



TWN 0850/1
Excavator hook
with forged safety device

Operating manual

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Name Norpoth

In the interest of safety, this operating manual must be read before mounting and using the excavator hook. It contains important operating and safety information.

WARNING

The excavator hook is not designed for lifting, carrying or transporting people and may not be used for this purpose! Improper use can result in dropped loads and lead to serious or fatal injuries!

1. Documentation

Every excavator hook comes with this operating manual and the declaration of incorporation. The operating manual, declaration of incorporation and other user informations are to be stored safely until the excavator hook is taken out of service.

2. General information

Excavator hooks can be welded on steel parts, for example on excavator buckets or cross-beams to lift loads. The excavator hooks have been type-tested by the Norddeutschen Metall und Berufsgenossenschaft (Northern German Metal and Trade Union).

3. Safety instructions

The safety instructions in the following serve to make operating personnel aware of which hazardous methods of operation they must avoid.

Not following the safety instructions can result in death, serious injuries or material damage. This list is not intended to be complete.

- The location and position of the excavator hook on the connecting construction must be selected so that inadmissible stresses, e.g. due to inclined lifting, are avoided. Different locations on the connecting construction during operation are to be taken into account; the lifting equipment mounted on the hook must not be deflected.
- The excavator hook is to be mounted so that no hazardous areas such as crushing or cutting areas exist for the person mounting the lifting equipment and so that accidental release of the lifting equipment is prevented.
- The location and position of the excavator hook should permit easy handling of lifting equipment without any obstacles, if possible, and prevent someone from getting caught or hooked.
- The mounting location selected must be suitable for welding (C content between 0.25 and 0.39%) and for handling the required forces, including any eventual test forces, without deforming. It must not exhibit any cracks, holes or other metallurgical defects.
- The mounting location must be flat, free of rust and grease and otherwise free of any contamination.
- The loads should be introduced at the bottom of the hook and the direction of the load should be parallel to the longitudinal axis of the hook.
- The hook may only be welded on by a welder certified to do this according to EN 287-1.
- The welding area, when of size GH3 or larger, must be preheated to 100 °C.
- The intermediate welding pass temperature may not exceed 380 °C.
- The welding seam should be welded as a circumferential, closed fillet weld.
- The welding seam must be checked for cracks, inclusions, and bubbles.
- Commissioning of the hook should be confirmed and documented by a qualified expert.
- The excavator hook is to be inspected regularly for wear and proper operation of the hook must also be tested regularly.
- An excavator hook that is worn, damaged or bent may not be put into operation. In general, when dimensions are reduced by more than 10% in comparison to their original size when new mean that the wear limit has been reached.
- The excavator hook must never be overloaded past the specified loading capacity.
- Do not make any modifications, for example by drilling, bending or similar changes.
- When lifting loads, hands and other parts of the body must be kept away from the excavator hook. Lifting equipment must be able to move freely in the mouth of the hook.
- Do not apply any abrupt loads.
- Use of the hook when subject to chemical influences must be clarified with the manufacturer.
- The excavator hook must be protected against exposure to the environment during transportation or when in storage.



Permissible temperature range of usage: -20 °C to +200 °C
Dry storage at a temperature range of 0 °C to +40 °C.

4. Checks and inspections

Excavator hooks must be inspected at least once per year, and more often when subject to above-average use. The following items on the excavator hook and on the welding seam must be checked:

- Ensure that the safety catch is complete and easy to move.
- Ensure that the labels are complete and legible.
- Check for deformation on all parts (replacement safety catches and mounted parts are available)
- Check for damage, i.e. notches, corrosion, minute cracks, deformations
- Check if any cross-sectional areas are more than 10% smaller than when the hook was new.
- Check how wide the mouth of the hook is to ensure that the safety catch closes properly.

5. Weldings informations

General regulations, such as DIN 18800, DB EN 15085, DIN EN 1011-2, SEW 088, etc. must be observed.

Nominal size: Material of excavator hook:

GH1	S355J4G3
GH2	S355J4G3
GH3	23MnCD5-2 [SAE 8622] / 1000MPa
GH5	23MnCD5-2 [SAE 8622] / 1000MPa
GH8	23MnCD5-2 [SAE 8622] / 1000MPa
GH10	23MnCD5-2 [SAE 8622] / 1000Mpa

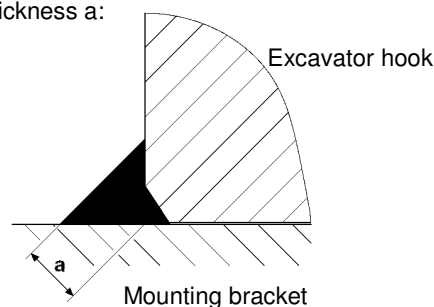
The following standards must be observed and applied when selecting the welding filler material and the electrodes:

- ISO 2560 (Nr. 111)
- DIN EN ISO 16834 (Nr. 135)
- EN 440 (Nr. 135)
- EN 757 (Nr. 111)
- AWS 5.4/5.4M (American Welding Society)

The processing and drying regulations of the electrode manufacturer must be followed!

Nominal size: Minimum welding seam thickness a:

GH1	4 mm
GH2	5 mm
GH3	6 mm
GH5	8 mm
GH8	10 mm
GH10	10 mm



Also follow the THIELE welding regulations No. 990391 and 990392 for GH1 and GH2.