



THIELE®

TWN 0119



Operating Manual

Lifting points, weld-type
Quality class 8

**TWN 0124
with spring**

THIELE GmbH & Co. KG
Werkstraße 3
58640 Iserlohn

Tel: +49 (0)2371 / 947-0
www.thiele.de

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THIELE reserves the right to modify or change products without prior notice.

1 Introduction

THIELE weld-type lifting points serve to secure components/loads by means of hoisting means, for instance chain suspensions, to enable handling activities to be performed safely. They can also be used for lashing purposes.

The present operating manual includes information on how lifting points of the following types are safely used:

- TWN 0119 Lifting point, weld-type
- TWN 0124 Lifting point, weld-type, with spring

TWN = THIELE-company standard

The present operating manual is a translation of the original German manual within the meaning of directive 2006/42/EC.

2 Intended Use

The lifting points are intended for attachment to steel, aluminum or non-ferrous metal structures and components.

They serve to connect the structures and components to hoisting means used for handling or secure loads.

The lifting points must exclusively be used

- as prescribed by their permissible load carrying capacity or lashing force,
- within the temperature limits prescribed,
- with properly laid weldings seams.

3 Safety Notes

3.1 Personnel

- Operators must familiarize themselves with this operating manual as well as regulation BGR 500, Chapter 2.8 „Betreiben von Lastaufnahmeeinrichtungen im Hebezeugbetrieb“ (Use of load suspension devices for hoisting purposes) as issued by German Accident Prevention & Insurance Association).
- Mounting and removal must exclusively be carried out by authorized persons.

Outside the Federal Republic of Germany the specific provisions issued locally in the country where the items are used must also be observed.

3.2 Product Safety



Risk of Injury

Make sure to use lifting points free from defects.

- Never use worn-out, bent or damaged lifting points.
- Never make structural changes to lifting points (e.g. by grinding, bending).

3.3 Use



Risk of Injury

Never stay under lifted loads.

- Only lift loads the weight of which is less than or equal to the carrying capacity of the suspension gear.
- Never subject lifting points to loads higher than their specified carrying capacity or lashing force.
- Do not use force when mounting/positioning the lifting points.
- Do not start lifting before you have made sure that the load has been correctly attached.
- Make sure nobody stands or walks under or near suspended loads.
- Never move a suspended load over persons.
- When lifting loads make sure your hands or other body parts do not come into contact with the suspension gear.
- Never cause a suspended load to swing.
- Make sure lifting points are mounted above the load's center of gravity.

- The mounting location of the lifting points on the component must be suited for the forces admitted via the lifting point to be safely absorbed without the component suffering deformation.

4 Product Description



Weld-type lifting points TWN 0119 and TWN 0124 mainly consist of a weld-on support and a ring. The weld-on support of lifting point TWN 124 comes with integrated spring provided for position stabilization.

THIELE lifting points are marked with nominal carrying capacity (WLL) in tons.

This indication only applies to the lifting point itself and not to the overall load or suspension gear used.

The lifting points are in conformity with Machinery Directive 2006/42/EG. The lifting points have been type tested by 'Berufsgenossenschaft Holz und Metall' and marked with the H-stamp.

5 Characteristics

	NG 6-8	NG 8-8	NG 10-8	NG 13-8	NG 16-8	NG 22-8	NG 32-8	NG 40-8
TWN 0119 Article No. 	F35103	F35113	F35123	F35133	F35143	F35163	F35183	F35193
Working Load Limit WLL	1.12 t	2.0 t	3.15 t	5.3 t	8.0 t	15.0 t	31.5 t	50.0 t
Lashing Capacity LC	2200 daN	4000 daN	6300 daN	10000 daN	16000 daN	-	-	-
Weight	0.24 kg	0.46 kg	0.63	1.9 kg	2.67	8.09	27.3	60.0 kg
TWN 0124 Article No. 	F35107	F35110	F35124	F35139	F35144			
Working Load Limit WLL	1.12 t	2.0 t	3.15 t	5.3 t	8.0 t			
Lashing Capacity LC	2200 daN	4000 daN	6300 daN	10000 daN	16000 daN			
Weight	0.25 kg	0.43 kg	0.72 kg	1.9 kg	2.8 kg			

Additional technical THIELE specifications must be observed.

6 Mounting

6.1 Preparations

Make sure the welding surfaces are flat and dry.

6.2 Mounting the Lifting point

Mount the lifting point so that

- no areas of danger are created,
- structural parts cannot cause the suspension gear to be deflected when the load is lifted,
- the suspension gear cannot be damaged, e.g. by sharp edges.

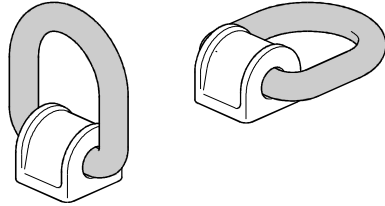
Make sure the useful weld seam area at the component is large enough for the lifting points to be safely attached by welding.

Observe welding instructions No. 111 and No. 135 in Chapter 10.

7 Application

7.1 Use under Normal Conditions

The ring must always be freely movable. It must not rest on or be supported by other structural parts.



7.2 Influence of Temperature

The permissible carrying capacity of the lifting points reduces at elevated temperatures.

The reduced carrying capacity figures shown in the following table shall only apply for short-term use at the temperatures indicated.

TWN 0119, TWN 0124:

Temperature range	Remaining carrying capacity
-20 °C to 100 °C	100 %
100 °C to 200 °C	85 %
200 °C to 250 °C	80 %
250 °C to 300 °C	75 %

When the lifting points are to be used within other temperature ranges please get in touch with the manufacturer.

7.3 Environmental Influence

In case the lifting points shall be used under the influence of chemicals please consult with the manufacturer.

8 Inspections

Check the lifting points visually at regular intervals. The results of the inspection shall be entered into a register to be prepared when the lifting point is first used.

This register includes characteristics of the lifting point as well as identification particulars (Statement of compliance/Inspection certificate).

An inspection must be carried out at least once a year or more frequent if the lifting points are in heavy-duty service. After three years at the latest the lifting points shall be examined for cracks.

The condition of lifting point and its components must be documented during these inspections.

When making repairs to lifting points note down the cause of the defect and the remedial action that has been taken.

Immediately stop using lifting points that show the following defects:

- Deformation,
- Cuts, notches, cracks, incipient cracks,
- Rings cannot freely rotate or turn,
- Lifting points have been heated beyond permissible limits,
- Severe corrosion,
- Wear, e.g. exceeding 10% in the ring diameter area,
- Identification marks are unreadable,
- Defective or non-conforming welds.

9 Storage

Store the lifting points in dry space at temperatures between 0 °C and +40 °C.

10 Welding Instructions

Welding instructions relating to weld-on supports (S355NL or similar) to be attached to C22, S235, S355 or similar components.

The following general welding instructions shall be duly followed:

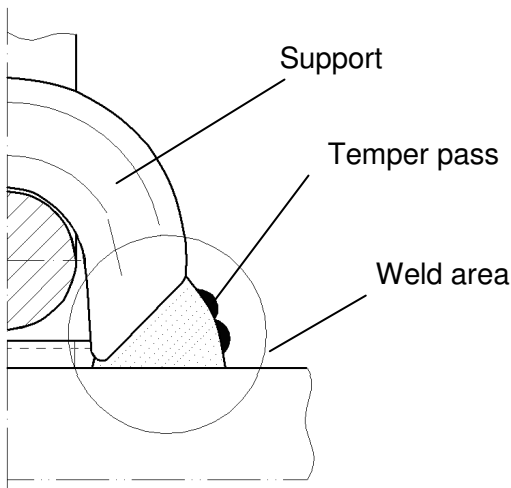
- ISO 3834
- EN 1011-2
- SEW 088
- DIN 18800
- EN 15085
- DIN 15018
- DVS 0702-1 / 0711

Welding must exclusively performed by trained and authorized personnel qualified as per EN 287.

Preweld Treatment:

The surfaces to be joined by welding shall be flat and treated so as to have a white metal finish.

Sketch:



Welding process	Metal active gas welding (MAG), EN 287; No. 135		
Welding groove	ISO 9692-1, 1.9.1 (see sketch)		
Quality grade	Root run: ISO 5817 – D Final run: ISO 5817 - C		
Wire electrode	ISO 14341-A-G 46- 4- M21- 3Si1 ISO 14341-A-G 46- 4- M21- 3Si2 AWS A5.18-05: ER70S-6 AWS A5.18M-05: ER48S-6		
Welding position	ISO 6947: PA, PB, PC, PE, PF		
Preheating of parent metal	Thickness \geq 20 mm: 150 - 200 °C		
Interpass temperature	\leq 400 °C		
Postweld heat treatment	Thickness \geq 30 mm: Tempering at 400 °C for 1 minute per mm of wall thickness or using the 'temper pass' technique		
Pass	Root run	Final run	Temper pass
Wire or electrode diameter	1 mm	1.2 mm	1 or 1.2 mm
Welding current (=)	130 - 260 A	190 - 325 A	190 - 325 A
Electrode polarity	(= +)	(= +)	(= +)
Voltage	22-33 V	19 - 31 V	19 - 31 V
Shield gas ISO 14175; M2 1	10 - 12 l/min	12 - 14 l/min	12 - 14 l/min
Weaving or stringer passes	Stringer passes	Stringer passes	Stringer passes

Welding process	Manual metal arc welding (MMA), EN 287; No. 111				
Welding groove	ISO 9692-1, 1.9.1 (see sketch)				
Quality grade	Root run: ISO 5817 – D Final run: ISO 5817 - C				
Wire electrode	z.B. ISO 2560-A-E42-4-“-“-B (2011) AWS A5.1-04: E7018-1H4R AWS A5.1M-04: E4918-1H4R				
Welding position	ISO 6947: PA, PB, PC, PE, PF				
Preheating of parent metal	Thickness \geq 20 mm: 150 - 200 °C Rebaking: appr. 300 - 350 °C for 2 hours				
Interpass temperature	\leq 400 °C				
Postweld heat treatment	Thickness \geq 30 mm: Tempering at 550 °C for 1 minute per mm of wall thickness or using the ‘temper pass’ technique				
Pass	Root run	Final run	Final run	Final run	Temper pass
Wire or electrode diameter	2.5 mm	3.2 mm	4.0 mm	5.0 mm	3.25 mm / 4.0 mm / 5.0 mm
Welding current (=)	80 - 110 A	100 - 140 A	130 - 180 A	180 - 230 A	Same as for final run
Electrode polarity	(= +)	(= +)	(= +)	(= +)	(= +)
Weaving or stringer passes	Stringer passes	Stringer passes	Stringer passes	Stringer passes	Weaving pass

Miscellaneous:

1. Min. notched-bar impact strength values of ISO-V specimens KV = 27 J at -40 °C (e.g. S355J4G3 or S355NL, EN10025)
2. When selecting material grades other than those listed above please contact the base material and filler metal manufacturers for information.
3. The responsible welding supervisor must make sure the welding current is correctly adjusted to suit the given welding position.
The qualification has to be in accordance with ISO 14731.