Mounting Instructions

Lashing Points, weld-type
TWN 1880

Manufacturer:
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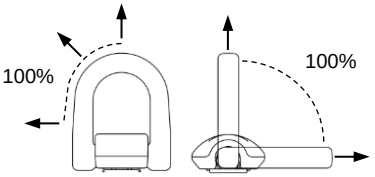
1 Description and Intended Use

THIELE Lashing Points weld-type TWN 1880 are intended for attachment to steel structures to enable connections with lashing means.

(TWN = THIELE standard)

Weld-type Lashing Points mainly consist of a forged weld-on support and a forged ring. Two springs are integrated to the weld-on support to provide position stabilization and noise reduction when not in use.

Lashing Points can be loaded to 100 % in all tensile directions.



The rings are marked with the maximum Lashing Capacity LC in daN (Deka-Newton), manufacturers mark and identification number.

The rings are blue powder coated, the weld-on support is not coated.

The Lashing Points feature a safety factor of at least 2 based on the maximum Lashing Capacity.

Usage for lifting is not permissible!

Lashing Points must exclusively be used

- within the limits of their permissible Lashing Capacity,
- within the temperature limits prescribed,
- with properly laid welding seams.

2 Safety Notes

Risk of Injury!
Make sure to use lashing means free from defects.

- Operators, fitters, and maintenance personnel must in particular observe this Instructions also from the used lashing chain assemblies, documentation DGUV V 1 issued by the German Employers' Liability Insurance Association, as well as the Operating Instructions of the vehicle.
- Outside the Federal Republic of Germany the specific provisions issued locally in the country where the items are used must also be observed.
- The directions given in these Mounting Instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to the respective persons.
- Make sure these instructions are available in a place near the product during the time the equipment is used.
  Please contact the manufacturer if replacements are needed.
- When performing work make sure to wear your personal protective equipment!
- **Improper assembly and use may cause personal injury and/or damage to property.**
- Assembly and removal as well as inspection and maintenance must exclusively be carried out by skilled and authorized persons.
- Structural changes are impermissible (e.g. welding, bending).
- Visually inspect the equipment prior to each use.
- Never put to use worn-out, bent or damaged Lashing Points.
- Only lashing loads the mass of which is less than or equal to the capacity of the Lashing Points.
- Do not use force when mounting/positioning the Lashing Points.
- Do not bend the ring.
- Only remove lashing means manually (use your hands).

THIELE will not be responsible for damage caused through non-observance of instructions, rules, standards and notes indicated!

In the event of doubts about the use, inspection, maintenance or similar things contact your safety officer or the manufacturer!

Transportation of persons is forbidden!

3 Commissioning

Prior to using the components for the first time make sure that

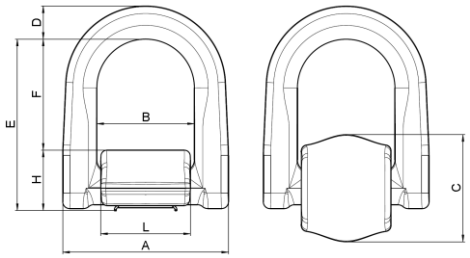
- the Lashing Points comply with the order and have not been damaged,
- test certificate and Mounting Instructions are at hand,
- markings correspond with what is specified in the documentation,
- the documentation is safely kept in an orderly manner.

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

4 Technical Data

Size	Article No. [1)]	Article No. [1,2)]	Mass [kg]
3.000 daN	F35204	F35204A	0,41
5.000 daN	F35205	F35205A	0,57
8.000 daN	F35206	F35206A	0,84
13.500 daN	F35207	F35207A	2,19
20.000 daN	F35208	F35208A	3,35

1) Standard Article Numbers, not for customized editions.
2) Edition for USA.



Size	Dimensions [mm]							
	A	B	C	D	E [3)]	F [3)]	H	L
3.000 daN	65	38	50	13	68	42	26	35
5.000 daN	76	45	50	15	73	46	27	42
8.000 daN	85	50	56	17	87	56	31	46
13.500 daN	116	68	78	23	122	78	44	63
20.000 daN	130	69	92	27	126	72	54	63

3) For vertical orientation.

5 Mounting

5.1 Preparations

Make sure the welding surfaces are grinded down, flat, dry, free of impurity, flawless and weldable (material see ISO/TR 15608 table 1, group 1).

Make sure the mounting place is able to absorb the maximum specified Lashing Capacity multiplied with a safety factor of 1,25 without safety reducing deformation. #

The mounting location for each Lashing Point has to ensure that

- no areas of danger are created (crushing point, shearing point),
- transportation is not restrained by overhang,
- used lashing means (e.g. hooks) are freely movable and will not be bended,
- lashing accessories will not be bypassed,
- incorrect use is avoided,
- the Lashing Points cannot be damaged,
- the Lashing Points can be used easily.

5.2 Welding Instructions

The following general Welding Instructions shall be duly followed:

Personell, Quality	DIN EN ISO 3834 DIN EN ISO 14731 DIN EN ISO 9606
Welding process	DIN EN 1011 DIN EN 1090 DIN EN 15085
Further	DIN 15018 ISO/TR 15608 SEW 088

Material of weld-on support: S355NL or S355J2

Welding on the ring is not allowed!

Take care not to widen the gap for the root run during tack-welding.

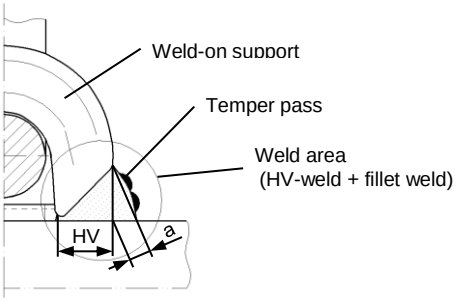
Take care for an accurate cleaning of the root run.

Take care to avoid end crater.

Continue the welding within one heat.

Check the ring is free movable after finished welding.

Scetch:



Size	Length of weld [3] [mm]	HV-weld [mm]	Fillet weld a_{min} [mm]	Volume appr. [cm^3]
3.000 daN	2 x 35	7,5	3	2,5
5.000 daN	2 x 42	7,5	3	3,0
8.000 daN	2 x 46	9	3	3,8
13.500 daN	2 x 63	12	4	8,1
20.000 daN	2 x 63	15	4	9,8

4) Following the outer contour of a weld-on support.

Miscellaneous:
1. Minimum 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.

6 Conditions of Use

6.1 Normal Use

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

6.2 Influence of Temperature

The temperature range for use is -20 °C to +200 °C.
If the Lashing Points have been exposed to temperatures exceeding the maximum values specified they must no longer be used.

6.3 Environmental Influence

Lashing Points 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 Inspections, Maintenance, Disposal

Inspections and maintenance must be arranged for by the Owner!
Inspection intervals shall be determined by the Owner!

Inspections must be carried out and documented by competent persons regularly but at least once a year, or more frequently if the Lashing Points are in heavy-duty service. After three years at the latest they must additionally be examined for cracks. A load test shall never be considered a substitute for this examination.

The results of the inspection shall be entered into a register (DGUV I 209-062 or DGUV I 209-063) to be prepared at first use. The register will show characteristic data as well as identity details.

Immediately stop using Lashing Points that show the following defects:

- missing or illegible identification/marking,
- deformation, fractures, cuts, notches,
- limited articulation,
- heating beyond permissible limits,
- severe corrosion,
- wear exceeding 10 %, for example in the ring diameter area,
- weld failures.

Inspection Service

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

Maintenance

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

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

All maintenance and repair activities are to be documented.

Disposal

All components and accessories of steel taken out of service are to be scrapped in line with local regulations and provisions.

8 Storage

Lashing Points are stored in dry locations at temperatures ranging between 0 °C and +40 °C.

9 Publishing Information

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„#“ Changes to previous edition.

Welding process	Manual metal arc welding (MMA) DIN EN ISO 9606-1; Nr. **111**					Metal active gas welding(MAG) DIN EN ISO 9606-1; Nr. **135**		
Welding groove	DIN EN ISO 9692-1:2013-12, chapter 1.9.1 (siehe sketch)					DIN EN ISO 9692-1:2013-12, chapter 1.9.1 (see sketch)		
Quality grade	Root run: DIN EN ISO 5817 - D Final run: DIN EN ISO 5817 - C					Root run: DIN EN ISO 5817 - D Final run: DIN EN ISO 5817 - C		
Wire electrode	For example. DIN EN ISO 2560-A-E42-4-“-“-B (2011) AWS A5.1-04: E7018-1H4R AWS A5.1M-04: E4918-1H4R					DIN EN ISO 14341-A-G 42- 4- M21- 3Si1 DIN EN ISO 14341-A-G 46- 4- M21- 3Si2 AWS A5.18-05: ER70S-6 AWS A5.18M-05: ER48S-6		
Welding position	DIN EN ISO 6947: PA, PB, PC, PE, PF					DIN EN ISO 6947: PA, PB, PC, PE, PF		
Preheating of parent metal	Thickness ≥ 20 mm: 150 - 200 °C Rebaking (filler metal): appr. 300 - 350 °C for 2 hours					Thickness ≥ 20 mm: 150 - 200 °C		
Interpass temperature	≤ 400 °C					≤ 400 °C		
Postweld heat treatment	Thickness ≥ 30 mm: Tempering at 400 °C for 1 minute per mm of wall thickness or using the ‘temper pass’ technique					Thickness ≥ 30 mm: 400 °C for 1 minute per mm wall thickness or using the ‘temper pass’ technique		
Pass	Root run	Final run	Final run	Final run	Temper pass	Root 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	1 mm	1,2 mm	1 or 1,2 mm
Welding current (=)	80-110 A	100-140 A	130-180 A	180-230 A	as final run	130 - 260A	190 - 325A	190 - 325A
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
Kind of passes	Stringer pass	Stringer pass	Stringer pass	Stringer pass	Stringer pass	Stringer pass	Stringer pass	Stringer pass