM A906/A906 M-02. The dimensions comply with DIN 5688-3. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits. The links are coated with the color RAL 5002 (blue). Master Links are also available with welded handles.

DGUV ZERT

Article-No.	Working Load Limit SF 5:1* [lbs]	Working Load Limit SF 4:1* [lbs]	Dimensions [inch]			Weight app. [lbs]	Tradesize for use in Chain Slings	
			d	t	b		1-Leg	2-Legs
F1803013	5,800	7,300	0.51	3.54	1.97	0.64	1/4 - 9/32	1/4
F1803016	9,000	11,300	0.63	4.33	2.36	1.18	5/16	9/32
F1803018	11,000	13,800	0.71	5.12	2.76	1.75	3/8	5/16
F1803020	13,200	16,600	0.79	5.51	3.15	2.36	-	-
F1803022	15,700	19,600	0.87	6.30	3.54	3.24	1/2	3/8
F1803026	23,300	29,100	1.02	7.09	3.94	5.11	5/8	1/2
F1803032	34,700	43,400	1.26	9.06	4.92	9.79	3/4	-
F1803036	44,100	55,200	1.42	9.84	5.51	13.60	7/8	5/8
F1803040	53,000	66,200	1.57	11.42	6.30	19.30	-	-
F1803045	69,000	86,200	1.77	12.60	6.89	27.00	1	3/4 - 7/8
F1803050	87,100	109,000	1.97	13.39	7.48	35.80	1-1/4	-
F1803056	111,000	138,000	2.20	14.96	8.27	50.10	-	1
F1803063	138,000	172,000	2.48	16.93	9.45	71.90	-	-
F1803070	175,000	218,000	2.76	18.50	10.24	97.00	-	1-1/4

considering a sling angle of α = 60°

Master Link Assemblies for 3- and 4-leg Chain Slings

TWN 1804

Master Link Assembly TWN 1804 are designed to use for 3- and 4-leg Grade 100 Lifting chains acc. to ASTM A906/A906 M-02. The dimensions comply with DIN 5688-3. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits. The links are coated with the color RAL 5002 (blue). Master Links are also available with welded handles.

SAFETY 4 : 1

DGUV ZERT

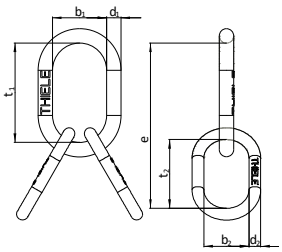
Article-No.	Working Load Limit SF 4:1* [lbs.]	Dimensions [inch]							Weight app. [lbs.]	Trade Size for use in Chain Slings
		e	d_1	t_1	b_1	d_2	t_2	b_2		
F1804016	9,700	6.69	0.63	4.33	2.36	0.51	2.36	1.18	2.08	1/4
F1804018	11,900	7.48	0.71	5.12	2.76	0.51	2.36	1.18	2.65	9/32
F1804020	14,900	8.27	0.79	5.51	3.15	0.63	2.76	1.38	3.96	5/16
F1804026	25,100	10.63	1.02	7.09	3.94	0.79	3.54	1.77	8.31	3/8
F1804032	38,900	13.78	1.26	9.06	4.92	1.02	4.72	2.36	16.97	1/2
F1804040	58,800	16.54	1.57	11.42	8.30	1.10	5.12	2.56	28.30	5/8
F1804050	94,100	19.69	1.97	13.39	7.48	1.42	6.3	3.15	54.28	3/4
F1804056	111,000	22.05	2.20	14.96	8.27	1.57	7.09	3.54	75.70	7/8
F1804063	155,000	24.80	2.48	16.93	9.45	1.77	7.87	3.94	79.30	1
F1804080	244,000	29.13	3.15	20.47	11.42	1.97	8.66	4.33	190.25	1-1/4

considering a sling angle of α = 60°

TWN 1817

Master Link Assemblies for 3- and 4-leg Rope Slings NEW

The Grade 100 master link assemblies TWN 1817 are used to assemble 3- and 4-leg wire rope slings. The extra large intermediate links enable an easy assembly of wire rope slings. The dimensions comply with DIN 5688-3. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.



DGUV ZERT

Article-No.	Working Load Limit SF 4:1* [lbs.]	Working Load Limit SF 5:1* [lbs.]	Dimensions [inch]							Classification of the Wire Rope Diameter**		Weight app. [lbs.]
			d_1	t_1	b_1	e	d_2	t_2	b_2	Fiber [inch]	Steel [inch]	
F1817016	10,800	8,600	0.63	4.33	2.36	7.87	0.51	3.54	1.97	0.47	0.43	2.45
F1817018	13,700	11,000	0.71	5.12	2.76	9.45	0.63	4.33	2.36	0.55	0.55	4.08
F1817022	19,400	15,700	0.87	6.30	3.54	11.43	0.71	5.12	2.76	0.63	0.63	6.79
F1817026	28,900	23,100	1.02	7.09	3.94	13.42	0.87	6.30	3.54	0.79	0.71	11.68
F1817032	43,200	34,600	1.26	9.06	4.92	16.15	1.02	7.09	3.94	0.94	0.87	19.84
F1817036	55,100	44,100	1.42	9.84	5.51	18.90	1.26	9.06	4.92	1.10	1.10	33.07
F1817045	82,700	66,100	1.77	12.60	6.89	22.44	1.42	9.84	5.51	1.25	1.25	53.79
F1817050	109,000	87,100	1.97	13.39	7.48	25.99	1.77	12.60	6.89	1.57	1.57	88.18
F1817056	138,000	111,000	2.20	14.96	8.27	28.35	1.97	13.39	7.48	1.73	1.73	121.25
F1817063	172,000	138,000	2.48	16.93	9.45	31.89	2.20	14.96	8.27	2.05	1.89	174.17
F1817085	351,000	280,000	3.35	20.47	11.42	40.94	3.15	20.47	11.42	2.36	2.36	443.13

**considering a sling angle of α = 60° **Acc. to the DIN EN 13414-1 for 3- and 4-leg slings*

Oversized Master Link Assemblies for 1-leg Chain Slings for Single Crane Hooks DIN 15401 (16 t, 25 t, 40 t) NEW

TWN 1821

The Grade 100 oversized master link assemblies TWN 1821 are used to assemble 1-leg chain slings and are used with big crane hooks according to DIN 15401. The dimensions comply with DIN 5688-3. The intermediate links enable the use of connecting links, e.g. XL-LOKs TWN1820. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]							Crane Hooks acc. DIN 15401	Weight app. [lbs]
			e	d_1	t_1	b_1	d_2	t_2	b_2		
1/4"	F18210616	6,900	12.60	0.71	10.24	5.51	0.51	2.36	1.18	16	3.68
1/4"	F18210625	7,400	15.75	0.79	13.39	7.09	0.51	2.36	1.18	25	5.60
1/4"	F18210640	8,000	19.29	0.87	16.93	8.66	0.51	2.36	1.18	40	8.21
5/16"	F18210816	12,600	12.99	0.87	10.24	5.51	0.63	2.76	1.38	16	5.73
5/16"	F18210825	7,400	15.75	0.79	13.39	7.09	0.51	2.36	1.18	25	5.60
5/16"	F18210840	8,000	19.29	0.87	16.93	8.66	0.51	2.36	1.18	40	8.21
3/8"	F18211016	12,600	12.99	0.87	10.24	5.51	0.63	2.76	1.38	16	5.73
3/8"	F18211025	12,700	16.14	0.94	13.39	7.09	0.63	2.76	1.38	25	8.32
3/8"	F18211040	13,200	19.69	1.02	16.93	8.66	0.63	2.76	1.38	40	11.76
1/2"*	F18211316*	20,800	10.24	1.02	10.24	5.51	-	-	-	16	7.00
1/2"	F18211325	19,400	16.14	1.10	16.93	7.09	0.63	2.76	1.38	25	11.17
1/2"	F18211340	19,400	19.69	1.18	16.93	8.66	0.63	2.76	1.38	40	15.55
5/8"*	F18211616*	31,900	10.24	1.18	10.24	5.51	-	-	-	16	9.47
5/8"	F18211625	29,400	16.93	1.26	13.39	7.09	0.79	3.54	1.77	25	15.32
5/8"	F18211640	29,400	20.47	1.34	16.93	8.66	0.79	3.54	1.77	40	20.74
11/16"	F18211816	48,500	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	17.20
11/16"	F18211825	35,300	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	24.14
11/16"	F18211840	35,300	20.87	1.65	16.93	8.66	0.87	3.94	1.97	40	31.95
3/4"*	F18212025*	58,900	13.39	1.57	13.39	7.09	-	-	-	25	21.99
3/4"*	F18212040*	55,700	16.93	1.65	16.93	8.66	-	-	-	40	29.81
7/8"*	F18212225*	58,900	13.39	1.57	13.39	7.09	-	-	-	25	21.99
7/8"*	F18212240*	55,700	16.93	1.65	16.93	8.66	-	-	-	40	29.81

**This link is delivered without sub-link*

Oversized Master Link Assemblies for 2-leg Chain Slings for Single Crane Hook DIN 15401 (16 t, 25 t) NEW

TWN 1822

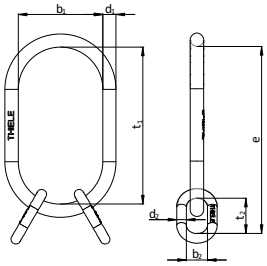
The Grade 100 oversized master link assemblies TWN 1822 are used to assemble 2-leg chain slings and are used with big crane hooks according to DIN 15401. The dimensions comply with DIN 5688-3. The intermediate links enable the use of connecting links, e.g. XL-LOKs TWN 1820. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT

Trade Size	Article-No.	Working Load Limit 60° ≤ α < 75° [lbs]	Dimensions [inch]							Crane Hooks acc. DIN 15401	Weight app. [lbs]
			e	d_1	t_1	b_1	d_2	t_2	b_2		
5/16"	F18220816	10,800	12.99	0.87	10.24	5.51	0.63	2.76	1.38	16	6.53
5/16"	F18220825	10,800	16.14	0.94	13.39	7.09	0.63	2.76	1.38	25	9.13
3/8"	F18221025	17,400	16.14	1.12	13.39	7.09	0.63	2.76	1.38	25	11.98
1/2"	F18221325	26,000	16.93	1.26	13.39	7.09	0.79	3.54	1.77	25	16.92
5/8"	F18221625	50,900	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	26.28
3/4"	F18222025	72,500	18.90	1.77	13.39	7.09	1.26	5.51	2.76	25	41.08

TWN 1823

Oversized Master Link Assemblies for 3- and 4-leg Chain Slings for Single Crane Hooks DIN 15401 (16 t, 25 t, 40 t) NEW



The Grade 100 oversized master link assemblies TWN 1823 are used to assemble 2-leg chain slings and are used with big crane hooks according to DIN 15401. The dimensions comply with DIN 5688-3. The intermediate links enable the use of connecting links, e.g. XL-LOKs TWN 1820. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 load capacities.

SAFETY 4 : 1

DGUV ZERT

Trade Size	Article-No.	Working Load Limit 60°≤ α ≤ 75° [lbs]	Dimensions [inch]							Crane Hooks acc. DIN 15401	Weight app. [lbs]
			e	d_1	t_1	b_1	d_2	t_2	b_2		
1/4"	F18230616	10,800	12.60	0.87	10.24	5.51	0.51	2.36	1.18	16	5.82
1/4"	F18230625	10,800	15.75	0.94	13.39	7.09	0.51	2.36	1.18	25	8.42
1/4"	F18230640	11,500	19.29	1.02	16.93	8.66	0.51	2.36	1.18	40	11.86
5/16"	F18230816	17,900	12.99	1.02	10.24	5.51	0.63	2.76	1.38	16	8.60
5/16"	F18230825	17,400	16.14	1.10	13.39	7.09	0.63	2.76	1.38	25	11.97
5/16"	F18230840	17,400	19.69	1.18	16.93	8.66	0.63	2.76	1.38	40	16.36
3/8"	F18231016	27,600	13.78	1.18	10.24	5.51	0.79	3.54	1.77	16	12.68
3/8"	F18231025	26,000	16.93	1.26	13.39	7.09	0.79	3.54	1.77	25	16.93
3/8"	F18231040	25,600	20.47	1.34	16.93	8.66	0.79	3.54	1.77	40	22.34
1/2"	F18231316	47,600	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	20.79
1/2"	F18231325	45,600	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	26.28
1/2"	F18231340	45,600	20.87	1.65	16.93	8.66	0.87	3.94	1.97	40	34.10
5/8"	F18231616	62,800	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	24.25
5/8"	F18231625	58,900	18.11	1.57	13.39	7.09	1.02	4.72	2.36	25	31.75
5/8"	F18231640	59,300	21.65	1.65	16.93	8.66	1.02	4.72	2.36	40	41.65
11/16"	F18231840	81,400	22.44	1.89	16.93	8.66	1.26	5.51	2.76	40	71.27
3/4"	F18232025	108,000	23.23	2.17	16.93	8.66	1.42	6.30	3.15	25	55.91
7/8"	F18232240	115,000	23.23	2.17	16.93	8.66	1.42	6.30	3.15	40	73.34

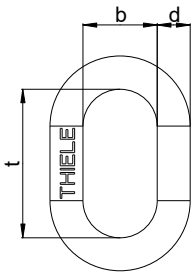
Intermediate Links Type B

TWN 1795

The Grade 100 intermediate links TWN 1795 are used to assemble chain slings. The dimensions are according to DIN 5688-3 and enable the use of connecting links, e.g. XL-LOKs TWN 1820. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]			Weight app. [lbs]
			d	t	b	
B8	F179508	3.100	0.31	1.42	0.71	0.11
B10	F179510	5.700	0.39	1.81	0.91	0.20
B13	F179513	8.800	0.51	2.36	1.18	0.44
B16	F179516	15.000	0.63	2.76	1.38	0.79
B20	F179520	22.600	0.79	3.54	1.77	1.61
B22	F179522	27.600	0.87	3.94	1.97	2.14
B26	F179526	35.300	1.02	4.72	2.36	3.53
B28	F179528	42.700	1.10	5.12	2.56	4.19
B32	F179532	59.700	1.26	5.51	2.76	6.39
B36	F179536	69.400	1.42	6.30	3.15	9.26
B40	F179540	88.200	1.57	7.09	3.54	12.79
B45	F179545	110.200	1.77	7.87	3.94	18.08



Fixed Size Master Links TAA1 for 1-leg Chain Slings

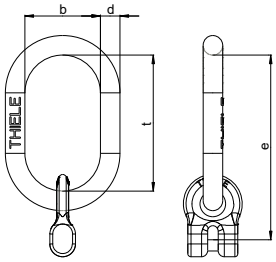
TWN 1810/1

The Grade 100 fixed size master links TWN 1810/1 are used to assemble 1-leg chain slings. The permanently installed ring shackles enable the assembly of lifting chains of the appropriate nominal size only. The dimensions of the fixed size master links type A comply with DIN 5688-3. Welded-in identification tags contain all the necessary data for the operator. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			d	t	b	e	
1/4"	F1810106	3,100	0.51	3.54	1.97	4.76	0.88
5/16"	F1810108	5,700	0.63	4.33	2.36	5.79	1.57
3/8"	F1810110	8,800	0.71	5.12	2.76	6.93	2.65
1/2"	F1810113	15,000	0.87	6.30	3.54	8.62	5.14
5/8"	F1810116	22,600	1.02	7.09	3.94	10.08	8.60
7/8"* NEW	F1810122	42,700	1.42	9.84	5.51	13.78	22.27

On request

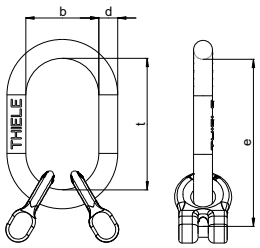


TWN 1810/2

Fixed-Size Master Links TAA2 for 2-leg Chain Slings

The Grade 100 fixed size master links TWN 1810/2 are used to assemble 2-leg chain slings. The permanently installed ring shackles allow the assembly of lifting chains of the appropriate nominal size only. The dimensions of the fixed size master links type A comply with DIN 5688-3. Welded-in identification tags contain all the necessary data for the operator. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %



Trade Size	Article-No.	Working Load Limit α = 60° [lbs]	Dimensions [inch]				Weight app. [lbs]
			d	t	b	e	
1/4"	F1810206	3,100	0.51	3.54	1.97	4.76	1.10
5/16"	F1810208	5,700	0.71	5.12	2.76	6.57	2.65
3/8"	F1810210	8,800	0.79	5.51	3.15	7.32	4.19
1/2"	F1810213	15,000	1.02	7.09	3.94	9.41	8.82
5/8"	F1810216	22,600	1.26	9.06	4.92	11.65	16.76
7/8"* NEW	F1810222	42,700	1.77	12.60	6.89	16.54	43.65

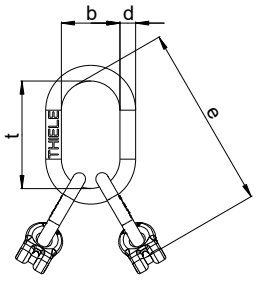
*On request

TWN 1810/4

Fixed-Size Master Links TAA4 for 3- and 4-leg Chain Slings

The Grade 100 fixed size master links TWN 1810/4 are used to assemble 3- and 4-leg chain slings. The permanently installed ring shackles allow the assembly of lifting chains of the appropriate nominal size only. The dimensions of the fixed size master links type A comply with DIN 5688-3. Welded-in identification tags contain all the necessary data for the operator. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %



Trade Size	Article-No.	Working Load Limit 60° ≤ α < 75° [lbs]	Dimensions [inch]				Weight app. [lbs]
			d	t	b	e	
1/4"	F1810406	8,000	0.63	4.33	2.36	7.91	3.09
5/16"	F1810408	14,800	0.79	5.51	3.15	9.72	5.95
3/8"	F1810410	22,900	1.02	7.09	3.94	12.44	11.90
1/2"	F1810413	39,000	1.26	9.06	4.92	16.10	24.69
5/8"	F1810416	58,700	1.57	11.42	6.30	19.49	42.77
7/8"* NEW	F1810422	110,900	1.97	13.39	7.48	24.41	95.24

*On request

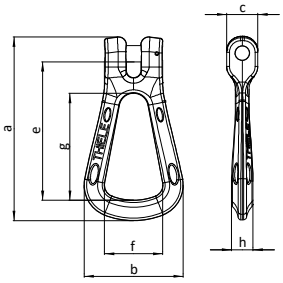
Suspension Components/ Connectors

Clevis Master Links

TWN 1819

The Grade 100 clevis master links TWN 1819 are predominantely used to assemble basket slings for bundling of loads. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]							Weight app. [lbs]
			a	b	c	e	f	g	h	
1/2"	F31025	15,000	7.44	4.02	1.26	5.61	2.36	4.33	0.87	2.45

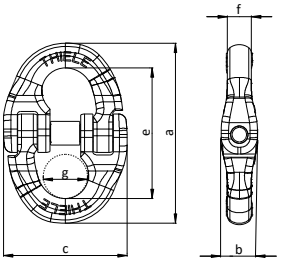
Connectors

XL-LOK Connecting Links

TWN 1820

The Grade 100 XL-LOK connecting links TWN 1820 are used to connect lifting chains with sling components to assemble chain slings and lashing chains. The manufacturing and testing requirements are based on the ASTM A952/A952M, ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %



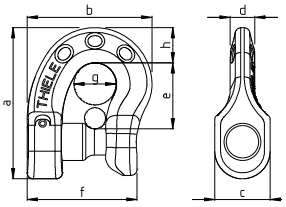
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			a	b	c	e	f	g	
1/4"	F30807	3,100	2.40	0.47	1.52	1.77	0.31	0.55	0.15
9/32" NEW	F308090	4,300	2.80	0.55	1.85	1.99	0.35	0.63	0.31
5/16"	F30817	5,700	3.35	0.63	2.17	2.44	0.39	0.75	0.44
3/8"	F30827	8,800	3.82	0.71	2.62	2.83	0.51	0.94	0.77
1/2"	F30837	15,000	4.92	0.91	3.25	3.43	0.67	1.10	1.63
5/8"	F30847	22,600	5.75	1.24	4.29	4.13	0.83	1.34	2.65
3/4" NEW	F308570	35,300	7.03	1.46	5.65	5.02	0.98	1.77	6.17
7/8" NEW	F308670	42,700	7.74	1.59	5.93	5.53	1.08	1.77	7.72
1" NEW	F308770	59,700	9.13	1.87	7.01	6.54	1.30	2.20	12.79
1-1/4" NEW	F308870	88,200	11.24	2.30	8.68	8.03	1.57	2.76	24.03

TWN 1847

Open Ring Shackles NEW

The innovative Grade 100 open ring shackles TWN 1847 are used as a fixed size connection of lifting chains with sling components to assemble chain slings. For the correct assignment of the nominal size of the suspension links, the ring shackles are provided with a diameter indication forged on the body. The ring shackles provide an optimized, almost non-interchangeable and safe connection option for the simple assembly of chain slings. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677-1 and ISO 8539, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]								Weight app. [lbs]
			a	b	c	e	f	g	d	h	
1/4"*	F31705	3,100	-	-	-	-	-	-	-	-	0.55
5/16"*	F31715	5,700	-	-	-	-	-	-	-	-	0.66
3/8"	F31725	8,800	2.99	2.52	1.10	1.34	2.24	0.83	0.55	0.75	0.82
1/2"	F31735	15,000	3.90	3.23	1.42	1.69	2.83	1.06	0.63	0.91	1.70
5/8"*	F31745	22,600	-	-	-	-	-	-	-	-	2.20

On request

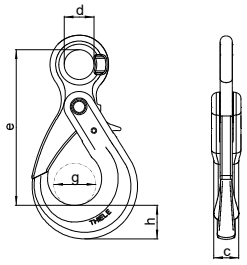
Hooks

TWN 1836

Eye Self-Locking Hooks NEW

The Grade 100 eye self-locking hooks TWN 1836 are used to assemble chain slings and are also used in the construction industry. The round steel chains may be assembled with connecting links, e.g. XL-LOKs TWN 1820. When the hooks are under load, they lock automatically. They may only be reopened manually, when the hooks are not under load anymore. The manufacturing and testing requirements comply with DIN EN 1677-3 under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %



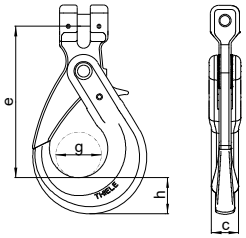
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]					Weight app. [lbs]
			d	e	c	g	h	
1/4"	F092003	3,100	0.87	4.21	0.71	1.10	0.87	1.15
9/32"-5/16"	F092103	5,700	0.94	5.24	0.91	1.30	0.98	1.94
3/8"	F092303	8,800	1.26	6.57	1.06	1.77	1.34	3.59
1/2"	F092403	15,000	1.54	8.07	1.34	2.05	1.57	7.05
5/8"	F092503	22,600	1.57	8.23	1.28	2.11	1.59	6.44
3/4"	F092603	35,300	1.93	10.31	1.69	2.52	2.09	13.96
7/8"	F092703	42,700	1.97	10.00	1.50	2.44	1.99	12.83

Clevis Self-Locking Hooks NEW

TWN 1837

The Grade 100 clevis self-locking hooks TWN 1837 are used to assemble chain slings and are often used in the construction industry. The clevis design enables the direct attachment to the chain legs. When the hooks are under load, they lock automatically. They may only be reopened manually when the hooks are not under load anymore. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1 and DIN 5692, under consideration of Grade 100 under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %



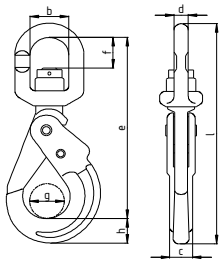
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	c	g	h	
1/4"	F0920031	3,100	3.86	0.71	1.10	0.87	1.30
9/32"	F0920033	4,300	4.72	0.91	1.30	0.98	2.07
5/16"	F092013	5,700	4.72	0.91	1.30	0.98	2.07
3/8"	F092023	8,800	5.91	1.06	1.77	1.34	3.81
1/2"	F092033	15,000	7.28	1.34	2.05	1.57	7.36
5/8"	F092043	22,600	7.17	1.28	2.11	1.59	6.61
3/4"	F092053	35,300	8.66	1.69	2.52	2.09	14.51
7/8"	F092063	42,700	8.54	1.50	2.44	1.99	13.05

Swivel Self-Locking Hooks NEW

TWN 1838

The Grade 100 swivel self-locking hooks TWN 1838 are used to assemble chain- and wire rope- slings and are often used in the construction industry. The swivel with ball-bearing allows the operator to swivel the load under load. When the hooks are under load, they lock automatically. They may only be reopened manually when the hooks are not under load anymore. The self-locking hooks comply with the ASTM A952/A952M, DIN EN 1677-3 under consideration of Grade 100 working load limits.

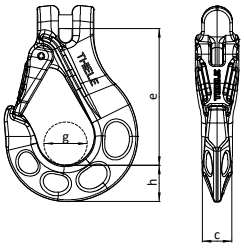
SAFETY 4 : 1 | 100 %



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]								Weight app. [lbs]
			e	c	g	b	d	f	h	l	
1/4"	F0923003	3,100	4.72	0.65	1.10	1.18	0.41	0.73	0.98	7.09	1.32
5/16"	F092313	5,700	7.91	0.91	1.30	1.69	0.55	1.30	0.98	9.53	2.20
3/8"	F092323	8,800	9.45	1.06	1.77	1.93	0.63	1.50	1.34	11.38	4.41
1/2"	F092333	15,000	11.93	1.34	2.05	2.24	0.83	1.93	1.57	14.29	8.38
5/8"	F092343	22,600	13.39	1.69	2.52	2.36	0.91	1.93	2.09	16.14	15.43
3/4"	F092353	35,300	14.96	1.93	3.03	3.15	1.06	2.68	2.13	18.50	21.16
7/8"	F092363	42,700	18.54	2.24	3.62	3.90	1.30	3.90	2.91	22.56	28.66

TWN 1840/1

Clevis Sling Hooks with Forged Safety Latch



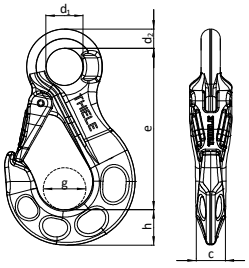
The Grade 100 clevis sling hooks TWN 1840/1 with latch are used to assemble standard chain slings and lashing chains. The clevis design enables the direct attachment to the lifting chain. Forged-in measuring points of the max. limit values of the hook opening enables easy control. The forged heavy duty safety latch prevents an unintentional detachment from the load. The sling hooks comply with the ASTM A952/A952M, ISO 7597 and DIN EN 1677-2, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	h	c	
1/4"	F336050	3,100	2.99	0.94	0.79	0.67	0.79
9/32" NEW	F336070	4,300	3.58	1.04	0.87	0.79	1.17
5/16"	F336150	5,700	3.70	1.18	0.98	0.87	1.68
3/8"	F336250	8,800	4.49	1.46	1.26	1.10	3.11
1/2"	F336350	15,000	5.28	1.65	1.61	1.38	5.47
5/8"	F336450	22,600	6.38	2.01	1.97	1.61	9.70
3/4" NEW	F336550	35,300	7.91	2.40	2.28	2.01	18.96
7/8" NEW	F33664	42,700	8.78	2.76	2.44	2.17	25.35

TWN 1841/1

Sling Hooks with Eye and Forged Safety Latch



The Grade 100 eye sling hooks TWN 1841/1 with latch are used to assemble standard chain slings. The round steel chains are assembled by using connecting links, e.g. XL-LOKs TWN 1820. Forged-in measuring points of the max. limit values of the hook opening enable easy control. The forged heavy duty safety latches prevent unintentional detachment from the load. The sling hooks comply with the ASTM A952/A952M, ISO 7597 and DIN EN 1677-2, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %

Trade Size	Article-No.	Working Load Limit [t]	Dimensions [mm]							Weight app. [kgs]
			e	d_1	d_2	g	h	c	f	
1/4"	F32905	3,100	3.62	0.83[1)]	0.43	0.94	0.79	0.67	-	0.79
9/32" - 5/16"	F32915	5,700	4.65	1.10[1)]	0.55	1.18	0.98	0.79	-	1.68
3/8"	F32925	8,800	5.75	1.42[1)]	0.71	1.46	1.26	1.14	-	3.31
1/2"	F32935	15,000	6.61	1.65[1)]	0.83	1.65	1.61	1.38	-	5.62
5/8"	F32945	22,600	8.27	2.13[1)]	0.98	2.01	1.97	1.61	-	10.25
3/4" NEW	F32965	35,300	9.61	2.28[1)]	1.06	2.44	2.32	2.01	-	16.78
7/8"	F32975	42,700	10.67	2.56[1)]	1.18	2.76	2.44	2.17	-	22.49
1"	F32985	59,700	11.89	2.76	1.30	2.95	2.80	2.36	3.19	33.07
1-1/4" NEW	F32995	88,200	13.78	3.15	1.50	3.54	3.31	2.76	3.90	53.57

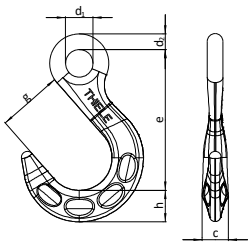
Hooks

Eye Foundry Hooks NEW

TWN 1856

The Grade 100 eye foundry hooks TWN 1856 with enlarged eye are used to assemble chain slings predominantly for foundries. The round steel chains are assembled by using connecting links, e.g. XL-LOKs TWN 1820. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %



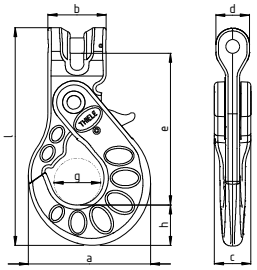
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			d_1	d_2	e	c	g	h	
1/4"	F32353	3,100	0.83	0.47	4.25	0.79	1.97	0.94	0.97
9/32"-5/16"	F32363	5,700	1.10	0.55	5.31	1.02	2.60	1.30	2.14
3/8"	F32373	8,800	1.26	0.71	6.34	1.28	2.99	1.38	3.44
1/2"	F32383	15,000	1.65	0.83	7.72	1.50	3.50	1.65	6.53
5/8"	F32395	22,600	2.13	0.91	9.02	1.77	4.02	1.89	10.38
11/16"-3/4"	F32405	35,300	2.32	1.06	10.20	2.30	4.49	2.48	17.53
7/8"	F32413	42,700	2.56	1.18	11.34	2.56	5.00	2.76	23.99
1"	F32423	59,700	2.99	1.38	12.95	2.95	5.35	3.19	36.35
1-1/4"	F32443	88,200	3.35	1.65	14.09	3.27	5.98	3.82	57.76

Clevis Skip Suspension Hooks NEW

TWN 1899

The Grade 100 skip suspension hooks TWN 1899 connect chain slings with the pivot of containers, e.g. containers according to DIN 30720. The shape of the hook opening is designed to fit container lifting pivots. The clevis design enables the direct attachment to the chain. The hooks lock automatically when load and may only be reopened manually if not under load anymore. The skip suspension hooks comply with DIN EN 1677-3, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %



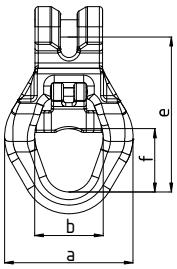
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]								Weight app. [lbs]
			e	c	g	h	d	b	a	l	
1/2"	F335100	15,000	6.54	1.57	2.01	1.65	1.46	2.52	5.31	9.41	7.36

TWN 1869

Clevis Skip Suspension Links for One-Hand Operation and Forged Safety Latch NEW

The Grade 100 skip suspension links TWN 1869 connect chain slings with the pivots on containers, e.g. containers according to DIN EN 30720. The shape of the eyelet is designed to fit container suspension pivots. The clevis design enables the direct attachment to the chain. The forged safety latch enables a one-hand operation. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %

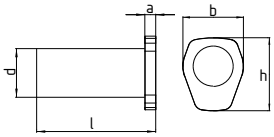


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	f	b	a	
1/2"	F313805	15,000	5.59	2.26	2.56	4.80	4.28

TWN 0869/1

Container Pivots

The container pivots TWN 0869/1 are welded to containers and serve as lifting points for attaching skip suspension hooks and links.



Trade Size	Article-No.	Dimensions [inch]					Weight app. [lbs]
		a	d	b	l	h	
M12	F31410	0.39	1.77	2.68	4.33	3.23	3.53

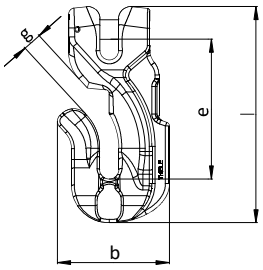
Shortening Components

Clevis Shortening Hooks

TWN 1827

The Grade 100 clevis shortening hooks TWN 1827 are used to adjust the leg lengths of chain slings and lashing chains. The clevis design enables the direct attachment to the chain. The shortening hook has been tested in combination with the lifting chain. The extra wide chain support ensures a particularly firm fit of the inserted chain link. At the same time the link is protected from getting damaged. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1 and DIN 5692, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %



Trade Size		Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
				e	g	l	b	
9/32"	NEW	F33203	4,300	2.70	0.33	4.04	2.13	1.10
5/16"		F33204	5,700	2.80	0.37	4.33	2.20	1.17
3/8"		F33214	8,800	3.27	0.49	5.20	2.64	2.05
1/2"		F33224	15,000	4.29	0.61	6.61	3.27	4.39
5/8"		F33234	22,600	5.39	0.73	8.19	3.98	7.98
3/4"	NEW	F33236	35,300	6.69	0.93	10.24	5.00	16.27
7/8"	NEW	F33238	42,700	7.32	1.00	11.26	5.47	21.94
1"	NEW	F33242	59,700	8.66	1.18	13.27	6.46	33.64
1-1/4"	NEW	F33244	88,200	10.67	1.46	16.34	7.95	62.13

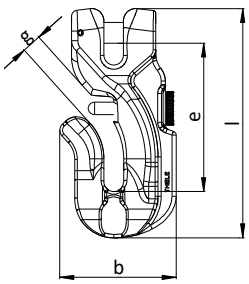
Clevis Shortening Hooks with Safety Pin

TWN 1827/1

The Grade 100 clevis shortening hooks TWN 1827/1 with safety pin are used to adjust the leg lengths of chain slings and lashing chains. The clevis design enables the direct attachment to the chain. The safety pin prevents the chain strand from accidental release. The shortening hook has been tested in combination with the lifting chain. The extra wide chain support ensures a particularly firm fit for the inserted chain link. At the same time the link is protected from getting damaged. The safety bolt enables the use in lashing chains according to DIN EN 12195-3. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1 and DIN 5692, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %

NEW:
Application and assembly video for the shortening hook with safety pin on YouTube!



Trade Size		Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
				e	g	l	b	
9/32"	NEW	F332022	4,300	2.69	0.33	4.04	2.13	1.10
5/16"		F33205	5,700	2.80	0.37	4.33	2.20	1.19
3/8"		F33215	8,800	3.26	0.49	5.20	2.64	2.07
1/2"		F33225	15,000	4.29	0.61	6.61	3.27	4.41
5/8"		F33235	22,600	5.39	0.73	8.19	3.98	8.02
3/4"	NEW	F33237	35,300	6.69	0.93	10.24	5.00	16.36
7/8"	NEW	F33239	42,700	7.32	1.00	11.26	5.47	22.05
1"	NEW	F33243	59,700	8.66	1.18	13.27	6.46	33.89
1-1/4"	NEW	F33247	88,200	10.67	1.46	16.34	7.87	62.37

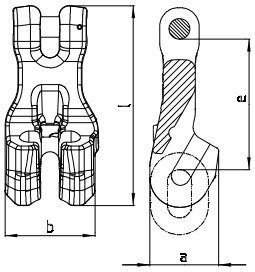
TWN 1851/1

Clevis Shortening Claws with Safety Pin

NEW

The Grade 100 clevis shortening claws TWN 1851/1 with safety pin are used to adjust the strand lengths of chain slings and lashing chains. The clevis design enables the direct attachment to the chain. The safety pin prevents the chain from accidental release. The shortening claws have been tested in interaction with the lifting chain. The chain pockets ensure a particularly tight fit for the inserted chain link. The safety bolt enables the use in lashing chains according to DIN EN 12195-3. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1 and DIN 5692, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | 100 %



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	a	b	l	
1/4"	F349141	3,100	2.01	1.06	1.46	3.07	0.55
5/16"	F349241	5,700	2.56	1.34	1.81	3.94	1.10
3/8"	F349341	8,800	3.19	1.69	2.20	4.88	2.07
1/2"	F349441	15,000	4.17	2.20	2.87	6.38	4.48
5/8"	F349551	22,600	5.12	2.68	3.46	7.80	7.96
3/4"	F349661	35,300	6.34	3.35	4.29	9.69	15.61
7/8"	F349771	42,700	6.97	3.70	4.72	10.67	20.99
1"*	F349881	59,700	7.72	4.29	5.31	12.09	29.10
1-1/4"*	F349991	88,200	9.45	5.31	6.54	14.57	54.01

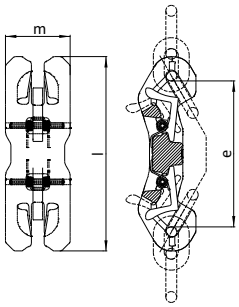
**On request*

TWN 1852

RAPID® Shortening Claws

The Grade 100 RAPID® shortening claws TWN 1852 are used to adjust the leg lengths of chain slings and lashing chains. Due to the double claws, the RAPID® shortening claws can be universally integrated to existing chain legs without permanently mounting them into the chain sling. The shortening claws have been tested in interaction with the chain slings. The chain pockets ensure a tight fit of the inserted chain link. The safety bolt enables the use in lashing chains according to DIN EN 12195-3. RAPID® shortening claws can be installed quickly and subsequently in chain sling and lashing chains without tools. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1 and DIN 5692, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | CE | 100 %



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]			Weight app. [lbs]
			e	l	m	
5/16"	F34775	5,700	4.37	5.83	1.89	2.45
3/8"	F34780	8,800	5.28	7.09	2.36	4.61
1/2"	F34785	15,000	7.05	9.45	3.07	10.49
5/8"	F34790	22,600	8.82	11.65	3.78	20.00

Shortening Components/ Shackles

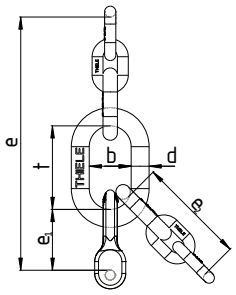
Shortening Devices for Fixed Size Master Links

TWN 1896

The Grade 100 shortening devices TWN 1896 for fixed size master links are used in chain slings and enable the leg lengths to be adapted to the conditions of use. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
						B-Link			
			e	e_1	e_2	d	t	b	
1/4"	F189606	3,100	5.39	1.22	2.36	0.39	1.81	0.91	0.71
5/16"	F189608	5,700	6.89	1.50	3.07	0.51	2.36	1.18	1.54
3/8"	F189610	8,800	8.46	1.81	3.90	0.63	2.76	1.38	3.09
1/2"	F189613	15,000	10.63	2.32	4.96	0.71	3.35	1.57	5.73
5/8"	F189616	22,600	12.83	2.99	5.91	0.87	3.94	1.97	11.02



Shackles

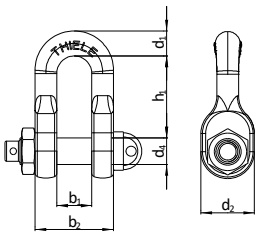
Bolt Shackles Type C with Nut and Roll Pin

TWN 1871

The Grade 100 shackles type C TWN 1871 with bolt, nut and roll pin are used as end fittings in chain slings. The dimensions of the type C shackles comply with DIN 82101. The manufacturing and testing requirements are based on DIN EN 1677-1, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | DGUV ZERT | CE | 100 %

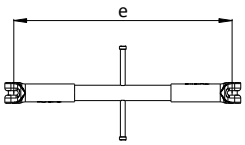
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			d_1	d_2	d_4	b_1	b_2	h_1	
1/4"* NEW	F303000	3,100	0.35	0.51	0.79	0.50	1.10	1.10	0.24
5/16"* NEW	F303005	5,700	0.47	0.55	1.02	0.67	1.50	1.50	0.42
3/8"	F303100	8,800	0.59	0.63	1.26	0.83	1.85	1.93	0.99
1/2"	F303200	15,000	0.75	0.79	1.57	1.09	2.44	2.40	1.85
5/8"	F303300	22,600	0.91	0.94	1.89	1.30	2.95	2.87	3.28
3/4"* NEW	F303400	35,300	1.18	1.18	2.52	1.65	3.74	3.58	6.83
7/8"	F303500	42,700	1.30	1.42	2.83	1.85	4.21	4.37	10.12



**On request*

TWN 1454

Chain Tensioners with Toggle (Large Lift)



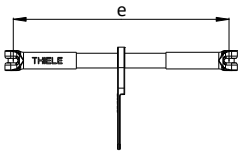
The Grade 100 chain tensioners TWN 1454 with toggle are used as tensioning elements in lashing chains. The chain tensioners can also be used in chain slings for stepless adjustment of strand lengths when lifting loads. These chain tensioners have a particularly large lift. The chain tensioners with toggle and trapezoidal thread achieve a high pretensioning force with little force impact. This property is of fundamental importance when lashing down, as the level of the pretensioning force contributes to load securing. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 lashing capacities.

SAFETY 2 : 1 | DGUV ZERT | 100 %

Trade Size	Article-No.	Normal straight load [daN] min.	Tensioner under straight load [daN] max.	Dimensions [inch]			Weight app. [lbs]
				e_{max}	e_{min}	lift	
1/2"	F341877	2,600	13,000	26.57	17.52	9.06	15.85
5/8"	F341977	3,100	20,000	32.68	21.65	11.02	26.01

TWN 1455

Chain Tensioners with Ratchet (Large Lift)



The Grade 100 chain tensioners TWN 1455 with ratchet are used as tensioning elements in lashing chains. The chain tensioners can also be used in chain slings for stepless adjustment of strand lengths when lifting loads. The chain tensioners have a particularly large lift. The chain tensioners with ratchet and trapezoidal thread achieve a high pretensioning force with little force impact. This property is of fundamental importance when lashing down, as the level of the pretensioning force contributes to load securing. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 lashing capacities.

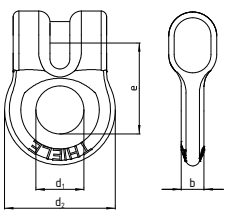
SAFETY 2 : 1 | DGUV ZERT | 100 %

Trade Size	Article-No.	Normal straight load [daN] min.	Tensioner under straight load [daN] max.	Dimensions [inch]			Weight app. [lbs]
				e_{max}	e_{min}	lift	
1/2"	F341878	2,600	13,000	26.57	17.52	9.06	18.52

Special Sling Components

TWN 1812

Ring Shackles



The Grade 100 ring shackles TWN 1812 are used to connect chains to sling components to assemble chain slings. The manufacturing and testing requirements are based on the ASTM A952/A952M, ISO 8539 and DIN EN 1677-1, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	d_1	d_2	b	
1/4"	F31704	3,100	1.22	0.67	1.54	0.31	0.22
5/16"	F31714	5,700	1.46	0.83	1.97	0.43	0.51
3/8"	F31724	8,800	1.81	1.02	2.44	0.55	1.06
1/2"	F31734	15,000	2.32	1.30	3.11	0.71	1.87
5/8"	F31744	22,600	2.99	1.65	3.94	0.91	3.51

Special Sling Components/ Lashing Chains

Swivel Adapters NEW

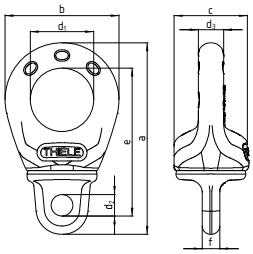
TWN 1846

The Grade 100 swivel adapters TWN 1846 with ball-bearing supplement components with clevis design and align the individual suspension strands without twisting. The swivel adapter is fixed to the clevis design of the end link, e.g. a sling hook. The large eyelet enables e.g. a connection to chain or rope strands as well as textile slings. The manufacturing and testing requirements comply with DIN EN 1677-1 and ISO 8539, under consideration of Grade 100 working load limits.

SAFETY 4 : 1 | 100 %

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]								Weight app. [lbs]
			e	d_1	d_2	d_3	b	c	a	f	
5/16"*	F32820	5,700	3.70	1.77	0.63	0.63	3.03	2.05	4.61	0.33	1.63
3/8"	F32825	8,800	3.82	1.77	0.63	0.63	3.03	2.05	4.88	0.43	1.74
1/2"*	F32830	15,000	4.61	1.97	0.79	0.79	3.54	2.32	5.94	0.55	3.15
5/8"	F32835	22,600	5.75	2.56	0.98	0.98	4.53	2.87	7.44	0.67	6.00

On request



Lashing Chains

Lashing Chains with Tensioner

TWN 1410

The Grade 100 lashing chains TWN 1410 with toggle and adjustable lashing chain have a standard length of 3,5 m and are used for heavy-duty lashing applications. The chain tensioners with toggle and trapezoidal thread achieve a high pretensioning force with little force impact. This property is of fundamental importance when lashing down, as the level of the pretensioning force contributes to load securing. The manufacturing and testing requirements are based on DIN EN 12195-3, under consideration of Grade 100 lashing capacities.

SAFETY 2 : 1 | CE

Trade Size	Article-No.	Normal straight load [daN] min.	Weight app. [lbs]
3/8"	F34183	13,000	62.59
5/8"	F34184	20,000	102.35

Other lengths available on request.

Lashing Chains with Ratchet

TWN 1411

The Grade 100 lashing chains TWN 1411 with ratchet and shortenable lashing chain have a standard length of 3,5 m and are used in the heavy-duty area for lashing loads in road traffic. The chain tensioners with ratchet and trapezoidal thread achieves a high pretensioning force with little force impact. This property is of fundamental importance when lashing down, as the level of the pretensioning force contributes to load securing. The manufacturing and testing requirements are based on DIN EN 12195-3, under consideration of Grade 100 lashing capacities.

SAFETY 2 : 1 | CE

Trade Size	Article-No.	Normal straight load [daN] min.	Weight app. [lbs]
1/2"	F34183R	13,000	46.30

Other lengths available on request.

Spare Parts and Accessories

TWN 0944

Chain File

The chain file TWN 0944 is used for documentation of chain inspections.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
-	Z04575	1 pc.	0.02

TWN 0945

Assembly Kit

The assembly kit TWN 0945 is used for easy disassembly of bolts and dowel pins of clevis connections.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
-	Z03303	1 set	1.32

TWN 0968

Spare Part Sets for Skip Suspension Hooks and Links

NEW

The spare part sets TWN 0968 consist of bolt, roll pins and are suitable for the clevis connections of the skip suspension hooks TWN 1399 and TWN 1899 and skip suspension links TWN 0869 and TWN 1869.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/2"	F480131	1 set	0.15
5/8"	F480161	1 set	0.26

TWN 0969

Spare Part Sets for Skip Suspension Links

The spare part sets TWN 0968 consist of bolt, roll pins and are suitable for the clevis connections of the skip suspension hooks TWN 1399 and TWN 1899 and skip suspension links TWN 0869 and TWN 1869.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/2" (G100/G80)	F314081	1 set	0.44

Spare Parts and Accessories

Spare Part Sets for Skip Loader Hooks NEW

The spare part sets TWN 0970 consist of a retainer, spring and dowel pin and are suitable for skip loader hooks TWN 1399 and TWN 1899.

TWN 0970

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/2-5/8"	F48332	1 set	0.24

Spare Part Sets for Clevis Shortening Claws NEW

The spare part sets TWN 0971 consist of locking pin, threaded pin, spring and bearing are suitable for the clevis shortening hooks with safety pin TWN 0851/1 and TWN 1851/1.

TWN 0971

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4" (G100/G80)	F483110	1 set	0.02
5/16" (G100/G80)	F483112	1 set	0.02
3/8" (G100/G80)	F483113	1 set	0.04
1/2" (G100/G80)	F483114	1 set	0.07
5/8" (G100/G80)	F483115	1 set	0.11
3/4" (G100/G80)	F483117	1 set	0.15
7/8" (G100/G80)	F483118	1 set	0.20
1" (G100/G80)	F483119	1 set	0.26
1-1/4" (G100/G80)	F483120	1 set	0.17

Identification Tag for Lashing Chains

The identification tags TWN 1402 are used to identify lashing chains and provide important information for operation. Lashing chains may not be used without identification tag.

TWN 1402

Article-No.	Packing Units	Weight app. [lbs]
Z07264	1 pc.	0.11

Spare Part Sets for Clevis Design

The spare part sets TWN 1904/0 consist of a bolt and dowel pins and are suitable for THIELE products with the Grade 100 fixed size clevis design.

TWN 1904/0

Trade Size		Article-No.	Packing Units	Weight app. [lbs]
1/4"		F48686	1 set	0.04
9/32"	NEW	F486861	1 set	0.07
5/16"		F48687	1 set	0.07
3/8"		F48688	1 set	0.11
1/2"		F48689	1 set	0.22
5/8"		F48690	1 set	0.35
3/4"	NEW	F48692	1 set	0.62
7/8"	NEW	F48693	1 set	0.82
1"	NEW	F486931	1 set	1.26
1-1/4"	NEW	F486933	1 set	2.29

Spare Parts and Accessories

TWN 1908/0

Spare Part Sets for Hooks

The spare part sets TWN 1908/0 consist of a safety latch, spring and 2 dowel pins and are suitable for Grade 100 sling hooks TWN 1835/1, TWN 1840/1, TWN 1841/1 and also fit the Grade 80 sling hooks TWN 0835/1, TWN 0850/1, TWN 1340/1 and TWN 0858/1.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4" (G100/G80)	F48731	1 set	0,05
9/32"-5/16" (G100/G80) NEW	F48733	1 set	0,08
3/8" (G100/G80)	F48735	1 set	0,14
1/2" (G100/G80)	F48737	1 set	0,31
5/8" (G100/G80)	F48739	1 set	0,38
11/64"-3/4" (G100/G80)	F48743	1 set	0,71
7/8" (G100/G80)	F48745	1 set	0,89
1" (G100/G80)	F48748	1 set	1,41
1-1/4" (G100/G80) NEW	F48749	1 set	1,77

TWN 1921

Spare Part Sets for XL-LOK Connectors

The spare part sets TWN 1921 consist of a bolt and clamping bush and are suitable for XL-LOK TWN 1820 connecting links.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F486013	1 set	0.02
9/32"-1/4"	F486043	1 set	0.04
3/8"	F486073	1 set	0.09
1/2"	F486103	1 set	0.13
5/8"	F486133	1 set	0.26
7/8"	F486191	1 set	1.01

TWN 1922

Spare Part Sets for XL-LOK Connectors NEW

The spare part sets TWN 1922 consist of a bolt and clamping bush and are suitable for XL-LOK TWN 1820 connecting links.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
3/4"	F486105	1 set	0.55
7/8"	F486106	1 set	0.71
1"	F486107	1 set	1.21
1-1/4"	F486108	1 set	2.18

TWN 1930/0

Spare Part Sets for Shackles Type C

The spare part sets TWN 1930/0 consist of a head bolt, nut and splint and are suitable for Grade 100 shackles type C TWN 1871.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4" NEW	F304310	1 set	0.07
5/16" NEW	F304410	1 set	0.18
3/8"	F304510	1 set	0.29
1/2"	F304610	1 set	0.55
5/8"	F304710	1 set	1.04
3/4" NEW	F304810	1 set	2.47
7/8" NEW	F304910	1 set	2.89

Spare Parts and Accessories

Spare Part Sets for RAPID®-Shortening Claws

TWN 1931/0

The trigger sets TWN 1931/0 consist of 2 retainers, springs and roll pins and are suitable for Grade 100 RAPID® shortening claws TWN 1852.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
5/16"	F347750	1 set	0.05
3/8"	F347800	1 set	0.19
1/2"	F347850	1 set	0.19
5/8"	F347900	1 set	0.37

Spare Part Sets for Clevis Self-Locking Hooks NEW

TWN 1933/0

The spare part sets TWN 1933/0 consist of a bolt and a roll pin and are suitable for grade 100 self-locking hooks with clevis design TWN 1837.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F487800	1 set	0.02
9/32"	F487801	1 set	0.02
5/16"	F487802	1 set	0.04
3/8"	F487803	1 set	0.09
1/2"	F487804	1 set	0.18
5/8"	F487805	1 set	0.35
3/4"	F487806	1 set	0.68
7/8"	F487807	1 set	1.01

Spare Part Sets for Clevis Self-Locking Hooks

TWN 1933/0A

The spare part sets TWN 1933/0A consist of bolt and 2 roll pins and are suitable for Grade 100 self-locking hooks with clevis design TWN 1837A.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	Z10118	1 set	0.02
5/16"	Z10119	1 set	0.04
3/8"	Z10120	1 set	0.09
1/2"	Z10121	1 set	0.18
5/8"	Z10122	1 set	0.33
7/8"	Z10125	1 set	1.01

Spare Part Sets for Self Locking Hooks NEW

TWN 1935

The trigger sets TWN 1935 consist of a retainer, spring and dowel pin. The trigger sets are suitable for Grade 100 self-locking hooks TWN 1836, TWN 1837 and TWN 1838.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F487810	1 set	0.04
9/32"	F487811	1 set	0.04
5/16"	F487812	1 set	0.09
3/8"	F487813	1 set	0.11
1/2"	F487814	1 set	0.40
5/8"	F487815	1 set	0.42
3/4"	F487816	1 set	0.51
7/8"	F487817	1 set	0.55

Spare Parts and Accessories

TWN 1935A

Spare Part Sets for Self Locking Hooks (old version till Dec 2023)

The trigger sets TWN 1935A consist of a retainer, spring and dowel pin. The trigger sets are suitable for Grade 100 self-locking hooks TWN 1836A and TWN 1837A.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	Z10110	1 set	0.04
5/16"	Z10111	1 set	0.07
3/8"	Z10112	1 set	0.09
1/2"	Z10113	1 set	0.13
5/8"	Z10114	1 set	0.24
7/8"	Z10117	1 set	0.55

TWN 1940A

Identification Tags for single- and multi-leg Chain Slings

The Grade 100 identification tags TWN 1940 are used to identify chain slings and provide important information for the operator. Chain slings may not be used without an identification tag.

Article-No.	Packing Units	Weight app. [lbs]
ChainID-Tag-KWS	1 pc.	0.22
ChainID-Tag-PLAIN	1 pc.	0.22

TWN 1946

Chain Gauges

The chain measuring gauges TWN 1946 are used to measure the discard criteria of Grade 100 chain slings XL400 and XL200.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F01690	1 pc.	0.15
5/16"	F01691	1 pc.	0.15
3/8"	F01692	1 pc.	0.20
1/2"	F01693	1 pc.	0.24
5/8"	F01694	1 pc.	0.31

TWN 1950

Spare Part Sets for Shortening Hooks

The spare part sets TWN 1950 consist of locking pin, spring and knurled nut and are suitable for Grade 100 shortening hooks TWN 1827/1.

Trade Size		Article-No.	Packing Units	Weight app. [lbs]
9/32"-5/16"	NEW	F48330	1 set	0.04
3/8"		F48328	1 set	0.09
1/2"		F483290	1 set	0.09
5/8"		F48339	1 set	0.13
3/4"	NEW	F48340	1 set	0.24
7/8"	NEW	F48341	1 set	0.26
1"	NEW	F48343	1 set	0.64
1-1/4"	NEW	F48344	1 set	0.75

Examples for Chain Slings

1-Leg Chain Slings with XL-LOK Connection

TWN 1600	TWN 1601	TWN 1602	TWN 1603
			
TWN 1604			
			

2-Leg Chain Slings with XL-LOK Connection

TWN 1650	TWN 1651	TWN 1652	TWN 1653
			
TWN 1654			
			

Examples for Chain Slings

4-Leg Chain Slings with XL-LOK Connection

TWN 1750	TWN 1751	TWN 1752	TWN 1753
			

TWN 1754			
			

1-Leg Chain Slings, Fixed Size

TWN 1631	TWN 1632
	

2-Leg Chain Slings, Fixed Size

TWN 1681	TWN 1682
	

4-Leg Chain Slings, Fixed Size

TWN 1781	TWN 1782
	

Shortening Options

With Shortening Claws TWN 1851, TWN 1851/1 and TWN 1896



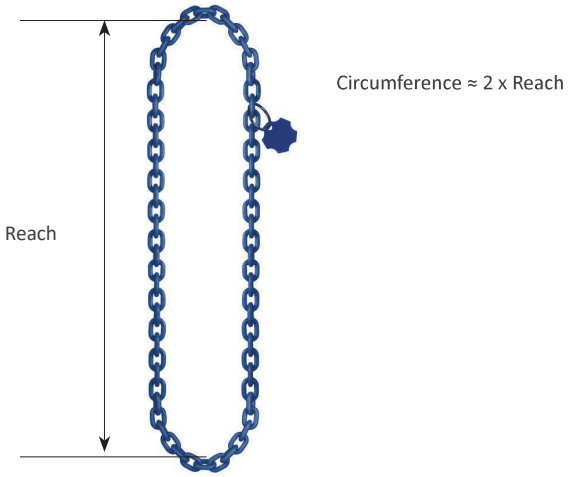
With RAPID®-Shortening Claws TWN 1852



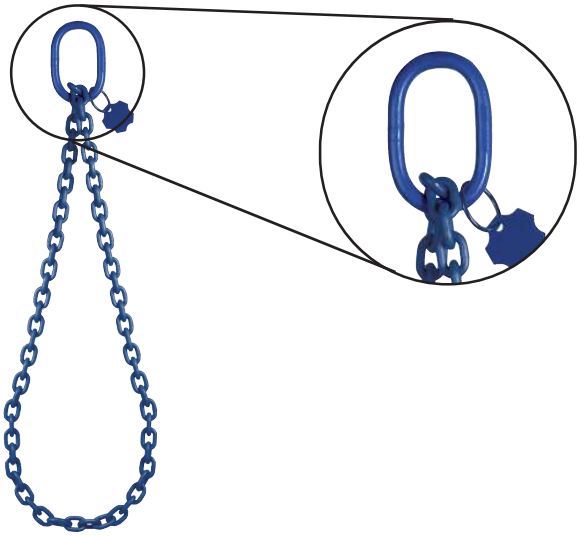
With Shortening Claws TWN 1851, TWN 1851/1 and TWN 1896



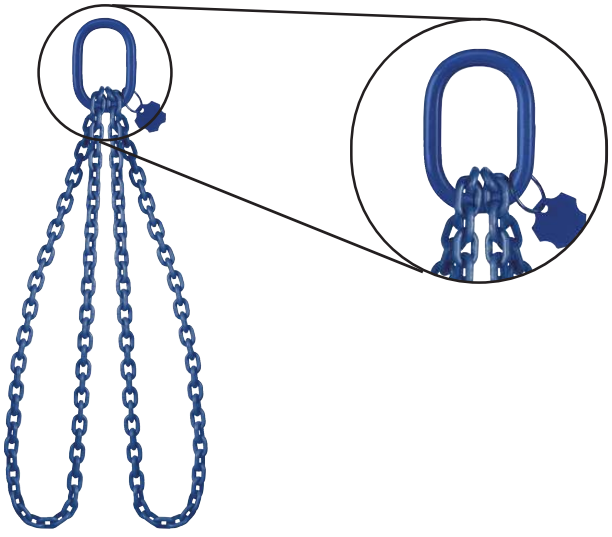
Type K11



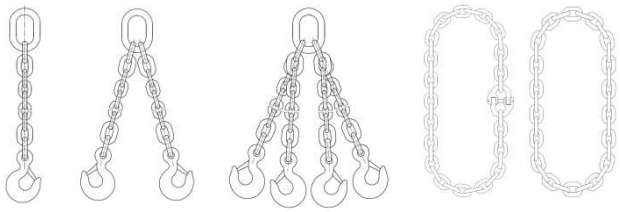
Type K12



Type K22



Safety Instructions and Requirements (Vers. B11082-C US 01.20)



WARNING

The following Operating Instructions must always be followed to avoid the risk of personal injury or property damage.

Do not use a chain sling before reading these Operating Instructions.

1. ABOUT THIS INSTRUCTION

This Operating Instruction describes in particular how sling chains according to TWN 0805A grade 80, TWN 0072 and TWN 1805 grade 100 (TWN = THIELE Shop Standard) are to be safely used for lifting purposes.
The instruction applies analogously to components of the identical design.
To comply with these instructions is essential to help avoid hazards and increases the reliability and service life of the chain slings.

DANGER! Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING! Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION! Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE! Is used to address practices not related to physical injury.

Safety Instructions signs indicate specific safety-related instructions or procedures.

Chains and accessories marked with the American nominal size 7/32" already corresponded to the European nominal size 6 mm. In order to achieve a better match, the previous nominal size 7/32" is now converted to the new nominal size 15/64". The working load limits have now also been adjusted. #

DEFINITIONS

Clevis

A U-shaped fitting with pin.

Working Load Limit (WLL)

The maximum load which a chain sling is designed to support in direct tension without shock loading at a designated sling angle of lift.

NOTICE

Read ASME B30.9 "Slings", Chapters 9-0 and 9-1.

Read ASME B30.10 "Hooks".

Read ASME B30.26 "Rigging Hardware", Chapters 26-0, 26-1, 26-4.

If chain slings are used with lifting magnets, read ASME B30.20 "Below-the Hook-Lifting-Devices", Chapter 20-4.

2. BASIC SAFETY REQUIREMENTS

WARNING

To prevent the risk of injury never walk or stay under lifted loads!

The Working Load Limit must not be exceeded!

Only use lifting and attachment means free from defects!

Working under the influence of drugs, medications impairing the sense and/or alcohol is strictly forbidden!

SAFETY INSTRUCTIONS

- Operators, fitters and maintenance personnel must in particular observe the Operating Instructions as well as standards ASTM A 906/A 906 M (Standard Specification for Grade 80 and Grade 100 Alloy Steel Chain Slings for Overhead Lifting), ASTM A 952/A 952 M (Standard Specification for Forged Grade 80 and Grade 100 Steel Lifting Components and Welded Attachment Links), ISO 3056 (Non-calibrated round steel link lifting chain and chain slings; Use and maintenance), ISO 7593 (Chain slings assembled by methods other than welding; Grade T(8)) and ISO 4778 (Round steel short link chains for lifting purposes – Chains slings of welded construction – Grade 8).

Safety Instructions and Requirements (Vers. B11082-C US 01.20)

SAFETY INSTRUCTIONS

- The specific safety and operating regulations and standards issued locally in the country where the items are used must be observed.
- The directions given in these Operating Instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to persons operating and using the sling chains.
- These Operating Instructions must be available in a place near the product during the time the equipment is used. Please contact the manufacturer if replacements are needed. Also see chapter 13.
- During operation work, wear your personal protective equipment!
- **Improper assembly and use may cause personal injury and/or damage to property.**
- Assembly and removal as well as inspections and maintenance must exclusively be carried out by skilled, qualified, trained and authorized persons only.
- Structural changes are impermissible (e.g. welding, bending).
- **Operators must carry out a visual inspection and, if necessary, a functional test of the safety equipment before each use.**
- Never use worn-out, bent or damaged chain slings.
- Only lift loads that do not exceed the Working Load Limit of the sling chain assembly.
- Never expose chains to loads exceeding the specified Working Load Limits.
- Position the load hook above the load's center of gravity.
- Do not use force when mounting/positioning the attachment components.
- The load must resist and tolerate the forces to be applied without suffering deformation.
- Do not tip-load a hook.
- Do not twist or knot the chains together.
- When using shortening elements without additional safety means (e.g. TWN 0827, TWN 1827, TWN 0851 or TWN 1851), special care must be taken and the correct position of the chain in the shortening element is to be verified for each individual lifting operation.
- Avoid sharp edges. Use edge protectors or reduce the Working Load Limit by 20 %.
- The Working Load Limit must be reduced in the following cases
  - if the load is not balanced symmetrically,
  - if the chain is used in choke hitch applications,
  - when higher temperatures prevail,
  - when high dynamic and cyclic loads arise (automated or multi-shift operation),
  - when lifting magnets are employed.
- In case of multi-leg chain slings never allow sling angles of less than 30° and in excess of 75°. #
- Hooks shall have well-functioning safety latches.
- Attach unused chain legs to the suspension link.
- Suspension links must be allowed to move freely in the crane hook.
- Only lift loads that are freely movable and not attached or fastened.
- Do not bend loads to act on chain links and components.
- Safety elements must not be stressed or strained operationally.
- Use only shortening/grab hooks or claws for chain shortening purposes.
- Shortening hooks must not be attached directly to loads, e.g. metal sheets.
- For shortening claws, only the chain coming out of the bottom of the claw pocket must be loaded.
- Only chain legs and shortening elements of the same nominal size and grade may be connected.
- Shortening elements must be allowed to move freely in all tensile directions.
- Safeguard chain slings to prevent slipping when using the basket hitch application method.
- Do not start lifting before you have made sure the load has been correctly attached and balanced.
- **No one including you (operator) must be in the way of the moving load (hazard area).**
- During lifting your hands or other body parts must not come into contact with lifting means. Only remove lifting means manually (use your hands).
- Avoid impacts, e.g. due to abruptly lifting loads with chain in slack condition.
- Never move a suspended load over persons.
- Never cause suspended loads to swing.
- Always monitor a suspended load.
- Put the load down only in flat places/sites where it can be safely deposited.
- Do not allow the sling chain assembly getting caught under the load.
- Assume for sufficient space for the personnel to move when choosing the route of transportation and storage location. Danger to life and risk of injury by crushing hazards!
- In the event of doubts or concerns about the proper and safe use, inspection, maintenance or similar things contact your safety officer or the manufacturer.

SAFETY INSTRUCTIONS

THIELE is not responsible for damage caused by non-observance of the instructions, rules, standards and notes indicated!

As regard grade 100, THIELE does not give its approval to the assembly of components sourced from different manufacturers!

As a rule, chain slings are not permitted for the transportation of persons.

3. DESCRIPTION AND INTENDED USE

THIELE sling chains and attachment components form part of chain slings and are intended for a safe transportation of loads.

This Operating Instructions describe in particular how sling chains according to TWN 0805A grade 80, TWN 0072 and TWN 1805 grade 100 (TWN = THIELE Shop Standard) are to be safely used for lifting purposes.

THIELE chain slings of the following design configurations are available:

- assembled with clevis fastening system,
- assembled with connecting links,
- assembled with clevis fastening system and connecting links,
- as welded sling chain assembly,
- as welded endless chain, #
- as endless chain with mounted connector. #

THIELE sling chains and chain slings meet EG Machinery Directive 2006/42/EG requirements and feature a safety factor of at least 4 based on Working Load Limit.

Sling chains and pertinent components are marked with nominal chain size and grade data, manufacturer's symbol and traceability code.

THIELE chain slings and attachment elements are designed to withstand 20,000 dynamic load changes under maximum load conditions. In the event of higher loads (e.g. multi-shift/automatic operation, magnetic spreaders), the Working Load Limit must be reduced.

Chain slings shall be composed of sling chains and components of identical nominal chain size and grade. In case of deviating configurations the pertinent documentation (Operating Instructions etc.) must be suitably modified.

Sling chains according to TWN 0805A, TWN 0072 and TWN 1805 as well as the related attachment components and connecting links are intended for use as chain slings according to ASTM A 906/A 906M for lifting of loads.

WARNING

Chain slings must only be used

- if mass and center of gravity of the load are known or have been professionally estimated,
- within the limits of their permissible Working Load Limit,
- for permissible attachment methods and sling angles, #
- within the temperature limits prescribed,
- with suitable connecting links, attachment components or shortening elements,
- by trained and authorized persons.

Failure to do so may cause serious injury or property damage.

DANGER

Chain slings must not be employed for binding, rigging, lashing or as hoist chains.

Shortening elements must not be connected directly to the load!

4. COMMISSIONING

Prior to using the components for the first time assure that

- the components comply with the order and have not been damaged,
- test certificate and Operating Instructions are at hand,
- markings correspond with what is specified in the documentation,
- inspection deadlines and the qualified persons for examinations are determined,
- visibility and functional testings are carried out and documented,
- documentation is safely kept in an orderly manner.

Dispose of the packing in an environmentally compatible way according to local rule.

6. ASSEMBLY AND REMOVAL

6.1 Preparations

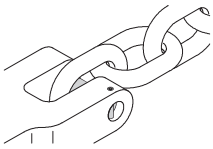
All components to be installed or used must be in perfect condition and the relevant Working Load Limits of all parts must accommodate the respective load to be handled.

6.2 Chain Assembly

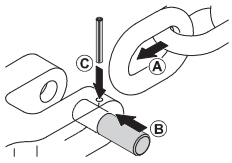
When assembling or disassembling chain slings the relevant assembly and Operating Instructions issued for the components must be observed.

6.3 Clevis Fastening System

The clevis fastening system only permits attachment of the nominal chain size that suits the attachment component.



6.3.1 ASSEMBLY



- If necessary, remove dowel pin and pin.
- (A) Place end of chain leg between the lateral clevis elements.
- (B) Push pin from the side fully into the clevis and through the last chain link of the leg.
- (C) Drive dowel pin fully in (must not project) to secure the pin. The slot must face away from the pin.

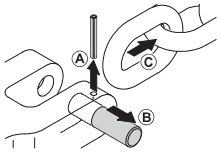
WARNING

Check whether the chain runs smoothly.

The dowel pins must only be installed once.

Only connect pins and attachment components of identical grades. Starting with Ø ½" the pins are marked on the front end.

6.3.2 DISASSEMBLY



- Slacken the respective chain leg.
- (A) Drive dowel pin out using hammer and drift punch [1].
- (B) Push pin out using a drift punch.
- (C) Remove the chain.

1) Suitable drift punches are available by Article No. Z03303.

7. CONDITIONS OF USE

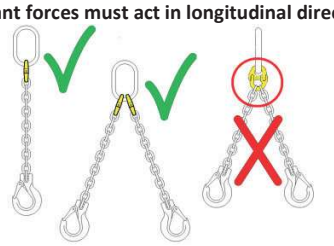
7.1 Normal Use

WARNING

When 4-leg chain slings are used there is a risk that the load will act on two oppositely located chain legs only. In such a case, check the Working Load Limit of the sling chain assembly and use an assembly that has a higher Working Load Limit.
Shortening individual chain legs is indicative of a non-symmetrical load distribution. In this case, the Working Load Limit must be reduced.
If choke hitch applications are involved the Working Load Limit is to be additionally reduced by 20 %.
When using hooks without safety latch, e.g. due to operational necessities, special care is to be taken, and a separate risk analysis must be carried out before operation.

DANGER

When attaching components, observe the correct position of the connecting links.
Relevant forces must act in longitudinal direction.



If two chain legs are assembled into one connecting link half for alternate use of the legs, only one chain leg must be subjected to loads!

If not all chain legs in a multi-leg sling chain assembly are used, the Working Load Limit is to be reduced according to the following table:

Total number of legs	Number of legs to be put to use	Use factor relevant to WLL specified
2	1	1/2
3 or 4	2	2/3
3 or 4	1	1/3

7.2 Influence of Temperature

WARNING

The respective temperature range limits must be considered for all components used. Using chain slings in high temperatures will cause the Working Load Limit to be reduced as indicated below.

	Temperature range	Remaining WLL
Grade 80 TWN 0805A	-40 °C ≤ t ≤ 205 °C -40 °F ≤ t ≤ 400 °F	100 %
	205 °C < t ≤ 300 °C# 400 °F < t ≤ 572 °F	90 %
	300 °C < t ≤ 400 °C 572 °F < t ≤ 752 °F	75 %
Grade 100 TWN 0072	-40 °C ≤ t ≤ 205 °C# -40 °F ≤ t ≤ 400 °F	100 %
Grade 100 TWN 1805	-30 °C ≤ t ≤ 205 °C# -22 °F ≤ t ≤ 400 °F	100 %

DANGER

If the chain slings have been exposed to temperatures exceeding the maximum values specified they must not be used furthermore.

7.3 Environmental Influence

WARNING

Chain slings must not be used in environments where acids, aggressive or corrosive chemicals or their fumes are present. Hot-dip galvanizing or a galvanic treatment is prohibited.

7.4 Special Hazardous Conditions

WARNING

The degree of danger when used in offshore applications, the lifting of hazardous loads, such as for example liquid metal or similar, risk potentials must be assessed by a competent person in the form of a risk analysis. Any additional rules and directives must be followed in this case.
For applications in abrasive blasting environments short inspection intervals must be scheduled. Selecting a welded sling chain assembly of the next bigger nominal size increases the permissible wear allowance.

8. GENERAL NOTES ON ATTACHMENT COMPONENTS

8.1 Connecting Links

WARNING

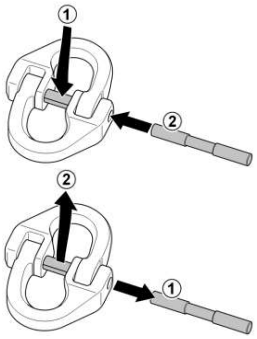
In mounted chain slings the chains are, for example, joined to other components by the use of connecting links. In this way, components can be mounted the nominal size of which deviates from that of the chain.

Sizes and grades of sling chains and connecting links must always coincide!

8.1.1 ASSEMBLY

Install the connecting link halves in the components to be connected and join both halves.

1. Position split sleeve as shown.
2. Push pin up to the split sleeve, align pin bevels to suit split sleeve and drive the pin in using a hammer.
3. Check to make sure split sleeve safely embraces the pin centrally.



8.1.2 DISASSEMBLY

1. Use drift to drive pin out.
2. Remove the split sleeve.
3. Separate connecting link halves from the components they joined.

A set of drifts according to TWN 0945 is available by Article No. Z03303.

The split sleeves must only be installed once.

The components to be connected must be able to move freely within the connecting link half they are placed in.

8.2 Shortening Elements

A shortening element within a chain leg is intended only to shorten the effective length to optimize the balance of the whole system.

When using shortening elements, such as for example shortening hooks or claws, please read the respective separate operating and/or assembly instructions.

9. IDENTIFICATION/MARKING

An identification tag must be attached to the chain sling adjacent to the master link.

The identification tag must show

- name or trademark of manufacturer
- nominal chain size
- grade
- number of legs
- rated load and corresponding sling angle
- length/reach
- individual identification/serial number

10. INSPECTION, MAINTENANCE, DISPOSAL

10.1 General

WARNING

Inspections and maintenance must be arranged by the owner!

Inspection intervals shall be determined by the owner!

Visual inspections must be regularly carried out and documented by competent and trained persons, at least once a year or more frequently if the chain slings are in heavy duty service. After three years at the latest they must additionally be examined for cracks. A load test is not a substitute for this examination.

The results of the inspections shall be kept in a file that has to be set up for each sling chain before first use. The register shall show characteristic data of the chains and components as well as identity details.

Immediately stop using chain slings that show the following defects:

- missing or illegible identification/marking,
- deformation, elongation or fractures of chain links or components,
- cuts, notches, cracks, incipient cracks, pinching,
- links heated beyond permissible limit,
- severe corrosion,
- pitch elongation of individual chain links by more than 5 % each,
- reduction of the average diameter of more than 10 % as mean value of measurements taken perpendicularly towards each other,
- impaired or missing safety systems, for example if the hooks' safety latch is defect,
- widening of the hook opening by more than 10 % or if the safe seating of the hook safety latch is no longer ensured
- limited hinging capability of connecting links (e.g. halves get stuck),
- wear in excess of 10%, e.g. in the receiving area of the connecting link halves or of the pin diameter,
- missing or damaged pin locks or removal of preventing guards

WARNING

Cleaning (e.g. prior to inspections) must not take place by using flames or methods that might cause hydrogen embrittlement (e.g. pickling or immersion in acidic solutions).

The following chain gauges are available to be used during chain inspections:

Nominal size		Article No.
Grade 80		F48856
15/64#	Grade 100	F01690
5/16	Grade 100	F01691
3/8	Grade 100	F01692
1/2	Grade 100	F01693
5/8	Grade 100	F01694

10.2 Inspection Service

THIELE offers inspection, maintenance and repair services by trained and competent personnel.

10.3 Maintenance and Repair

DANGER

Maintenance and repair work must only be performed by competent and trained persons.

WARNING

Do not repair or replace individual chain links but replace complete chain legs only.
If the safety latch of hooks does not engage properly with the tip of the hook, probably not only the hook but also the corresponding chain leg has been overloaded. In all such cases, all items used in the respective leg must be replaced (chain, shortening element, ring shackle etc.).

Minor notches and cracks may be eliminated by careful grinding, observing the maximum cross section reduction requirement of max. 10 % and avoid making more severe cuts or scores.

Welded chain slings must exclusively be repaired by the manufacturer.
All maintenance and repair activities must be documented properly.

10.4 Disposal

NOTICE

All steel components and accessories taken out of service must be scrapped in accordance with local regulations and provisions.

11. SPARE PARTS - ARTICLE NUMBERS FOR SLING CHAINS AND OTHER COMPONENTS

WARNING

Use only original spare parts.

11. Article Numbers for Sling Chains and other Components

Detailed information on spare parts for other THIELE-components can be found in the respective component instructions that are available for download on www.thiele.de, www.kwschain.com or upon request.

12. STORAGE

NOTICE

Chain slings must be stored properly sorted, suspended and in dry conditions at temperatures between 32 °F and 104 °F.

Do not store in a manner that causes mechanical damage.

13. THIELE OPERATING AND MOUNTING INSTRUCTIONS

NOTICE

All operating and mounting instructions are available in the download-center on our website www.kwschain.com and www.thiele.de.

14. PUBLISHING INFORMATION

Distributor:
KWS Inc.
P.O. Box 470487 | Tulsa, OK 74147 | USA

Toll Free:	+1 (800) 872-9313
Phone:	+1 (539) 367-2274
Fax:	+1 (539) 367-2278
Email:	sales@kwschain.com
Web:	www.kwschain.com

Manufacturer:
THIELE GmbH & Co. KG
Werkstraße 3 | 58640 Iserlohn | Germany

Phone:	+49 2371 947-0
Fax:	+49 2371 947-241
Email:	info@thiele.de
Web:	www.thiele.de

KWS Inc.

P.O. Box 470487
Tulsa, OK 74147
USA

Toll Free: +1 (800) 872-9313
Phone: +1 (539) 367-2274
Fax: +1 (539) 367-2278
Email: sales@kwschain.com
Website: www.kwschain.com

Follow us

NM-10/23 - A4 B12613