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

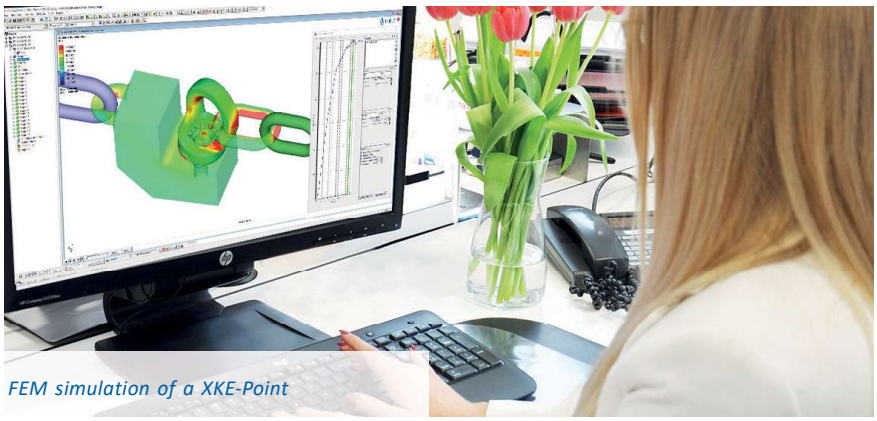
Our in-house manufacturing base covers the entire process from raw material through to the final product.
High-level expertise leads to short developing times, especially when new products are designed.

Modern 5-spindle machining centre

Manufacture of dies, trim dies and calibration tools

FEM simulation

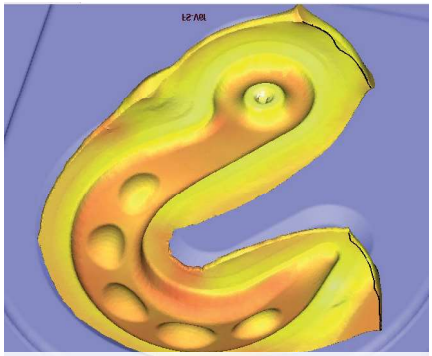
With precise calculations and the experience of our engineering team, we carry out stress analysis before production begins. This makes the product development process highly efficient and optimized to the maximum.



FEM simulation of a XKE-Point

Material flow simulation

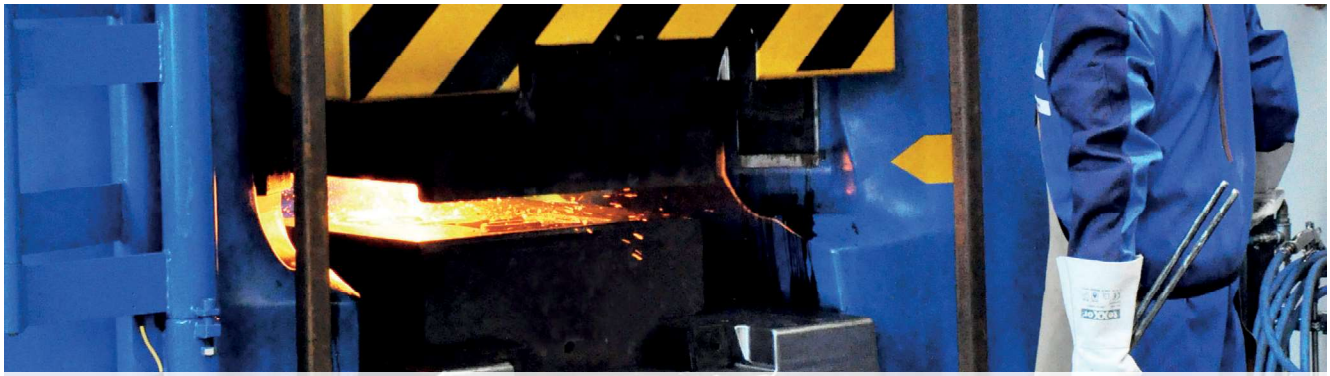
3D simulations optimize the forging process, enable precise volume calculations, increase efficiency and have a positive impact on the product quality.



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)

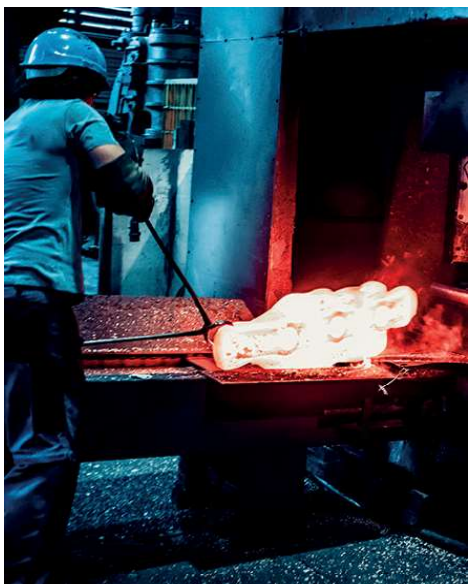
Special steels, e.g. high-alloy corrosion-resistant, heat-resistant and antimagnetic steels, are available on request.

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.

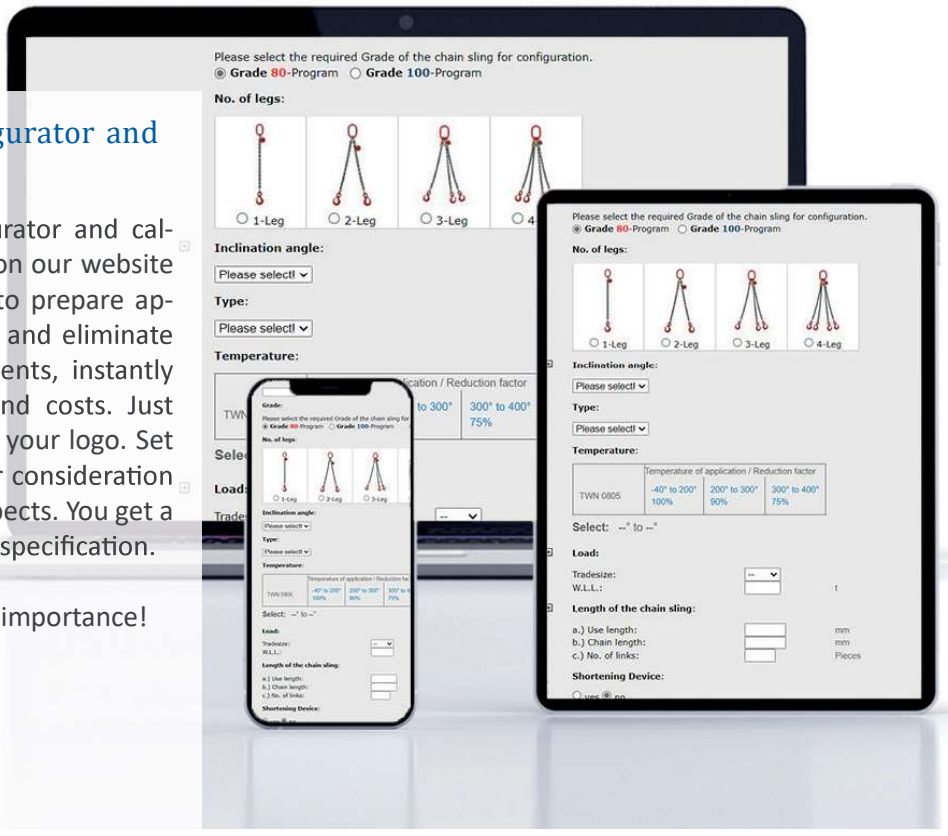
Operating and mounting instructions

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

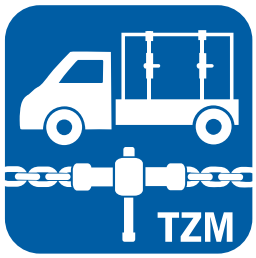
Lifting Products
Grade 80

Lifting Products
Offshore

Lifting Points

Hoist Chains

Load Lifting Equipment



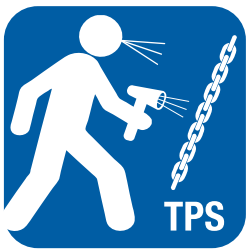
Lashing Products

Poultry Chains

Farming Chains

Chain Sprockets

Fishing Chains



Inspection Service

Engineering

TA8

THIELE
LIFTING PRODUCTS

Grade 80

Product Overview - Lifting Products Grade 80

Page	Round Steel Chains
60	TWN 0805A 

Pages	Suspension Components				
61-66	TWN 0795 	TWN 0810/1 	TWN 0810/2 	TWN 0810/4 	TWN 0815 
	TWN 0816 	TWN 0817 	TWN 0820 	TWN 1303 	TWN 1304 
	TWN 1317 				

Page	Connectors
67	TWN 1320 

Product Overview - Lifting Products Grade 80

Pages 68-73	Hooks				
	TWN 0798	TWN 0799	TWN 0854	TWN 0855	TWN 0855/1
					
	TWN 0856	TWN 0856/1	TWN 0858/1	TWN 0859	TWN 0860
					
	TWN 0868	TWN 0872	TWN 0873	TWN 0889	TWN 1340/1
					
	TWN 1399	TWN 0869	TWN 0869/1		
					

Pages 74-75	Shortening Components				
	TWN 0827	TWN 0827/1	TWN 0851	TWN 0851/1	TWN 0896
					

Page 76	OCTA STAR				
	Wire gliding Hook with Safety latch	Clevis Shortening Hook	Eye Shortening Hook		
					

Product Overview - Lifting Products Grade 80

Pages 77-78	Shackles				
	TWN 0861	TWN 0862	TWN 0870	TWN 0871	TWN 0897
					

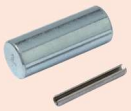
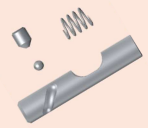
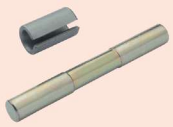
Pages 78-79	Chain Tensioners				
	TWN 1450	TWN 1451	TWN 1452		
					

Pages 80-81	Special Sling Components				
	TWN 0812	TWN 0845	TWN 0892	TWN 0893	TWN 0894
					
	TWN 0601				
					

Page 82	Lashing Chains	
	TWN 1400	TWN 1401
		

Product Overview - Lifting Products Grade 80

Pages 83-88 — Spare Parts and Accessories

TWN 0904/0 	TWN 0905/0906 	TWN 0920-0922 	TWN 0930 	TWN 1940A 
TWN 0944 	TWN 0945 	TWN 0946 	TWN 0950-0952 	TWN 0962 
TWN 0967/0 	TWN 0967/1 	TWN 0968 	TWN 0969 	TWN 0970 
TWN 0971 	TWN 1402 	TWN 1908/0 	TWN 1920 	

Page 89-94 — Chain Slings

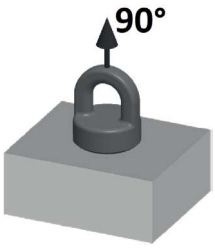
TWN 0449 	TWN 0536 	TWN 0710/1 		

Page 89 — Endless Chains

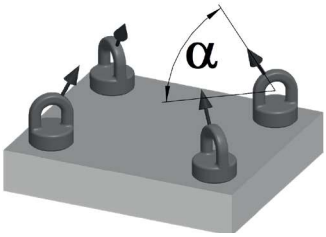
Type K11 	Type K12 	Type K22 		

Selection criteria for chain slings

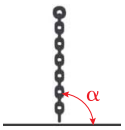
1. Determine the weight of the load to be lifted.

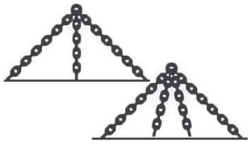


2. Check number of chain-legs required (depending on the number of available lifting points).



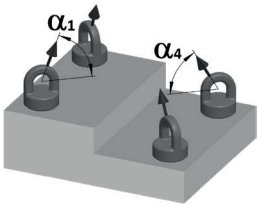
3. Determine the trade size by taking the inclination angle into consideration (see table 1 on page 57 and table 2 on page 58 and table 3 on page 59).



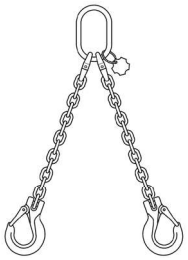


4. Consider possible temperature impacts (see load reductions on page 60).

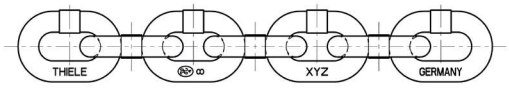
5. Consider that asymmetry may influence the load factor.



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.



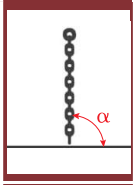
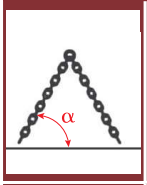
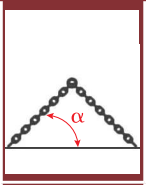
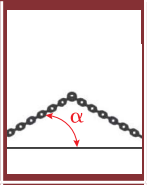
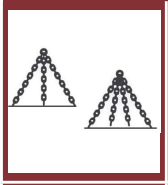
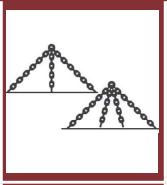
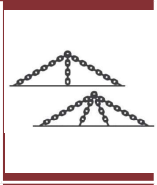
8. Control selected lifting components and/ or chain slings to ensure that they meet applicable safety-laws and regulations (e.g. DGUV)

Special Advices:
Please also consider special conditions of use, such as e.g. intermittent impacts on loads when selecting the grade 80 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.

Working Load Limit Tables

Working Load Limit[1)] – Type: Direct (Chain Slings)

		1-leg	2-leg			3-/4-leg		
								
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]**
6-8	1/4	2,500	4,300	3,500	2,500	6,500	5,300	3,700
7-8	9/32	3,500	6,100	4,900	3,500	9,100	7,400	5,200
8-8	5/16	4,500	7,800	6,400	4,500	11,700	9,500	6,800
10-8	3/8	7,100	12,300	10,000	7,100	18,400	15,100	10,600
13-8	1/2	12,000	20,800	17,000	12,000	31,200	25,500	18,000
16-8	5/8	18,100	31,300	25,600	18,100	47,000	38,400	27,100
18-8	11/16	22,000	38,100	31,100	22,000	57,100	46,600	33,000
20-8	3/4	28,300	49,000	40,000	28,300	73,500	60,000	42,400
22-8	7/8	34,200	59,200	48,400	34,200	88,900	72,500	51,300
26-8	1	47,700	82,600	67,400	47,700	123,900	101,200	71,500
28-8	1-1/8*	55,100	95,400	77,900	55,100	143,100	116,800	82,600
32-8	1-1/4	72,300	125,200	102,200	72,300	187,800	153,400	108,400
36-8	1-7/16	88,200	152,800	124,700	88,200	229,100	187,100	132,300
40-8	1-9/16	110,200	190,900	155,800	110,200	286,300	233,800	165,300
45-8	1-3/4*	138,900	240,600	196,400	138,900	360,900	294,600	208,300
50-8	2*	176,400	305,500	249,500	176,400	458,300	374,200	264,600
56-8	2-3/16*	220,500	381,900	311,800	220,500	572,900	467,700	330,700
63-8	2-1/2*	275,600	477,300	389,800	275,600	716,000	584,600	413,400
71-8	2-13/16*	352,700	610,900	498,800	352,700	916,300	748,200	529,000

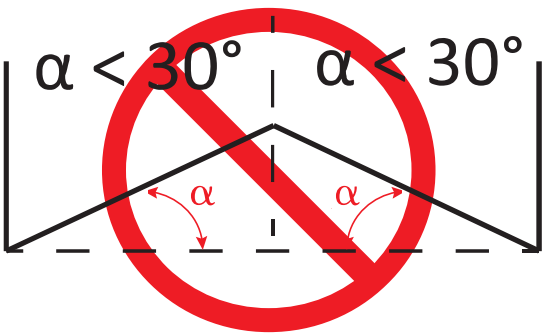
[1)]WLL acc. to ASTM *Table 1*

THIELE chain slings are available in mounted and welded execution.

**These trade sizes are available in welded execution only.*

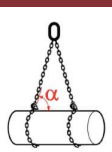
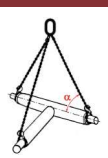
Inclination Angle

Inclination angles less than 30° are prohibited



Working Load Limit Tables

Working Load Limit[1)] – Type: Choke Hitch (Chain Slings)

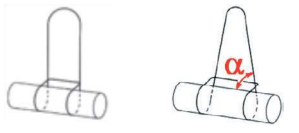
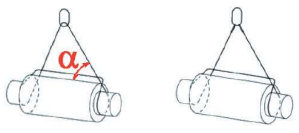
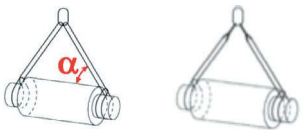
		1-leg	2-legs					
								
Inclination Angle		α = 90°	60°≤ α < 90°	45°≤ α < 60°	30°≤ α < 45°	60°≤ α < 90°	45°≤ α < 60°	30°≤ α < 45°
Trade Size	Nominal Size [inch]	[lbs.]	[lbs.]	[lbs.]	[lbs.]	[lbs.]	[lbs.]	[lbs.]
6-8	1/4	2,000	3,500	2,800	2,000	5,200	4,200	3,000
7-8	9/32	2,800	4,800	4,000	2,800	7,300	6,000	4,200
8-8	5/16	3,600	6,200	5,100	3,600	9,300	7,600	5,400
10-8	3/8	5,700	9,800	8,000	5,700	14,800	12,000	8,500
13-8	1/2	9,600	16,600	13,600	9,600	24,900	20,400	14,400
16-8	5/8	14,500	25,100	20,500	14,500	37,600	30,700	21,700
18-8	11/16	17,600	30,400	24,800	17,600	45,700	37,300	26,400
20-8	3/4	22,600	39,200	32,000	22,600	58,800	48,000	33,900
22-8	7/8	27,400	47,400	38,700	27,400	71,100	58,000	41,000
26-8	1	38,200	66,100	54,000	38,200	99,100	80,900	57,200
28-8	1-1/8*	44,100	76,300	62,300	44,100	114,500	93,500	66,100
32-8	1-1/4	57,800	100,200	81,800	57,800	150,300	122,700	86,700
36-8	1-7/16	70,600	122,200	99,800	70,600	183,300	149,700	105,800
40-8	1-9/16	88,200	152,700	124,700	88,200	229,000	187,000	132,200
45-8	1-3/4*	111,100	192,500	157,100	111,100	288,700	235,700	166,600
50-8	2*	141,100	244,400	199,600	141,100	366,600	299,400	211,600
56-8	2-3/16*	176,400	305,500	249,500	176,400	458,300	374,200	264,600
63-8	2-1/2*	220,500	381,900	311,800	220,500	572,800	467,700	330,700
71-8	2-13/16*	282,200	488,700	399,000	282,200	733,000	598,500	423,200

[1)] WLL acc. to ASTM *Table 2*

THIELE chain slings are available in mounted and welded execution.
**These trade sizes are available in welded execution only.*

Working Load Limit Tables

Working Load Limit [1] – Type: Choke Hitch (Endless Chains)

		K11		K12/K13		K22/K23	
							
Inclination Angle		α = 90°	65°≤ 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.]
6-8	1/4	4,000	3,600	2,800	2,000	4,200	3,000
7-8	9/32	5,600	5,100	4,000	2,800	5,900	4,200
8-8	5/16	7,200	6,500	5,100	3,600	7,600	5,400
10-8	3/8	11,400	10,300	8,000	5,700	12,000	8,500
13-8	1/2	19,200	17,400	13,600	9,600	20,400	14,400
16-8	5/8	29,000	26,200	20,500	14,500	30,700	21,700
18-8	11/16	35,200	31,900	24,800	17,600	37,300	26,400
20-8	3/4	45,200	41,000	32,000	22,600	48,000	34,000
22-8	7/8	54,800	49,600	38,700	27,400	58,000	41,000
26-8	1	76,400	69,200	54,000	38,200	80,900	57,200
28-8	1-1/8*	88,200	79,900	62,300	44,100	93,500	66,100
32-8	1-1/4	115,600	104,800	81,800	57,800	122,700	86,800
36-8	1-7/16	141,200	127,900	99,800	70,600	149,700	105,800
40-8	1-9/16	176,400	159,800	124,700	88,200	187,000	132,200
45-8	1-3/4*	222,200	201,400	157,100	111,100	235,700	166,700
50-8	2*	282,200	255,800	199,600	141,100	299,400	211,700
56-8	2-3/16*	352,800	319,700	249,500	176,400	374,200	264,600
63-8	2-1/2*	441,000	399,600	311,800	220,500	467,700	330,700
71-8	2-13/16*	564,400	511,400	399,000	282,200	598,500	423,200

[1] *WLL acc. to ASTM*

Table 3

THIELE chain slings are available in mounted and welded execution.

**These trade sizes are available in welded execution only.*

Type K11

Type K12

Type K22

Temperature Application Range of Grade 80 Lifting Chains acc. to the ASTM A391/ A391/1 and DIN EN 818-2

Temperature Application Range	Working Load Limit
-40°F to 400°F (-40°C to 205°C)	100 %
400°F to 572°F (205°C to 300°C)	90 %
572°F to 752°F (300°C to 400°C)	75 %

If Grade 80 lifting chains are used at temperatures exceeding 200°C, then the working load limit has to be reduced. The manufacturer has to be consulted if lifting chains are used outside of the allowed temperature application range.

Table 4

TWN 0805A Lifting Chains

The Grade 80 lifting chains TWN 0805 are made from CrNiMo alloy steel and are used to assemble chain slings and lashing chains. The max. application temperature is 752 °F (400 °C). The manufacturing and testing requirements of this lashing chains are based on the ASTM A973/A973M, ASTM A391/A391M, DIN EN 818-2 and also comply with the German Statutory Accident Insurance test principle GS-HM 37

Trade Size	Article-No.				Working Load Limit	Nominal Size d_n	Pitch p_n	Inside Width w_3 min.	Outside Width w_2 max.	Weight app.
	self-coloured	RAL 9005 (black)	corrothiel	Electro-galvanized	[lbs.]	[inch]	[inch]	[inch]	[inch]	[lbs/ft]
1/4"	F01452	F01453	F01454	F01448	2,500	0.24	0.71	0.31	0.87	0.55
9/32"	F01458	F01459	F01457	F014601	3,500	0.28	0.86	0.37	0.99	0.74
5/16"	F01464	F01465	F01429	F01433	4,500	0.31	0.94	0.43	1.17	0.98
3/8"	F01469	F01470	F01450	F01445	7,100	0.39	1.18	0.51	1.46	1.52
1/2"	F01474	F01475	F01476	F014781	12,000	0.51	1.54	0.69	1.89	2.53
5/8"	F01479	F01480	F01487	F014821	18,100	0.63	1.89	0.82	2.33	3.83
11/16"	F01484	F01485	F04580	F01484G	22,000	0.71	2.13	0.92	2.62	4.77
3/4"	F01494	F01495	F04606	F014944	35,300	0.79	2.36	1.02	2.91	6.05
7/8"	F01499	F01500	F04629	F015111	42,700	0.87	2.60	1.13	3.20	7.33
1"	F01514	F01515	F04695	–	47,700	1.02	3.07	1.33	3.79	10.22
1-1/8"	F01519	F01520	F01521	–	61,700	1.10	3.31	1.43	4.09	11.83
1-1/4"	F01524	F01525	F01526	F01527	72,600	1.26	3.78	1.64	4.65	15.46
1-7/16"	F01529	F01530	F04814	–	88,200	1.42	4.25	1.84	5.24	19.49
1-9/16"	F01534	F01535	F04838	–	110,200	1.57	4.72	2.05	5.83	24.20
1-3/4"	F01539	F01540	F04889	–	138,900	1.77	5.31	2.30	6.57	30.58
2"	F01545	F01546	F04900	–	176,400	1.97	5.91	2.56	7.28	37.64
2-3/16"	F01555	F01556	F04908	–	220,500	2.20	6.69	2.87	8.15	48.73
2-1/2"	–	F01566	–	–	275,600	2.48	7.48	3.22	9.17	59.82
2-13/16"	–	F01598	–	–	352,700	2.80	8.27	3.63	10.35	75.95

Additional finishes: Electrogalvanized, hot dipped galvanized, corrotherm coated and mangan phosphated. Priced upon request.

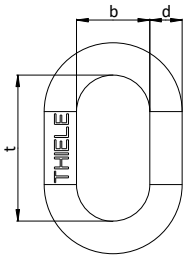
Standard lengths

Trade Size	1/4"	9/32"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"	1-7/16"	1-9/16"	1-3/4"	2"
Standard lenghts [ft.]	800	800	500	400	200	150	100	100	50/100	50/100	50/100	50/100	50/100	50/100
Weight per lengths app. [lbs.]	440	590	500	610	510	575	605	730	510/1.020	770/1540	975/1.950	1.210/2.420	1.530/3.060	1.880/3.760

Intermediate Links Type B

TWN 0795

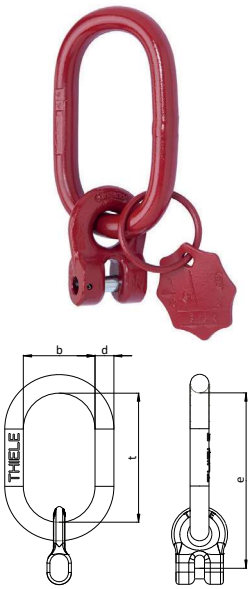
The Grade 80 intermediate links TWN 0795 are used to assemble chain slings. The dimensions comply with DIN 5688-3 and enable the use of connecting links, e.g. a THI-LOK® TWN 1320. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4.



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]			Weight app. [lbs]
			d	t	b	
B8	F122880	2,500	0.31	1.42	0.71	0.11
B10	F122890	4,500	0.39	1.81	0.91	0.20
B13	F122930	7,100	0.51	2.36	1.18	0.44
B16	F122970	12,000	0.63	2.76	1.38	0.79
B18	F123010	15,000	0.71	3.35	1.57	1.19
B20	F123030	18,100	0.79	3.54	1.77	1.61
B22	F123070	22,000	0.87	3.94	1.97	2.14
B26	F123090	27,600	1.02	4.72	2.36	3.53
B28	F123190	34,200	1.10	5.12	2.56	4.19
B32	F123110	47,700	1.26	5.51	2.76	6.39
B36	F123130	55,100	1.42	6.30	3.15	9.26
B40	F123150	72,300	1.57	7.09	3.54	12.79
B45	F123170	88,200	1.77	7.87	3.94	18.08
B50	F123210	110,200	1.97	8.66	4.33	24.25
B56	F123230	138,900	2.20	10.24	5.12	35.27
B63	F123270	176,400	2.48	11.02	5.51	48.50
B70	F123290	220,500	2.76	12.60	6.30	68.34
B80	F123300	275,600	3.15	14.17	7.09	102.51
B90	F123320	352,700	3.54	15.75	7.87	144.40

TWN 0810/1

Fixed-Size Master Links TAA1 for 1-leg Chain Slings

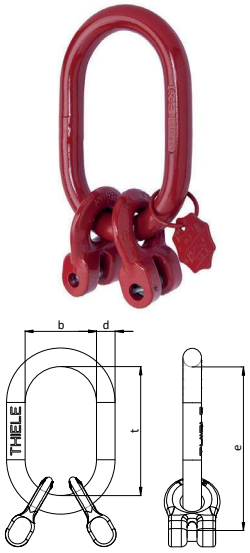


The Grade 80 fixed size master links TWN 0810/1 are used to assemble 1-leg chain slings. The fixed installed ring shackles only allow the assembly of lifting chains of the appropriate nominal size. An identification tag enables the entry of the necessary suspension data. The dimensions of the fixed size master links type A comply with DIN 5688-3. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677 parts 1 and 4 and ISO 8539.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	d	t	b	
1/4"	F08101068	2,500	4.76	0.51	3.54	1.97	0.88
5/16"	F08101088	4,500	5.79	0.63	4.33	2.36	2.20
3/8"	F08101108	7,100	6.93	0.71	5.12	2.76	2.65
1/2"	F08101138	12,000	8.62	0.87	6.30	3.54	5.07
5/8"	F08101168	18,100	10.04	1.02	7.09	3.94	8.82
7/8"	F08101228	34,200	13.78	1.42	9.84	5.51	22.05

TWN 0810/2

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

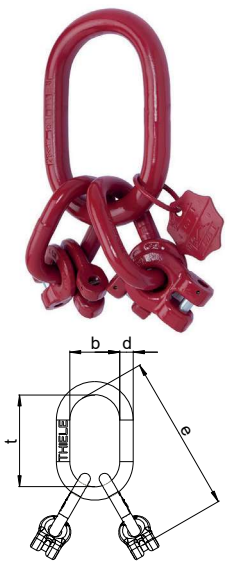


The Grade 80 fixed size master links TWN 0810/2 are used to assemble 2-leg chain slings. The fixed installed ring shackles only allow the assembly of lifting chains of the appropriate nominal size. An identification tag enables the entry of the necessary suspension data. The dimensions of the fixed size master links type A comply with DIN 5688-3. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677 parts 1 and 4 and ISO 8539.

Trade Size	Article-No.	Working Load Limit 60°≤ α ≤ 75° [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	d	t	b	
1/4"	F08102068	4,300	47.64	5.12	35.43	19.69	1.10
5/16"	F08102088	7,800	65.75	7.09	51.18	27.56	2.65
3/8"	F08102108	12,300	73.23	7.87	55.12	31.50	4.19
1/2"	F08102138	20,800	94.09	10.24	70.87	39.37	8.82
5/8"	F08102168	31,300	120.08	12.60	90.55	49.21	16.76
7/8"	F08102228	59,200	165.35	17.72	125.98	68.90	43.21

TWN 0810/4

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



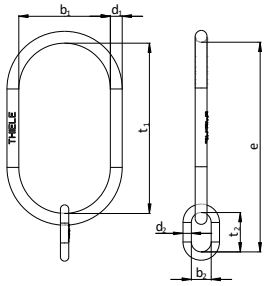
The Grade 80 fixed size master links TWN 0810/4 are used to assemble 3- and 4-leg chain slings. The fixed installed ring shackles only allow the assembly of lifting chains of the appropriate nominal size. An identification tag enables the entry of the necessary suspension data. The dimensions of the fixed size master links type A comply with DIN 5688-3. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677 parts 1 and 4 and ISO 8539.

Trade Size	Article-No.	Working Load Limit 60°≤ α ≤ 75° [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	d	t	b	
1/4"	F08104068	6,500	7.91	0.63	4.33	2.36	3.09
5/16"	F08104088	11,700	10.51	0.87	6.30	3.54	6.83
3/8"	F08104108	18,400	12.44	1.02	7.09	3.94	11.90
1/2"	F08104138	31,200	16.10	1.26	9.06	4.92	24.47
5/8"	F08104168	47,000	19.49	1.57	11.42	6.30	41.89
7/8"	F08104228	88,900	24.41	1.97	13.39	7.48	94.36

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

TWN 0815

The Grade 80 oversized master link assemblies TWN 0815 are used to assemble 1-leg chain slings and are used with big crane hooks according to DIN 15401. The intermediate links enable the use of connecting links, e.g. THI-LOK® TWN 1320. The dimensions comply with DIN 5688-3. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677 parts 1 and 4 and ISO 8539.



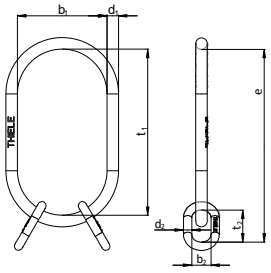
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [mm]							Crane Hooks acc. DIN 15401	Weight app. [lbs]
			e	d_1	t_1	b_1	d_2	t_2	b_2		
1/4"	F08150616	2,500	12.60	0.71	10.24	5.51	0.51	2.36	1.18	16	3.68
5/16"	F08150816	4,500	12.99	0.87	10.24	5.51	0.63	2.76	1.38	16	5.73
3/8"	F08151016	7,100	12.99	0.87	10.24	5.51	0.63	2.76	1.38	16	5.73
1/2"*	F08151316*	12,000	10.24	1.02	10.24	5.51	-	-	-	16	6.99
5/8"*	F08151616*	18,100	10.24	1.18	10.24	5.51	-	-	-	16	9.48
11/16"	F08151816	22,000	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	17.20
1/4"	F08150625	2,500	15.75	0.79	13.39	7.09	0.51	2.36	1.18	25	5.60
5/16"	F08150825	4,500	15.75	0.79	13.39	7.09	0.51	2.36	1.18	25	5.60
3/8"	F08151025	7,100	16.14	0.94	13.39	7.09	0.63	2.76	1.38	25	8.33
1/2"	F08151325	12,000	16.14	1.10	13.39	7.09	0.63	2.76	1.38	25	11.18
5/8"	F08151625	18,100	16.93	1.26	13.39	7.09	0.79	3.54	1.77	25	15.32
11/16"	F08151825	22,000	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	24.03
3/4"*	F08152025*	28,300	13.39	1.57	13.39	7.09	-	-	-	25	22.05
7/8"*	F08152225*	34,200	13.39	1.57	13.39	7.09	-	-	-	25	22.05
1/4"	F08150640	2,500	19.29	0.87	16.93	8.66	0.51	2.36	1.18	40	8.22
5/16"	F08150840	4,500	19.29	0.87	16.93	8.66	0.51	2.36	1.18	40	8.22
3/8"	F08151040	7,100	19.69	1.02	16.93	8.66	0.63	2.76	1.38	40	11.75
1/2"	F08151340	12,000	19.69	1.18	16.93	8.66	0.63	2.76	1.38	40	15.54
5/8"	F08151640	18,100	20.47	1.34	16.93	8.66	0.79	3.54	1.77	40	20.75
11/16"	F08151840	22,000	20.87	1.65	16.93	8.66	0.87	3.94	1.97	40	31.97
3/4"*	F08152040*	28,300	16.93	1.65	16.93	8.66	-	-	-	40	29.76
7/8"*	F08152240*	34,200	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 Hooks DIN 15401 (16 t, 25 t, 40 t)

TWN 0816

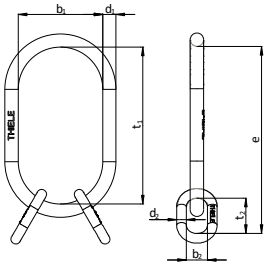
The Grade 80 oversized master link assemblies TWN 0816 are used to assemble 2-leg chain slings and are used with big crane hooks according to DIN 15401. The intermediate links enable the use of connecting links, e.g. THI-LOK® TWN 1320. The dimensions comply with DIN 5688-3. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677 parts 1 and 4 and ISO 8539.



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"	F08160616	4,300	12.60	0.71	10.24	5.51	0.51	2.36	1.18	16	4.14
5/16"	F08160816	7,800	12.99	0.87	10.24	5.51	0.63	2.76	1.38	16	6.53
3/8"	F08161016	12,300	12.99	1.02	10.24	5.51	0.63	2.76	1.38	16	8.60
1/2"	F08161316	20,800	13.78	1.18	10.24	5.51	0.79	3.54	1.77	16	12.68
5/8"	F08161616	31,300	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	20.79
1/4"	F08160625	4,300	15.75	0.87	13.39	7.09	0.51	2.36	1.18	25	5.95
5/16"	F08160825	7,800	16.14	0.94	13.39	7.09	0.63	2.76	1.38	25	9.13
3/8"	F08161025	12,300	16.14	1.10	13.39	7.09	0.63	2.76	1.38	25	11.97
1/2"	F08161325	20,800	16.93	1.26	13.39	7.09	0.79	3.54	1.77	25	16.93
5/8"	F08161625	31,300	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	26.23
11/16"	F08161825	38,100	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	26.23
3/4"	F08162025	49,000	18.90	1.77	13.39	7.09	1.26	5.51	2.76	25	41.01
1/4"	F08160640	4,300	19.29	1.02	16.93	8.66	0.63	2.76	1.38	40	12.57
5/16"	F08160840	7,800	19.69	1.02	16.93	8.66	0.51	2.36	1.18	40	12.57
3/8"	F08161040	12,300	19.69	1.18	16.93	8.66	0.63	2.76	1.38	40	16.36
1/2"	F08161340	20,800	20.47	1.34	16.93	8.66	0.79	3.54	1.77	40	21.78
5/8"	F08161640	31,300	20.87	1.65	16.93	8.66	0.87	3.94	1.97	40	34.17
11/16"	F08161840	38,100	20.87	1.65	16.93	8.66	0.87	3.94	1.97	40	34.17
7/8"	F08162240	59,200	22.44	1.89	16.93	8.66	1.26	5.51	2.76	40	52.25

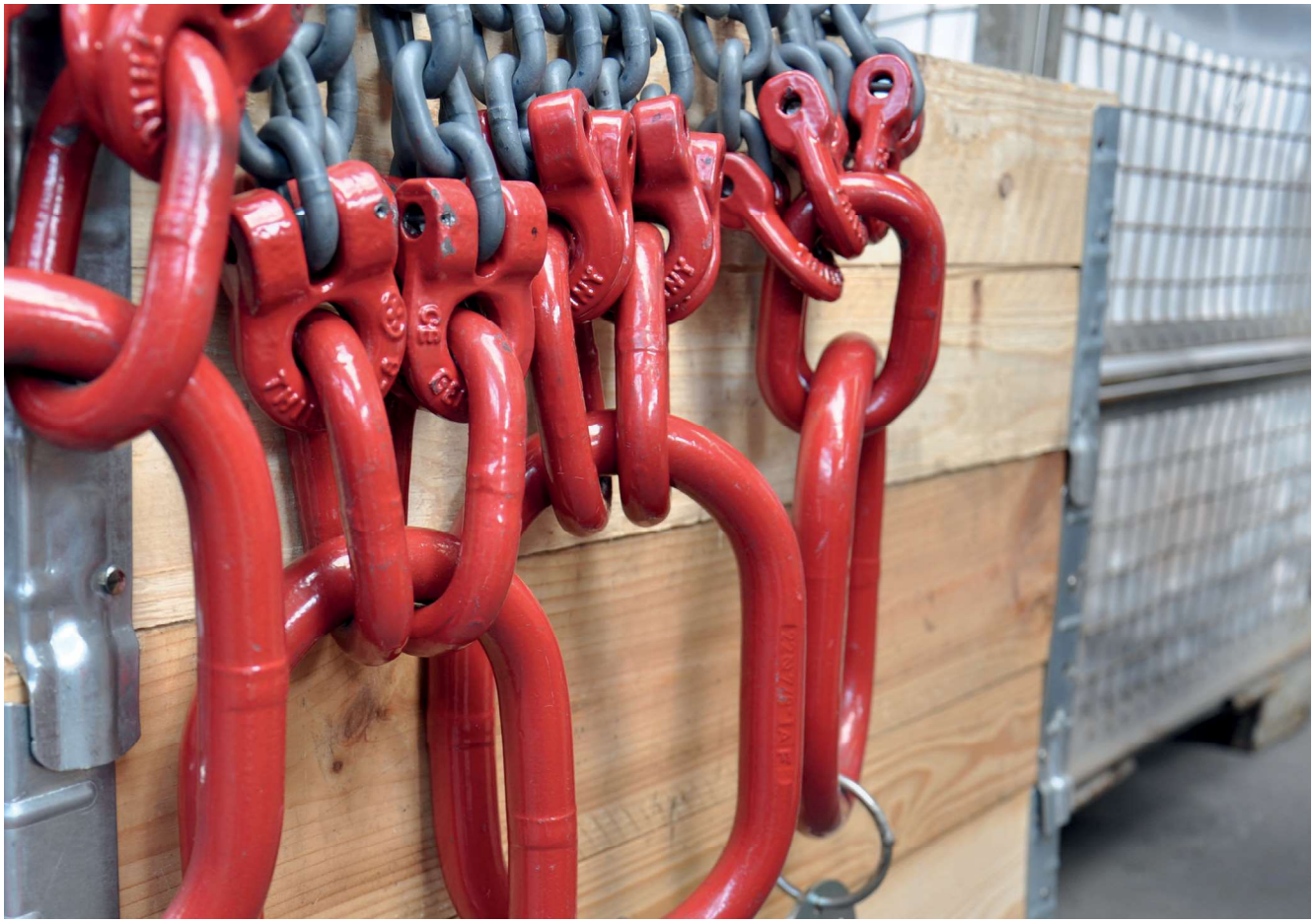
TWN 0817

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



The Grade 80 oversized master link assemblies TWN 0817 are used to assemble 3- and 4-leg chain slings and are used with big crane hooks according to DIN 15401. The intermediate links enable the use of connecting links, e.g. THI-LOK®s TWN 1320. An identification tag enables the entry of the necessary suspension data. The dimensions comply with DIN 5688-3. The manufacturing and testing requirements are based on the ASTM A952/A952M, DIN EN 1677 parts 1 and 4 and ISO 8539.

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"	F08170616	6,500	12.60	0.87	10.24	5.51	0.51	2.36	1.18	16	6.53
5/16"	F08170816	11,700	12.99	1.02	10.24	5.51	0.63	2.76	1.38	16	8.60
3/8"	F08171016	18,400	13.78	1.18	10.24	5.51	0.79	3.54	1.77	16	12.68
1/2"	F08171316	31,200	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	20.79
5/8"	F08171616	47,000	14.57	1.42	9.84	5.51	1.02	4.72	2.36	16	20.79
1/4"	F08170625	6,500	15.75	0.94	13.39	7.09	0.51	2.36	1.18	25	9.13
5/16"	F08170825	11,700	16.14	1.10	13.39	7.09	0.63	2.76	1.38	25	11.97
3/8"	F08171025	18,400	16.93	1.26	13.39	7.09	0.79	3.54	1.77	25	16.93
1/2"	F08171325	31,200	17.32	1.57	13.39	7.09	0.87	3.94	1.97	25	26.23
5/8"	F08171625	47,000	18.11	1.57	13.39	7.09	1.02	4.72	2.36	25	29.10
3/4"	F08172025	73,500	23.23	2.17	16.93	8.66	1.42	6.30	3.15	25	71.21
1/4"	F08170640	6,500	19.29	1.02	16.93	8.66	0.51	2.36	1.18	40	12.57
5/16"	F08170840	11,700	19.69	1.18	16.93	8.66	0.63	2.76	1.38	40	16.36
3/8"	F08171040	18,400	20.47	1.34	16.93	8.66	0.79	3.54	1.77	40	22.27
1/2"	F08171340	31,200	20.87	1.65	16.93	8.66	0.87	3.94	1.97	40	34.17
5/8"	F08171640	47,000	21.65	1.65	16.93	8.66	1.02	4.72	2.36	40	37.04
11/16"	F08171840	57,100	22.44	1.89	16.93	8.66	1.26	5.51	2.76	40	52.25
7/8"	F08172240	88,900	23.23	2.17	16.93	8.66	1.42	6.30	3.15	40	71.21

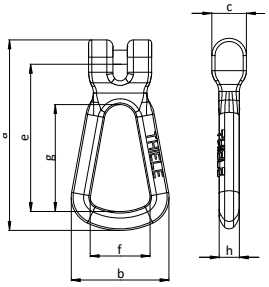


Clevis Suspension Links

TWN 0820

The Grade 80 clevis suspension links TWN 0820 are predominantly used to assemble 1-leg basket slings for bundling of loads. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]							Weight app. [lbs]
			e	f	g	a	c	h	b	
5/16"	F31000	4,500	3.68	1.50	2.68	4.76	0.87	0.51	2.44	0.79
3/8"	F31010	7,100	4.96	1.93	3.74	6.52	1.10	0.75	3.46	1.90
1/2"	F31020	12,000	6.24	2.36	4.72	8.15	1.46	0.87	4.09	3.53
5/8"	F31030	18,100	7.36	3.15	5.51	9.69	1.69	1.10	5.35	6.61

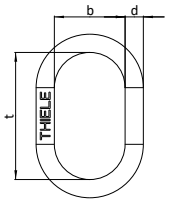


Master Links Type A for 1- and 2-leg Chain Slings

TWN 1303

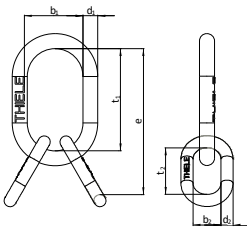
The Grade 80 master links TWN 1303 are used to assemble 1- and 2-leg chain slings. The possibility of using the links for 1- and 2-leg chain slings offers a high flexibility and economical warehousing. The master links can be used e.g. to assemble wire rope slings according to DIN EN 13414-1. The dimensions comply with DIN 5688-3 and enable the use of connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements comply to the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4.

Article-No.	Working Load Limit α = 60° [lbs]	Dimensions [inch]			Weight app. [lbs]	Trade Size for use in Chain Slings		Crane Hooks acc. DIN 15401
		d	t	b		1-Leg	2-Leg	
F1303013	5,800	0.51	3.54	1.97	0.64	1/4"- 9/32"- 5/16"	1/4"	1,6
F1303016	9,000	0.63	4.33	2.36	1.17	1/4"	9/32"	2,5
F1303018	11,000	0.71	5.12	2.76	1.74	3/8"	5/16"	4
F1303020	13,200	0.79	5.51	3.15	2.43	1/2"		5
F1303022	15,700	0.87	6.30	3.54	3.31		3/8"	6
F1303026	23,300	1.02	7.09	3.94	5.07	5/8"	1/2"	8
F1303032	34,700	1.26	9.06	4.92	9.70	3/4"-7/8"	5/8"	12
F1303036	44,100	1.42	9.84	5.51	13.67			16
F1303040	53,000	1.57	11.42	6.30	19.40	1"		20
F1303045	69,000	1.77	12.60	6.89	26.46		3/4"-7/8"	25
F1303050	87,100	1.97	13.39	7.48	35.27	1-1/4"		25
F1303056	111,000	2.20	14.96	8.27	50.71	1-13/32"	1"	32
F1303063	138,000	2.48	16.93	9.45	72.75	1-9/16"		40
F1303070	175,000	2.76	18.50	10.24	97.00		1-1/4"- 1-7/16"	50
F1303080	234,000	3.15	20.47	11.42	141.10		1-9/16"	63
F1303085	280,000	3.35	20.47	11.42	160.94			63
F1303095	315,000	3.74	22.83	12.60	220.46			80
F1303110	412,000	4.33	26.77	14.96	352.74			100



TWN 1304

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

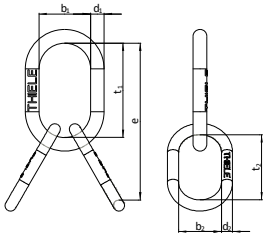


The Grade 80 master link assemblies TWN 1304 are used to assemble 3- and 4-leg chain slings. Furthermore, the master link assemblies can be used e.g. to assemble wire rope slings according to DIN EN 13414-1. The dimensions comply with DIN 5688-3 and enable the use of connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements comply to the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4.

Article-No.	Working Load Limit α = 60° [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		
F1304016	7,300	6.14	0.63	4.33	2.36	0.39	1.81	0.91	1.58	**1/4"**
F1304018	9,500	7.48	0.71	5.12	2.76	0.51	2.36	1.18	2.65	**9/32"**
F1304020	11,800	7.87	0.79	5.51	3.15	0.51	2.36	1.18	3.26	**5/16"**
F1304026	20,100	10.44	1.02	7.09	3.94	0.71	3.35	1.57	7.51	**3/8"**
F1304032	31,200	13.00	1.26	9.06	4.92	0.87	3.94	1.97	14.10	**1/2"**
F1304040	47,000	16.14	1.57	11.42	6.30	1.02	4.72	2.36	26.50	**5/8"**
F1304050	75,400	19.69	1.97	13.39	7.48	1.42	6.30	3.15	54.30	**3/4"**
F1304056	95,700	21.26	2.20	14.96	8.27	1.42	6.30	3.15	68.60	**7/8"**
F1304063	124,000	24.02	2.48	16.93	9.45	0.57	7.09	3.54	97.40	**1"**
F1314080	196,000	29.13	3.15	20.47	11.42	1.97	8.66	4.33	190.00	**1-1/4"**
F1314085	238,000	30.71	3.35	20.47	11.42	2.20	10.24	5.12	233.00	**1-7/16"**
F1314110	306,000	37.79	4.33	26.77	14.96	2.48	11.02	5.51	451.00	**1-9/16"**

TWN 1317

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



The Grade 80 master link assemblies TWN 1317 are used to assemble 3- and 4-leg wire rope slings. The extra large intermediate links enable easy assembly of wire rope slings. The manufacturing and testing requirements comply with the ASTM A952/A952M, ISO 8539 and DIN EN 1677 parts 1 and 4. The dimensions comply with DIN 5688-3.

Article-No.	Working Load Limit 0° < β ≤ 45° SF = 5:1 [lbs]	Working Load Limit 0° < β ≤ 45° SF = 4:1 [lbs]	Dimensions [inch]							Weight app. [lbs]	Classification of the Wire Rope Diameter*	
			e	d_1	t_1	b_1	d_2	t_2	b_2		Fiber [mm]	Steel [mm]
F1317016	8,600	6,800	7.87	0.63	4.33	2.36	0.51	3.54	1.97	2.45	11	10
F1317018	11,000	8,800	9.45	0.71	5.12	2.76	0.63	4.33	2.36	4.08	13	12
F1317022	15,700	12,300	11.42	0.87	6.30	3.54	0.71	5.12	2.76	6.79	14	14
F1317026	23,100	18,500	13.39	1.02	7.09	3.94	0.87	6.30	3.54	11.68	18	16
F1317032	34,600	27,600	16.15	1.26	9.06	4.92	1.02	7.09	3.94	19.84	22	20
F1317036	44,100	35,300	18.90	1.42	9.84	5.51	1.26	9.06	4.92	33.07	26	24
F1317045	66,100	52,900	22.44	1.77	12.60	6.89	1.42	9.84	5.51	53.79	28	28
F1317050	87,100	69,700	25.99	1.97	13.39	7.48	1.77	12.60	6.89	88.18	36	36
F1317056	111,000	88,400	28.35	2.20	14.96	8.27	1.97	13.39	7.48	121.25	40	40
F1317063	138,000	110,000	31.89	2.48	16.93	9.45	2.20	14.96	8.27	174.17	44	44
F1317085	280,000	224,000	40.94	3.35	20.47	11.42	3.15	20.47	11.42	443.13	60	60

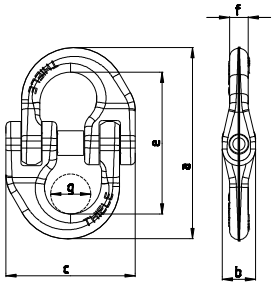
**Acc. to the DIN EN 13414-1 for 3- and 4-leg slings.*

THI-LOK® Connecting Links

TWN 1320

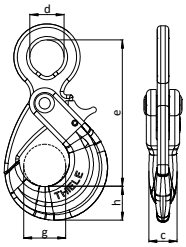
The Grade 80 THI-LOK® connecting links TWN 1320 are used to connect lifting chains with lifting components to assemble chain slings. The manufacturing and testing requirements correspond to the ASTM A952/ A952M, ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	g	a	c	b	f	
1/4"	F308060	2,500	1.50	0.51	2.13	1.65	0.43	0.30	0.18
5/16"	F308160	4,500	2.13	0.71	2.95	2.32	0.59	0.35	0.44
3/8"	F308260	7,100	2.52	0.87	3.50	2.83	0.71	0.55	0.77
1/2"	F308360	12,000	3.39	1.02	4.72	3.46	0.94	0.67	1.37
5/8"	F308460	18,100	4.02	1.42	5.63	4.53	1.14	0.79	3.09
11/16"	F30850	22,000	4.80	1.42	6.50	4.33	1.22	0.87	4.10
3/4"	F30855	28,300	5.28	1.77	7.28	4.80	1.42	1.02	5.53
7/8"	F30860A	34,200	5.71	1.81	7.80	5.20	1.50	1.02	6.97
1"	F30870A	47,700	6.46	2.17	8.86	6.14	1.73	1.18	11.11
1-1/4"	F30880	72,300	7.56	2.56	10.55	7.56	2.17	1.46	20.22
1-7/16" NEW	F309061	88,200	9.04	3.15	12.64	9.61	2.60	1.73	32.96
1-9/16" NEW	F309161	110,200	9.04	3.15	12.64	9.61	2.60	1.73	32.96



TWN 0798

Eye Self-Locking Hooks

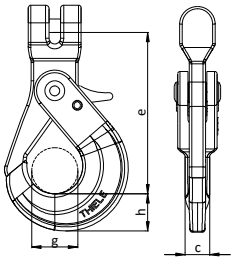


The Grade 80 self-locking hooks TWN 0798 with eye are used to assemble chain slings and are often used in the construction industry. The associated lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The hooks lock automatically under load and may only be reopened manually if not under load anymore. The self-locking hooks comply with the ASTM A952/A952M and DIN EN 1677-3.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]					Weight app. [lbs]
			e	d	g	h	c	
1/4"	Z07274	2,500	4.17	0.89	1.10	0.87	0.59	1.06
9/32"-5/16"	Z07275	4,500	5.24	0.94	1.38	0.98	0.79	1.81
3/8"	Z07276	7,100	6.57	1.26	1.77	1.38	1.06	3.64
1/2"	Z07277	12,000	8.19	1.54	2.13	1.61	1.30	6.88
5/8"	Z07278	18,100	9.84	1.93	2.64	2.13	1.54	12.96
11/16"-3/4"	F092255	28,300	10.12	2.36	2.91	2.24	1.69	16.16
7/8"	F092275	34,200	11.42	2.80	3.46	2.44	2.05	21.85

TWN 0799

Clevis Self-Locking Hooks

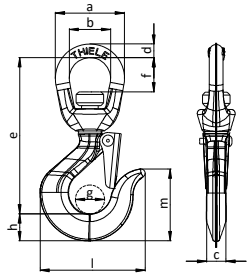


The Grade 80 clevis self-locking hooks TWN 0799 are used to assemble chain slings and are often used in the construction industry. The clevis design enables the direct attachment to the lifting chain. The hooks lock automatically under load and may only be reopened manually if not under load anymore. The self-locking hooks comply with the ASTM A952/A952M and DIN EN 1677-3.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	h	c	
1/4"	Z07279	2,500	3.86	1.10	0.87	0.59	1.26
5/16"	Z07280	4,500	4.80	1.30	0.98	0.79	2.05
3/8"	Z07281	7,100	5.91	1.77	1.38	1.06	3.86
1/2"	Z07282	12,000	7.32	2.13	1.61	1.30	7.17
5/8"	Z07296	18,100	8.46	2.64	2.13	1.54	13.67
11/16"-3/4"	F0922055	28,300	8.46	2.91	2.24	1.69	16.05

TWN 0854

Swivel Hooks



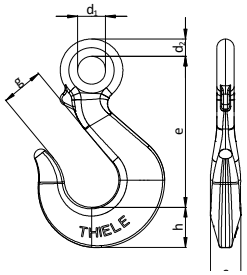
The Grade 80 swivel hooks TWN 0854 are used to assemble chain slings. The swivels enable the chain legs to be aligned without twisting. The lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements comply with the ASTM A952/A952M and DIN EN 1677-2.

Trade Size	Article-No.	Working Load Limit 60°≤ α ≤ 75° [lbs]	Dimensions [inch]										Weight app. [lbs]
			d	f	b	e	g	a	c	h	l	m	
0,75 t	F32103	1,650	0.39	0.98	1.18	4.47	0.75	1.97	0.51	0.55	2.46	1.67	0.82
1/4"	F32100	2,500	0.39	0.98	1.18	4.45	0.83	1.97	0.55	0.75	2.87	2.05	0.84
5/16"	F32110	4,500	0.63	1.65	1.73	6.10	0.98	2.99	0.75	0.96	3.46	2.68	2.20
3/8"	F32120	7,100	0.63	1.65	1.73	6.38	1.10	2.99	0.81	1.12	4.09	2.83	2.65
1/2"	F32130	12,000	0.75	1.69	2.01	7.48	1.34	3.50	1.10	1.30	4.72	3.43	4.59
5/8"	F32140	18,100	0.98	2.36	2.52	9.72	1.65	4.49	1.38	1.69	6.14	4.33	9.81

Eye Sling Hooks

TWN 0855

The Grade 80 eye sling hooks TWN 0855 are used to assemble chain slings. The lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements comply with the ASTM A952/A952M and DIN EN 1677-2.

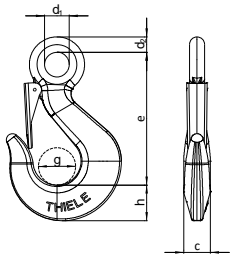


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d_1	g	h	c	d_2	
1-7/16"	Z04079	88.200	15.28	2.83	4.29	4.06	3.07	1.75	69.45
1-9/16"	Z04083	110.200	17.40	3.31	4.88	4.57	3.50	1.99	101.41
1-3/4"	Z04080	138.900	19.45	3.54	5.43	5.12	3.90	2.20	138.89
2"	Z04081	176.400	24.02	4.02	6.10	5.71	4.33	2.48	176.37

Eye Sling Hook with Safety Latch

TWN 0855/1

The Grade 80 eye sling hooks TWN 0855/1 are used to assemble chain slings. The lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The safety latch prevents unintentional detachment from the load. The sling hooks comply with the ASTM A952/A952M and DIN EN 1677-2.

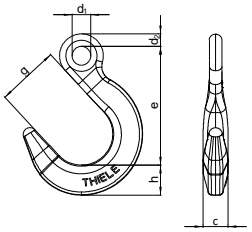


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d_1	g	h	c	d_2	
1-7/16"	Z06159	88,200	15.28	2.83	3.54	4.06	3.07	1.75	71.21
1-9/16"	Z06160	110,200	17.40	3.31	4.06	4.57	3.50	1.99	103.62
1-3/4"	Z06161	138,900	19.45	3.54	4.49	5.12	3.90	2.20	141.98
2"	Z06162	176,400	24.02	4.02	5.16	5.71	4.33	2.48	180.56

Eye Foundry Hooks

TWN 0856

The Grade 80 eye foundry hooks TWN 0856 are used to assemble chain slings, primarily for foundries. The associated lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1.

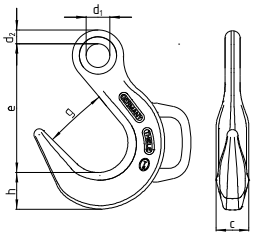


Trade Size		Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
				e	d_1	g	h	c	d_2	
1/4"	NEW	F32354	2,500	4.25	0.83	1.97	0.94	0.79	0.47	0.97
5/16"[1)]		F32360	4,500	4.92	0.71	2.60	1.30	1.06	0.55	2.34
3/8"[1)]		F32370	7,100	5.75	0.79	2.99	1.38	1.26	0.65	3.66
1/2"[1)]		F32380	12,000	6.89	1.02	3.50	1.61	1.50	0.79	6.97
5/8"	NEW	F32394	18,100	9.02	2.13	4.02	1.89	1.77	0.91	10.38
11/16"-3/4"	NEW	F32404	28,300	10.20	2.32	4.49	2.48	2.30	1.06	17.53
7/8"	NEW	F32414	34,200	11.34	2.56	5.00	2.76	2.56	1.18	23.99
1"	NEW	F32424	47,700	12.95	2.99	5.35	3.19	2.95	1.38	36.35
1-1/4"	NEW	F32444	72,300	14.09	3.35	5.98	3.82	3.27	1.65	57.76

[1)] *TWN 0856A*

TWN 0856/1

Eye Foundry Hooks with Handle NEW

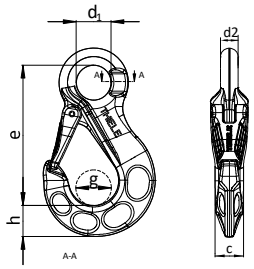


The Grade 80 eye foundry hooks TWN 0856/1 with handle are used to assemble chain slings, primarily for foundries. The associated lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The handle ensures an safe and easy handling. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d_1	g	h	c	d_2	
5/8"	F32396	18,100	9.02	2.13	4.02	1.89	1.77	0.91	13.23
11/16"-3/4"	F32406	28,300	10.20	2.32	4.49	2.48	2.30	1.06	17.61

TWN 0858/1

SOLIDO® Eye Sling Hooks with forged Safety Latch

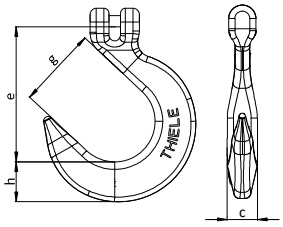


The Grade 80 eye sling hooks TWN 0858/1 with latch are used to assemble standard chain slings. The lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The forged heavy duty safety latch prevents an unintentional detachment from the load. The sling hooks comply with the ASTM A952/A952M and DIN EN 1677-2.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]							Weight app. [lbs]
			e	d_1	d_2	g	h	c	f	
1/4"	F329010	2,500	3.62	0.83	0.43	0.94	0.79	0.67	-	0.79
5/16"	F329110	4,500	4.65	1.10	0.55	1.18	0.98	0.91	-	1.68
3/8"	F329210	7,100	5.75	1.42	0.71	1.46	1.26	1.14	-	3.31
1/2"	F329310	12,000	6.61	1.65	0.83	1.65	1.61	1.38	-	5.62
5/8"	F329410	18,100	8.27	2.13	0.98	2.01	1.97	1.61	-	10.25
11/16"-3/4"	F32951	28,300	10.63	2.44	1.18	2.56	2.28	2.17	-	19.18
7/8"	F329710	34,200	10.67	2.56	1.18	2.76	2.44	2.17	-	22.49
1"	F329810	47,700	11.89	2.76	1.30	2.95	2.80	2.36	3.19	33.07
1-1/4"	F329910	72,300	13.78	3.15	1.50	3.54	3.31	2.76	3.90	53.57

TWN 0859

Clevis Foundry Hooks



The Grade 80 clevis foundry hooks TWN 0859 are used to assemble chain slings, primarily for foundries. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1.

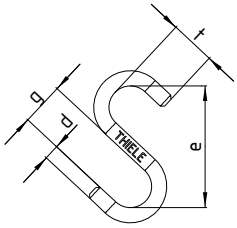
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	h	c	
5/16"	F33310	4,500	4.33	2.60	1.30	1.06	2.47
3/8"	F33320	7,100	5.24	2.99	1.38	1.26	3.55
1/2"	F33330	12,000	6.26	3.50	1.61	1.50	7.50
5/8"	F33340	18,100	7.44	4.02	1.89	1.77	12.13
3/4"	F33355	28,300	8.54	4.49	2.13	2.01	19.84
7/8"	F33360	34,200	9.61	4.88	2.36	2.20	26.46

Hooks

S-Hooks

TWN 0860

The Grade 80 S-hooks TWN 0860 can be used universally for lifting of loads, also in combination with chain slings. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

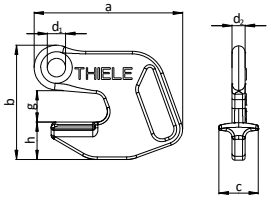


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	t	d	
	F18130	350	3.15	1.10	1.18	0.39	0.26
	F18160	550	3.94	1.42	1.50	0.47	0.46
	F18180	900	5.12	1.81	1.89	0.63	1.06
	F18200	1,800	6.30	2.20	2.28	0.79	2.01
1/4"	F18220	2,500	7.09	2.52	2.52	0.87	2.65
9/32"	F18230	3,500	7.87	2.76	2.76	1.02	4.19
5/16"	F18250	4,500	9.06	3.15	3.15	1.26	7.50
3/8"	F18260	7,100	10.24	3.54	3.54	1.42	10.58
	F18280	8,800	11.81	4.09	4.09	1.57	14.99
	F18290	9,900	13.78	4.80	4.76	1.77	22.05
1/2"	F18300	12,000	15.75	5.51	5.43	2.01	32.19
	F18310	13,200	17.72	6.22	6.06	2.24	45.19
5/8"	F18320	18,100	19.69	6.30	6.30	2.48	60.41
11/16"	F18330	22,000	21.65	6.54	6.61	2.83	85.98

Pipe Transport Hooks

TWN 0868

The Grade 80 pipe transport hooks TWN 0868 are used as forged end fittings in 2-leg chain slings to lift pipes. The lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

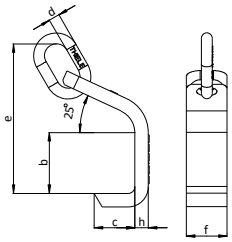


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]							Weight app. [lbs]
			b	a	d_1	d_2	g	h	c	
1/2"	F32608	12,000	6.85	8.90	1.10	0.79	1.93	2.24	2.36	6.83
7/8"	F32641	34,200	10.79	13.58	1.73	1.18	3.15	3.54	3.74	32.23

Plate Hooks for Basket Chains

TWN 0872

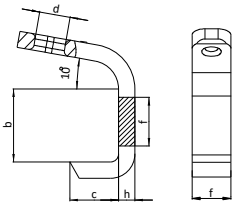
The Grade 80 plate hooks TWN 0872 with intermediate link are used as end fittings of chain slings for the horizontal transportion of thick-walled sheet metals in steel constructions. The intermediate links enable the connection of additional slings. The hooks are used in 2-leg basket chain slings, the max. inclination angle is α = 60°. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.



Trade Size	Article-No.	Working Load Limit 60° ≤ α ≤ 75° [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	b	c	d	f	h	
7/32"	F35500	4,300	8.70	3.54	2.36	0.63	2.36	0.79	5.51
5/16"	F35501	7,500	9.61	3.54	3.54	0.63	2.76	0.98	8.82
3/8"	F35502	12,300	13.07	5.51	3.74	0.71	3.15	1.18	22.22
1/2"	F35503	20,800	14.17	5.71	4.13	0.87	3.54	1.38	24.25
5/8"	F35504	31,300	15.91	6.10	4.72	1.02	4.33	1.77	37.04
3/4"	F35505	49,000	17.52	6.89	5.12	1.26	4.72	2.17	66.14
7/8"	F35506	59,200	20.08	8.07	5.31	1.42	5.51	2.36	88.85
1"	F35507	82,600	22.05	9.06	5.71	1.77	6.30	2.76	135.58
1-1/4"	F35508	125,200	24.45	10.04	6.30	1.97	7.09	3.35	188.50

TWN 0873

Plate Hooks for Spreader Chains

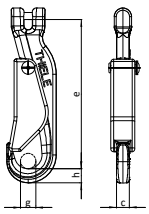


The Grade 80 plate hooks TWN 0873 with eyelet are used as end fittings in chain slings for the horizontal transport of thick-walled sheet metals in steel constructions. The eyelet allows the chain to be passed through. The max. inclination angle is α = 60°. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit 60° ≤ α ≤ 75° [lbs]	Dimensions [inch]					Weight app. [lbs]
			b	c	d	f	h	
7/32"	F35600	4,300	3.54	2.36	1.50	2.36	0.79	5.29
5/16"	F35601	7,500	3.54	3.54	1.65	2.76	0.98	7.72
3/8"	F35602	12,300	5.51	3.74	1.97	3.15	1.18	17.64
1/2"	F35603	20,800	5.71	3.94	2.56	3.54	1.38	27.60
5/8"	F35604	31,300	6.10	4.72	3.07	4.33	1.77	48.50
3/4"	F35605	49,000	6.89	5.12	3.62	5.12	2.17	55.12
7/8"	F35606	59,200	8.07	5.31	3.94	5.51	2.36	74.96
1"	F35607	82,600	9.06	5.71	4.65	6.30	2.76	110.23
1-1/4"	F35608	125,200	10.04	6.30	5.59	7.48	3.35	152.12

TWN 0889

Engine-Transport Clevis Hooks



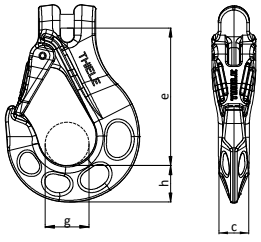
The Grade 80 engine-transport hooks TWN 0889 are used in chain slings as end fittings, predominantly for the transportion of engine blocks. The tip shape enables the attachment to small eyelets. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	h	c	
1/4"*	F33439	1,100	5.39	0.75	0.51	0.47	1.21

**Compatible with trade size 6-8, but WLL limited to max 0,5 t.*

TWN 1340/1

Clevis Sling Hooks with Forged Safety Latch



The Grade 80 clevis sling hooks TWN 1340/1 with latch are used to assemble universal chain slings and lashing chains. The clevis design enables the direct attachment to the lifting chain. 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.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	h	c	
1/4"	F336010	2,500	2.95	0.94	0.79	0.67	0.79
5/16"	F336110	4,500	3.62	1.18	0.98	0.87	1.68
3/8"	F336210	7,100	4.45	1.46	1.26	1.10	3.11
1/2"	F336310	12,000	5.24	1.65	1.61	1.38	5.45
5/8"	F336410	18,100	6.38	2.01	1.97	1.61	13.23
3/4"[1)]	F33656	28,300	8.66	2.56	2.28	2.17	21.34
7/8"[1)]	F33661	34,200	9.61	2.76	2.52	2.40	27.18

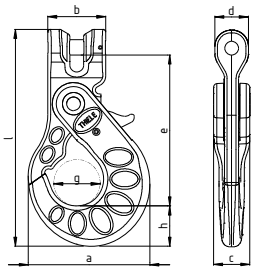
[1)] *TWN 8957/1*

Clevis Skip Suspension Hooks NEW

TWN 1399

The Grade 80 skip suspension hooks TWN 1399 connect chain slings with the pivot of containers, e.g. containers according to DIN 30720. The shape of the hooks is designed to fit container lifting pivots. The clevis design enables the direct attachment to the lifting chain. The hooks lock automatically under load and may only be reopened manually if not under load anymore. The skip suspension hooks comply with DIN EN 1677-3.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]								Weight app. [lbs]
			e	c	g	h	d	b	a	l	
1/2"	F335000	12,000	65.75	15.75	20.08	16.54	14.57	25.20	53.15	94.09	7.36
5/8"	F335300	18,100	64.96	15.75	20.08	16.54	14.57	25.20	53.15	94.09	7.36

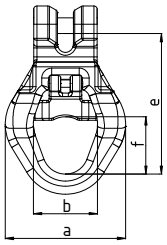


Clevis Skip Suspension Links for One-Hand Operation and Forged Safety Latch

TWN 0869

The Grade 80 skip suspension links TWN 0869 connect chain slings with the pivot of containers, e.g. containers according to DIN 30720. The shape of the eyelet is designed to fit container suspension pivots. The clevis design enables the direct attachment to the lifting chain. The forged safety latch allows a safe one-hand operation. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677 parts 1 and 4.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	f	b	a	
1/2"	F313800	12,000	5.59	2.26	2.56	4.80	4.23
5/8"	F313850	18,100	5.55	2.26	2.56	4.80	4.23

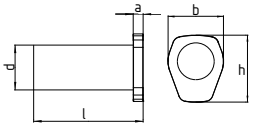


Container Pivots

TWN 0869/1

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

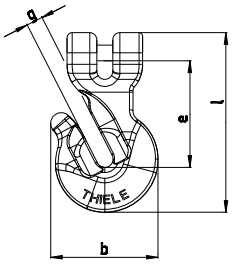
Trade Size	Article-No.	Dimensions [inch]					Weight app. [lbs]
		a	d	b	l	h	
M12	F31410	0.39	1.77	2.68	4.33	3.23	3.53



TWN 0827

Clevis Shortening Hooks

The Grade 80 clevis shortening hooks TWN 0827 are used to adjust the strand lengths of chain slings. The clevis design enables the direct attachment to the lifting chain. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539 and DIN EN 1677-1.

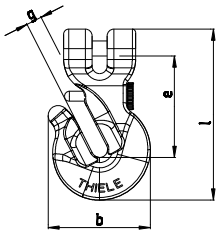


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	l	b	
5/16"	F33200	4,500	2.40	0.37	4.02	2.40	1.17
3/8"	F33210	7,100	2.87	0.47	4.92	2.95	2.14
1/2"	F33220	12,000	3.70	0.59	6.30	3.74	4.41
5/8"	F33230	18,100	4.41	0.71	7.40	4.72	7.50
3/4"	F33245	28,300	5.83	0.89	9.53	5.55	16.09

TWN 0827/1

Clevis Shortening Hooks with Safety Pin

The Grade 80 clevis shortening hooks with safety pin TWN 0827/1 are used to adjust the length of chain slings and lashing chains. The clevis design enables the direct attachment to the lifting chain. The safety pin prevents the chain from accidental release. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539, DIN EN 1677-1 and DIN 5692.

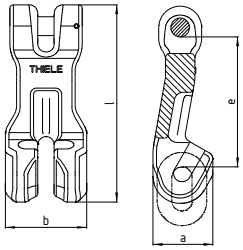


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	g	l	b	
5/16"	F33201	4,500	2.40	0.37	4.02	2.40	1.21
3/8"	F33211	7,100	2.87	0.47	4.92	2.95	2.22
1/2"	F33221	12,000	3.70	0.59	6.30	3.74	4.63
5/8"	F33231	18,100	4.41	0.71	7.40	4.72	7.75
3/4"	F33246	28,300	5.83	0.89	9.53	5.55	16.51

TWN 0851

Clevis Shortening Claws

The Grade 80 clevis shortening claws TWN 0851 are used to adjust the lengths of chain slings. The clevis design enables the direct attachment to the lifting chain. The manufacturing and testing requirements correspond to the ASTM A952/A952M, ISO 8539 and DIN EN 1677-1.



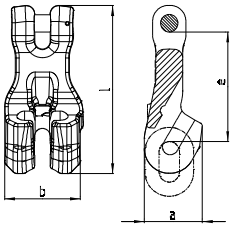
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	l	b	a	
11/16"	F34960	22,000	6.38	9.49	3.86	2.72	11.90
3/4"	F34970	28,300	6.22	9.49	3.86	2.72	11.90
7/8"	F34980	34,200	7.80	11.61	4.65	3.31	19.44
1"	F34985	47,700	7.68	12.17	5.12	3.70	26.46
1-1/4"	F34990	72,300	9.45	15.00	6.30	4.53	52.69

Shortening Components

Clevis Shortening Claws with Safety Pin NEW

TWN 0851/1

The Grade 80 clevis shortening claws TWN 0851/1 with safety pin are used to adjust the lengths of chain slings, lifting and lashing chains. The clevis design enables the direct attachment to the lifting chain.
The safety pin prevents unintentional detachment of the chain. The shortening claws have been tested in interaction with 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.



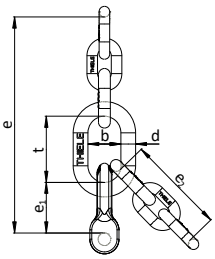
Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	a	b	l	
1/4"	F349101	2,500	2.01	1.06	1.46	3.07	0.55
5/16"	F349201	4,500	2.56	1.34	1.79	3.94	1.10
3/8"	F349301	7,100	3.19	1.69	2.20	4.88	2.05
1/2"	F349401	12,000	4.17	2.20	2.87	6.38	4.48
5/8"	F349501	18,100	5.12	2.68	3.46	7.60	7.94
3/4"*	F349601	28,300	6.34	3.35	4.29	9.69	13.23
7/4"*	F349701	34,200	6.97	3.70	4.72	10.67	17.64
1"*	F349801	47,700	7.72	4.29	5.31	12.09	29.10
1-1/4"*	F349901	72,300	9.45	5.31	6.54	14.80	53.84

on request

Shortening Devices for Fixed Size Master Links

TWN 0896

The Grade 80 shortening devices TWN 0896 for fixed size master links are used in chain slings and enable the lengths of the legs to be adapted to the conditions of use. The manufacturing and testing requirements are based on DIN EN 818-4 and comply with the ASTM A906/A906M-02, ASTM 952/A952A, ISO 8539, DIN EN 1677 parts 1 and 4 and DIN 5688-3.



Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	e_1	e_2	d	t	b	
1/4"	F0896068	2,500	5.39	1.22	2.36	0.39	1.81	0.91	0.71
5/16"	F0896088	4,500	6.93	1.50	3.07	0.51	2.36	1.18	1.54
3/8"	F0896108	7,100	8.46	1.81	3.90	0.63	2.76	1.38	3.09
1/2"	F0896138	12,000	10.63	2.32	4.96	0.71	3.35	1.57	5.73
5/8"	F0896168	18,100	12.83	2.99	5.91	0.87	3.94	1.97	9.92
11/16"	F0896188	28,300	13.66	3.11	6.61	0.87	3.94	1.97	13.67
7/8"	F0896228	34,200	17.72	3.94	8.27	1.26	5.51	2.76	26.46

OCTA STAR

Wire gliding Hook with Safety Latch

The Grade 80 OCTA STAR wire sliding hook are a sliding chocker hook with safety latch that prevents the slings from sliding back. The forged hooks are made out of alloy steel.

Wire Diameter		Article-No.	Lashing Capacity [daN]	Dimensions [inch]			Weight app. [lbs]
[mm]	[inch]			b	l	e	
9-13	**0.35 - 0.51**	Z08386	3,200	1.97	5.20	3.15	1.56
14-16	**0.55 - 0.63**	Z08387	4,000	2.50	5.95	3.74	2.89

OCTA STAR

Clevis Shortening Hook (Small)

The Grade 80 OCTA STAR clevis shortening hooks from our OCTA STAR product line are used to adjust the strand lengths of chain slings and lashing chains. The clevis design enables the direct attachment to the chain.

Trade Size [inch]	Article-No.	Working Load Limit α= 90° [lbs]	Dimensions [inch]	Weight app. [lbs]
			e	
9/32 - 5/16	Z06911	4,500	2.05	0.88
3/8	Z06912	7,100	2.88	1.54
1/2	Z06913	12,000	3.47	2.87
5/8	Z06914	18,100	3.90	5.95

OCTA STAR

Eye Shortening Hook

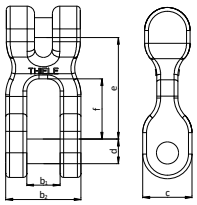
The Grade 80 OCTA STAR eye type shortening hooks from our OCTA STAR product line are used to adjust the strand lengths of chain slings and lashing chains.

Trade Size [inch]	Article-No.	Working Load Limit = 90° [lbs]	Dimensions [inch]	Weight app. [lbs]
			e	
9/32 - 5/16	Z08010	4,500	2.13	0.68
3/8	Z08011	7,100	3.11	1.43
1/2	Z08012	12,000	3.90	3.09
5/8	Z08013	18,100	4.18	5.51

Special Chain Coupling Links

TWN 0861

The grade 80 special chain couplings TWN 0861 are used as end fittings in chain slings. The clevis design enables the direct attachment to the lifting chain. The special chain couplings may also be mounted directly on straps and traverses. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

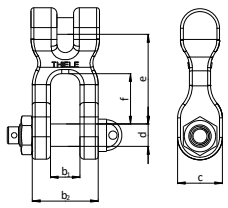


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d	c	f	b_1	b_2	
3/8"	F30601	7,100	2.56	0.63	1.26	1.46	0.83	1.85	1.28
1/2"	F30611	12,000	3.27	0.79	1.57	1.93	1.06	2.44	2.58
5/8"	F30621	18,100	3.94	0.94	1.89	2.24	1.34	2.99	4.70
11/16"	F30631	22,000	4.57	1.18	2.36	2.52	1.65	3.82	8.60

Special Chain Coupling Links with Bolts, Nut and Pin

TWN 0862

The Grade 80 special chain couplings TWN 0862 with bolts, nut and roll pin are used as end fittings in chain slings. The clevis design enables the direct attachment to the lifting chain. The special chain couplings may also be mounted directly on straps and traverses. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

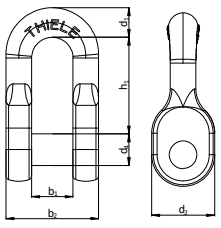


Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d	c	f	b_1	b_2	
3/8"	F30600	7,100	2.56	0.63	1.26	1.46	0.83	1.85	1.46
1/2"	F30610	12,000	3.27	0.79	1.57	1.93	1.06	2.44	2.89
5/8"	F30620	18,100	3.94	0.94	1.89	2.24	1.34	2.99	5.14
11/16"	F30630	22,000	4.57	1.18	2.36	2.52	1.65	3.82	9.46

Special Bolt Shackles

TWN 0870

The Grade 80 shackles TWN 0870 with bolt are used as end fittings in chain slings. The shackles can be mounted directly on straps and traverses. The dimensions of the special shackles comply with DIN 82101.
The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

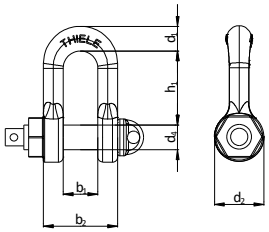


Trade Size	Article-No.	Trade Size [DIN 82101]	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
				h_1	d_1	d_2	d_4	b_1	b_2	
3/8"	F30311	1	7,100	1.93	0.59	1.26	0.63	0.83	1.85	0.77
1/2"	F30321	1.6	12,000	2.40	0.75	1.57	0.79	1.06	2.40	1.57
5/8"	F30331	2.5	18,100	2.87	0.91	1.89	0.94	1.30	2.95	2.78
11/16"-3/4"	F30341	4	28,300	3.58	1.14	2.36	1.18	1.61	3.78	5.73
7/8"	F30351	5	34,200	4.37	1.30	2.83	1.42	1.85	4.21	8.82
1"	F30361	6	47,700	4.72	1.46	3.07	1.54	2.09	4.76	12.57
1-1/8"	F30371	8	55,100	5.51	1.61	3.54	1.77	2.36	5.35	22.05
1-1/4"	F30381	10	72,300	5.79	1.77	3.78	1.89	2.60	5.91	23.15
1-7/16"	F30391	12	88,200	6.22	1.97	4.09	2.05	2.87	6.57	30.64
1-9/16"	F30401	16	110,200	7.28	2.17	4.72	2.36	3.19	7.28	45.19
1-3/4"	F30411	20	138,900	8.31	2.40	5.35	2.68	3.54	8.11	61.93

Shackles/ Chain Tensioners

TWN 0871

Bolt Shackles Type C with Nut and Roll Pin



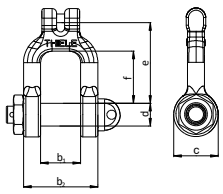
The Grade 80 shackles type C TWN 0871 with bolt, nut and roll pin are used as end fittings in chain slings. The shackles can be mounted directly on straps and traverses. The dimensions of the shackles type C comply with DIN 82101. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Trade Size [DIN 82101]	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
				h_1	d_1	d_2	d_4	b_1	b_2	
1/4"*	Z04147	0.4	2,500	1.18	0.39	0.79	0.39	0.55	1.18	0.22
5/16"	Z04145	0.6	4,500	1.30	0.47	0.94	0.47	0.63	1.46	0.44
3/8"	F30310	1.0	7,100	1.93	0.59	1.26	0.63	0.83	1.85	0.93
1/2"	F30320	1.6	12,000	2.40	0.75	1.57	0.79	1.06	2.40	1.85
5/8"	F30330	2.5	18,100	2.87	0.91	1.89	0.94	1.30	2.95	3.28
11/16"-3/4"	F30340	4.0	28,300	3.58	1.14	2.36	1.18	1.65	3.78	6.83
7/8"	F30350	5.0	34,200	4.37	1.30	2.83	1.42	1.85	4.21	9.92
1"	F30360	6.0	47,700	4.72	1.46	3.07	1.54	2.09	4.76	13.89
1-1/8"	F30370	8.0	55,100	5.51	1.61	3.54	1.77	2.36	5.35	22.27
1-1/4"	F30380	10.0	72,300	5.79	1.77	3.78	1.89	2.60	5.91	27.12
1-7/16"	F30390	12.0	88,200	6.22	1.97	4.09	2.05	2.87	6.57	33.58
1-9/16"	F30400	16.0	110,200	7.28	2.17	4.72	2.36	3.19	7.28	48.94
1-3/4"	F30410	20.0	138,900	8.31	2.40	5.35	2.68	3.54	8.11	68.03

**Finish: electro galvanized, weld on nut*

TWN 0897

Special Coupling Shackles with Bolt, Nut and Roller Pin



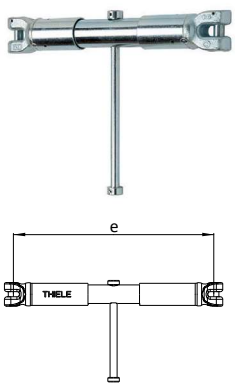
The Grade 80 special coupling shackles TWN 0897 with bolt, nut and roll pin are used as end fittings in chain slings. The clevis design enables the direct attachment to the lifting chain. The special coupling shackles can also be mounted directly on straps and traverses. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d	c	f	b_1	b_2	
1/4"	F30586	2,500	154.32	44.09	85.98	101.41	77.16	143.30	1.50
5/16"	F30596	4,500	154.32	44.09	88.18	101.41	77.16	143.30	1.70

Chain Tensioners

TWN 1450

Chain Tensioners with Toggle



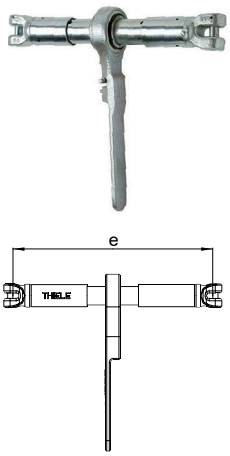
The Grade 80 chain tensioners TWN 1450 with toggle are used as tensioning elements in lashing chains. The chain tensioners can also be used in chain slings for stepless adjustment of the strand lengths when lifting loads. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Normal straight load [daN] min.	Tensioner under straight load (LC) [daN] max.	Dimensions [inch]			Weight app. [lbs]
				e_{max}	e_{min}	lift	
5/16"	F34179	1,800	4,000	13.58	10.63	2.95	4.63
3/8"	F34199	2,200	6,300	14.76	10.83	3.94	5.95
1/2"	F34189	2,600	10,000	18.11	12.99	5.12	8.82

Chain Tensioners with Ratchet

TWN 1451

The Grade 80 chain tensioners TWN 1451 with ratchet are used as tensioning elements in lashing chains. The chain tensioners can also be used in chain slings for stepless adjustment of the strand lengths when lifting loads. The manufacturing and testing requirements are based on the ISO 8539 and DIN EN 1677-1.

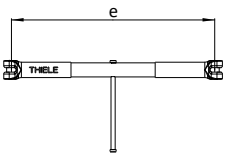


Trade Size	Article-No.	Normal straight load [daN] min.	Tensioner under straight load (LC) [daN] max.	Dimensions [inch]			Weight app. [lbs]
				e_{max}	e_{min}	lift	
5/16"	F34175	1,800	4,000	13.58	10.63	2.95	5.51
3/8"	F34195	2,200	6,300	14.76	10.83	3.94	7.72
1/2"	F34185	2,600	10,000	18.11	12.99	5.12	11.02

Chain Tensioners with Toggle (Large Lift)

TWN 1452

The Grade 80 chain tensioners TWN 1452 with toggle are used as tensioning elements in lashing chains. The chain tensioners can also be used in chain slings for stepless adjustment of the strand lengths when lifting loads. The chain tensioners have a particularly large lift. The chain tensioner 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.

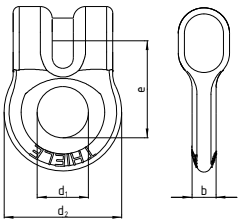


Trade Size	Article-No.	Normal straight load [daN] min.	Tensioner under straight load (LC) [daN] max.	Dimensions [inch]			Weight app. [lbs]
				e_{max}	e_{min}	lift	
1/2"	F341871	2,600	10,000	26.57	17.52	9.06	15.87
5/8"	F34197	3,100	16,000	32.68	21.65	11.02	26.01

Special Sling Components

TWN 0812

Ring Shackles

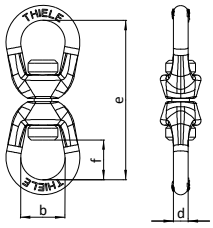


The Grade 80 ring shackles TWN 0812 are used to connect lifting chains with sling components to assemble chain slings.
The manufacturing and testing requirements are based on the ASTM A952/A952M and DIN EN 1677-3.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	d_1	d_2	b	
1/4"	F31700	2,500	1.22	0.67	1.54	0.31	0.22
5/16"	F31710	4,500	1.46	0.83	1.97	0.43	0.51
3/8"	F31720	7,100	1.85	1.02	2.44	0.55	1.01
1/2"	F31730	12,000	2.32	1.30	3.11	0.71	1.92
5/8"	F31740	18,100	3.03	1.65	3.94	0.91	3.53
11/16"	F31750	22,000	3.11	1.85	4.37	0.98	5.51
7/8"	F31760	34,200	3.94	2.17	5.35	1.22	8.38

TWN 0845

Swivels

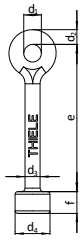


The Grade 80 swivels TWN 0845 are used to assemble chain slings. The swivels enable the chain legs to be aligned without twisting. The lifting chains are assembled by using connecting links, e.g. THI-LOK®s TWN 1320. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]				Weight app. [lbs]
			e	d	f	b	
1/4"	F34000	2,500	4.25	0.39	1.06	1.18	0.73
5/16"	F34010	4,500	6.61	0.63	1.73	1.73	2.93
3/8"	F34020	7,100	6.61	0.63	1.73	1.73	2.93
1/2"	F34030	12,000	7.24	0.75	1.81	2.01	4.63
5/8"	F34040	18,100	9.92	0.98	2.60	2.52	9.81

TWN 0892

Key Hooks



The Grade 80 key hooks TWN 0892 are used in chain slings as end fittings, predominantly for the transportation of metal sheets with keyhole openings. The manufacturing and testing requirements correspond to the ISO 8539 and DIN EN 1677-1.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			e	d_1	d_2	d_3	d_4	f	
3/8"	F34250	7,100	6.61	0.67	0.79	0.67	1.57	0.98	1.59

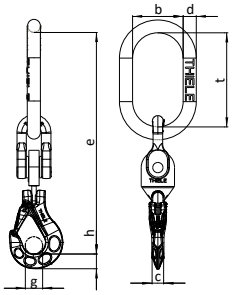
Special Sling Components

Isolation Assemblies

The Grade 80 isolation assemblies TWN 0893 are used for the transportation of components that require isolation to the crane hook. They isolate an electrical current flow up to a maximum of 1,000 volts. The manufacturing and testing requirements are based on DIN EN 818-4 and comply to ASTM A906/A906M-02.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]							Weight app. [lbs]
			e	d	c	b	g	t	h	
1/4"	F08904	2,500	12.20	0.71	0.67	2.76	0.94	5.12	0.79	3.75
5/16"	F08912	4,500	13.11	0.71	0.87	2.76	1.18	5.12	0.98	4.63
3/8"	F08898	7,100	14.80	0.71	1.10	2.76	1.46	5.12	1.26	7.17
1/2"	F08899	12,000	16.95	0.87	1.38	3.54	1.65	6.30	1.54	11.46

TWN 0893

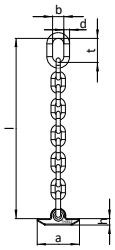


T-Handle Chains

The Grade 80 T-handle chains TWN 0894 are predominantly used in civil engineering for the vertical transport of sheet piles. The manufacturing and testing requirements are based on DIN EN 818-4 and comply with ASTM A906/A906M-02.

Trade Size	Article-No.	Working Load Limit [lbs]	Dimensions [inch]						Weight app. [lbs]
			l	d	h	b	a	t	
3/8"	F08811	4,300	15.96	0.51	0.57	1.18	3.74	2.36	3.75
3/8"	F08812	4,300	26.59	0.51	0.57	1.18	3.74	2.36	5.07

TWN 0894

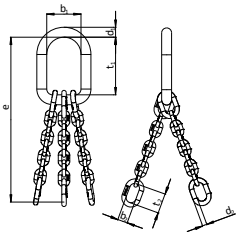


Magnet Chain Slings

The grade 80 magnet chain slings TWN 0601 are welded 3-leg chain slings with a D-link at the top and are used for a fixed connection to electro magnets. Manufacturing and testing requirements are according to the ASTM A391/A391M.

Trade Size	Article-No.	Working Load Limit $0° < \beta \leq 30°$ [lbs]	Reach e [inch]		D-Link [inch]			Master-Link [inch]			Weight app. [lbs]
			α = 90°	α = 60°	d_1	t_1	b_1	d_2	t_2	b_2	
5/8"	F08945	47,000	32.60	29.61	1.77	10.24	6.10	0.78	3.54	1.77	52.25
3/4"	F08946	73,500	37.01	33.43	2.01	10.24	6.10	0.87	3.94	1.97	78.30
7/8"	F08947	88,900	39.45	35.79	2.24	11.81	6.50	1.02	4.72	2.36	101.41
1"	F08948	123,900	44.33	39.96	2.24	11.81	6.50	1.26	5.51	2.76	141.10
1-1/4"	F08961	187,800	53.62	48.19	2.48	12.99	6.50	1.57	7.09	3.54	240.30

TWN 0601



TWN 1400

Lashing Chains with Tensioner

The Grade 80 lashing chains TWN 1400 with toggle and shortenable lashing chains have a standard length of 3,5 m and are used for heavy-duty lashing applications. The chain tensioners with toggle 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.

Trade Size	Article-No.	Lashing Capacity (LC) under straight load [daN] max.	Weight app. [lbs]
5/16"	F34171	4,000	18.74
3/8"	F34172	6,300	27.56
1/2"	F34173	10,000	46.30
5/8"	F34174	16,000	83.11

Other lengths available on request.

TWN 1401

Lashing Chains with Ratchet

The Grade 80 lashing chains TWN 1401 with ratchet and shortenable lashing chains 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.

Trade Size	Article-No.	Lashing Capacity (LC) under straight load [daN] max.	Weight app. [lbs]
5/16"	F34171R	4,000	18.74
3/8"	F34172R	6,300	27.56
1/2"	F34173R	10,000	46.30

Other lengths available on request.

Spare Part Sets for Clevis Design

TWN 0904/0

The spare part sets TWN 0904/0 consist of a bolt and dowel pin and are suitable for THIELE products with the Grade 80 fixed size clevis design.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F48694	1 set	0.02
5/16"	F48352	1 set	0.02
3/8"	F48355	1 set	0.07
1/2"	F48358	1 set	0.15
5/8"	F48361	1 set	0.24
11/16"	F48364	1 set	0.44
3/4"	F48369	1 set	0.57
7/8"	F48367	1 set	0.68
1"	F48373	1 set	1.10
1-1/4"	F48371	1 set	2.01

Spare Part Sets for Shackles

TWN 0905 / 0906

The spare part sets TWN 0905/ 0906 consist of a bolt and 2 dowel pins and are suitable for Grade 80 coupling shackles TWN 0861 and bolt shackles TWN 0870.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
3/8"	F48036	1 set	0.15
1/2"	F48039	1 set	0.31
5/8"	F48042	1 set	0.55
11/16"-3/4"	F48045	1 set	0.97
7/8"	F48048	1 set	1.72
1"	F48051	1 set	2.31
1-1/8"	F48054	1 set	3.53
1-1/4"	F48057	1 set	4.45
1-7/16"	F48060	1 set	5.73
1-9/16"	F48063	1 set	8.58

TWN 0920 - 0922 Spare Part Sets for Sling Hooks

The spare part sets TWN 0920 - 0922 consist of a safety latch, spring and a semi-tubular rivet and are suitable for Grade 80 swivel hooks TWN 0854 and eye sling hooks TWN 0855/1.

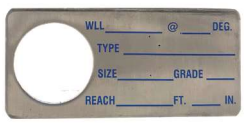
Trade Size	Article-No.	Packing Units	Weight app. [lbs]
0,75 t	F48421	1 set	0.02
1/4"	F48420	1 set	0.04
5/16"	F48423	1 set	0.07
3/8"	F48426	1 set	0.09
1/2"	F48429	1 set	0.24
5/8"	F48469	1 set	0.42
1-7/16"	Z06163	1 set	1.76
1-9/16"	Z06164	1 set	2.20
1-3/4"	Z06165	1 set	3.09
2"	Z06166	1 set	4.19

TWN 0930 Spare Part Sets for Shackles

The spare part sets TWN 0930 consist of a head bolt, nut and splint and are suitable for Grade 80 chain coupling shackles TWN 0862 and shackles type C TWN 0871.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
3/8"	F30451	0.29	0,13
1/2"	F30461	0.55	0,25
5/8"	F30471	0.79	0,36
11/16"-3/4"	F30481	2.14	0,97
7/8"	F30491	2.89	1,31
1"	F30501	4.39	1,99
1-1/8"	F30511	6.37	2,89
1-1/4"	F30521	6.88	3,12
1-7/16"	F30531	9.88	4,48
1-9/16"	F30541	14.66	6,65
1-3/4"	F30551	18.08	8,20

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

Spare Parts and Accessories

Chain File

TWN 0944

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

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

Assembly Kit

TWN 0945

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

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

Chain Gauge Set

TWN 0946

The chain gauge set TWN 0946 is used to check the discard criteria of Grade 80 chains.

Article-No.	Packing Units	Weight app. [lbs]
F48856	1 set	0.44

Spare Part Sets for Shortening Hooks

TWN 0950 - 0952

The spare part sets TWN 0950 - 0952 consist of a locking pin, spring and knurled nut and are suitable for Grade 80 shortening hooks TWN 0827/1.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
5/16"	F48330	1 set	0.02
3/8"	F48328	1 set	0.04
1/2"	F48329	1 set	0.07
5/8"	F48339	1 set	0.11
3/4"	F48345	1 set	0.22

TWN 0962

Spare Part Sets for Skip Suspension Links

Spare Part Sets for Skip Suspension Links TWN 0962 consit of a safety latch, spring and spin rolls. They are used on skip suspension links TWN 0869 (old version).

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/2" - 5/8"	F31404	1 set	0.62

TWN 0967/0

Spare Part Sets for Self-Locking Hooks

The spare part sets TWN 0967/0 consist of a bolt and a dowel pin and are suitable for Grade 80 clevis self-locking hooks TWN 0799.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F333700	1 set	0.02
5/16"	F333711	1 set	0.04
3/8"	F333721	1 set	0.07
1/2"	F333730	1 set	0.13
5/8"	F333741	1 set	0.37
11/16" - 3/4"	F0922057	1 set	0.62

TWN 0967/1

Spare Part Sets for Self-Locking Hooks

The trigger sets TWN 0967/1 consist of a retainer, spring and dowel pin and are suitable for Grade 80 self-locking hooks TWN 0798 and TWN 0799.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/4"	F329090	1 set	0.04
5/16"	F329190	1 set	0.07
3/8"	F329290	1 set	0.09
1/2"	F329390	1 set	0.13
5/8"	F329490	1 set	0.24
11/16" - 3/4" - 7/8"	F0922056	1 set	0.40

Spare Parts and Accessories

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 0968

Spare Part Sets for Skip Suspension Links

The spare part sets TWN 0969 consist of a forged safety latch, spring and dowel pins and are suitable for the TWN 0869 and TWN 1869.

Trade Size	Article-No.	Packing Units	Weight app. [lbs]
1/2" - 5/8" (G100/G80)	F314081	1 set	0.44

TWN 0969

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.

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

TWN 0970

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.

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

TWN 0971

TWN 1402

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.

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

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	0.11
9/32" - 5/16" (G100/G80)	F48733	1 set	0.18
3/8" (G100/G80)	F48735	1 set	0.31
1/2" (G100/G80)	F48737	1 set	0.68
5/8" (G100/G80)	F48739	1 set	0.84
11/64" - 3/4" (G100/G80)	F48743	1 set	1.57
7/8" (G100/G80)	F48745	1 set	1.96
1" (G100/G80)	F48748	1 set	3.11
1-1/4" (G100/G80)	F48749	1 set	3.90

TWN 1920

Spare Part Sets for THI-LOK® Connectors

The spare part sets TWN 1920 consist of a bolt and a clamping bush and are suitable for connecting links THI-LOK® TWN 1320.

Trade Size		Article-No.	Packing Units	Weight app. [lbs]
11/64"		F48615	1 set	0.42
3/4"		F48617	1 set	0.68
7/8"		F48619	1 set	0.71
1"		F48622	1 set	1.17
1-1/4"		F48625	1 set	2.09
1-7/16"	NEW	F486224	1 set	3.64
1-9/16"	NEW	F486224	1 set	3.64

THIELE Design Key

Mounted chain slings

Endless Chains

Type K11

Type K12

Type K22

Examples for Chain Slings

1-Leg Chain Slings

TWN 0449	TWN 0450/1	TWN 0455/1	TWN 0454
			

TWN 0456	TWN 0458	TWN 0459	TWN 0460
			

TWN 0461	TWN 0462	TWN 0473	TWN 0475
			

TWN 0477/1			
			

Examples for Chain Slings

2-Leg Chain Slings

TWN 0529	TWN 0530/1	TWN 0535/1	TWN 0534
			

TWN 0536	TWN 0538	TWN 0539	TWN 0540
			

TWN 0541	TWN 0542	TWN 0545	TWN 0560
			

TWN 0563	TWN 0567/1		
			

Examples for Chain Slings

4-Leg Chain Slings

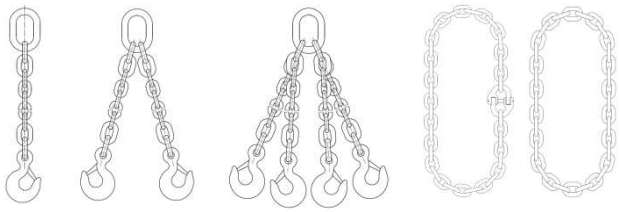
TWN 0709	TWN 0710/1	TWN 0715/1	TWN 0714
			

TWN 0716	TWN 0718	TWN 0719	TWN 0720
			

TWN 0721	TWN 0722	TWN 0730	TWN 0731
			

TWN 0733	TWN 0736/1		
			

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

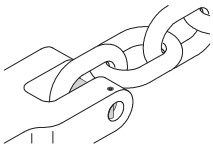
All components to be installed or used must be in perfect condition and the relevant Working Load Limits of all parts must accommodate the respective load to be handled.

6.2 Chain Assembly

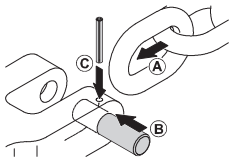
When assembling or disassembling chain slings the relevant assembly and Operating Instructions issued for the components must be observed.

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.

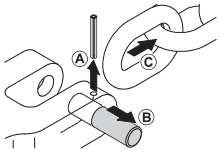
WARNING

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

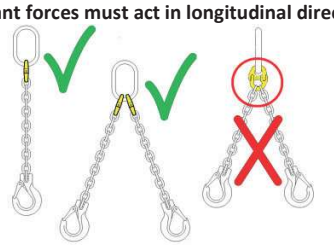
7.1 Normal Use

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

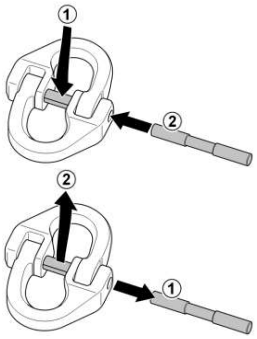
In mounted chain slings the chains are, for example, joined to other components by the use of connecting links. In this way, components can be mounted the nominal size of which deviates from that of the chain.

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

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