MSI™

MSI-Forks

QUALITY

There are International Standards that control the fork arms quality, safety and dimensional tolerances.

MSI-Forks rigorously complies with the ISO standards below:

1. **ISO 2330:** controls the technical characteristics, fabrication and testing required for the fork arm to meet the desired level of resistance and safety.
   - Yield load test: capacity safety factor of 3:1
   - Fatigue test: support over one million lifting cycles with 1.25 of its rated capacity
   - Crack detection: 100% checked against surface crack
   - Marking: capacity, load center, manufacturer and traceability number

2. **ISO 2328:** controls the mounting dimensional tolerances of hook type fork arms and truck carriages. It sets the fork mounting class I, II, III, IV or V and type A or B to guarantee a perfect fit with the truck carriage.

3. **ISO 5057:** controls the inspection and repair procedures of fork arms in service. It guarantees the safety of the material handling operation.

Apart from the above, fork arms can also be controlled by International Associations, such as:

1. **ITA:** Industrial Truck Association, USA

2. **FEM:** European Federation of Materials Handling, Europe

3. **JIVA:** Japan Industrial Vehicles Association, Japan

The fork arm production process at MSI-Forks is regimented by an ISO 9001 certified quality control system that delivers consistency material output of the highest standards. Each critical step in the manufacturing process is controlled, measured, verified and recorded.

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FABRICATION

MSI-Forks starts with the choice of the highest quality raw materials and only uses Carbon Boron Steel, which withstands the challenges of day-to-day use.

The main production steps at MSI-Forks are:

1. **TAPER:** Cutting or forging the steel bar according to the fork length
2. **FORGE:** Bending and upsetting the steel bar or hammer forging the billet
3. **HEAT TREAT:** Altering the material properties to reach the desired hardness
4. **WELDING:** Setting up and welding mounting components to the fork arm
5. **INSPECTION:** Crack test every fork and check dimensional tolerances
6. **FINISHING:** Shot blast and paint the final fork arm

The manufacturing process used by MSI-Forks is one of the most modern in the world, using fully and semi automated production lines.

All forks produced by MSI-Forks have 1 year warranty against manufacturers defects.

CERTIFICATE OF APPROVAL

This is to certify that the Management System of:

MSI Mechforge Ltd
Doncaster, South Yorkshire
United Kingdom

has been approved by Lloyd's Register Quality Assurance to the following Environmental and Quality Management System Standards:

BS EN ISO 14001: 1996
BS EN ISO 9001:2000
ISO 14001: 1996
ISO 9001:2000
BS EN 729-2: 1995

The scope of this approval is applicable to:

Manufacture of steel and nickel aluminium bronze fork arms for mechanical handling plant, to customer specifications. Welding requirements in accordance with BS EN 729-2:1995.

Approval Certificate No: LRQ 0773022

Original QMS Approval: 15 July 1993
Original EMS Approval: 28 January 2002
Current Certificate: 9 March 2004
Certificate Expiry: 31 January 2005

Issued by: LRQA Coventry

This document is subject to the provisions on the reverse

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FORK TYPES

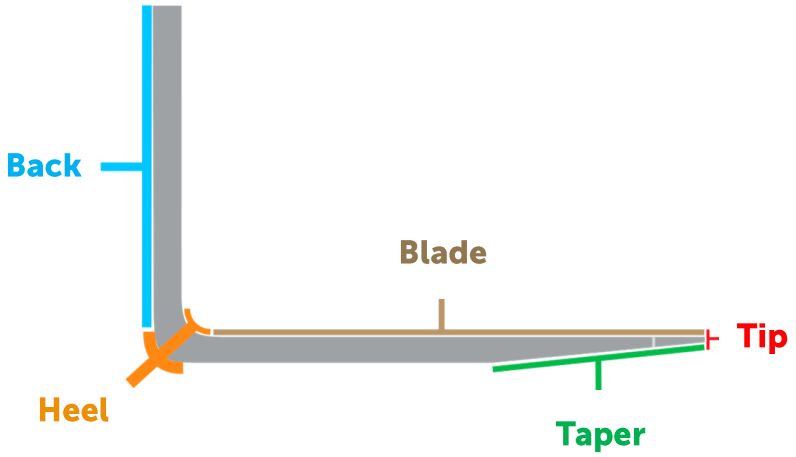
There are several types of forks to perfectly fit each material handling application and machinery. Identifying the correct fork is the best way to maximize your equipment safety and performance.

FORK TYPES

1. **HOOK TYPE (ISO 2328 or ITA):** Hook forks are the most common fork in the market. Hook type forks have dimensional tolerances controlled by international standards ISO 2328 and/or ITA.
2. **PIN TYPE**: Pin type forks usually fit construction machinery and medium capacity lift trucks (above 7 tons). Pin type dimensional tolerances will vary for each type and model of machinery.
3. **BIG FORKS:** Big forks are high capacity fork-arms, usually above 20 tons. There is a wide variation of suspension types and section sizes, which makes every Big Fork unique.
4. **CUSTOM MADE:** Custom made is a fork-arm specially produced to meet a special material handling requirement. Example, spark resistant forks.

FORK TERMINOLOGY

The Fork basic structure is composed of: Blade, Back, Heel, Tip, Taper and Suspension or Attachment devices (hooks, tubes, brackets or others to hang the fork on the truck carriage).



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