

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

**MSI-Forks rigorously complies with the ISO and ANSI standards below:**

- 1. ISO 2330 / ANSI B56.11.4 :** controls the technical characteristics, fabrication and testing required for the fork 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 / ANSI B56.11.4:** controls the mounting dimensional tolerances of hook type forks 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 / ANSI B56.1:** controls the inspection and repair procedures of forks in service. It guarantees the safety of the material handling operation.

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

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

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

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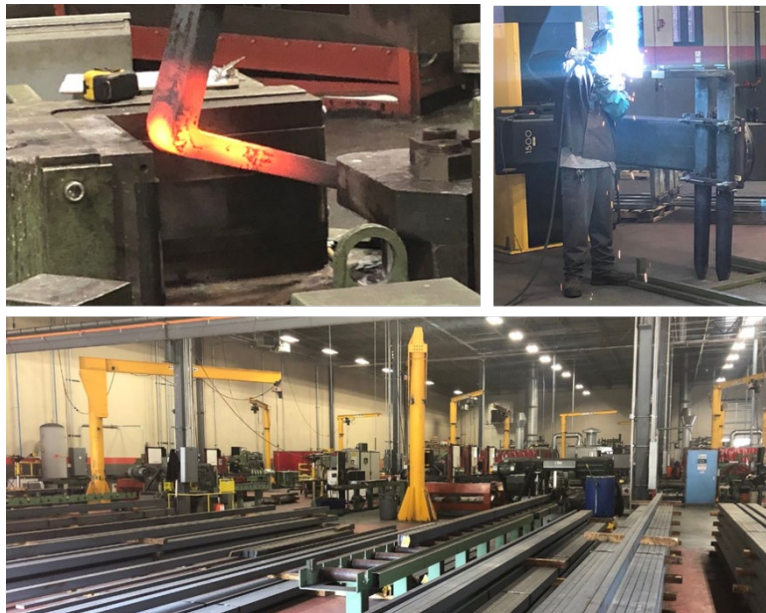
MSI-Forks starts with the choice of the highest quality raw materials and only uses **Carbon Boron Steel**, which withstands the challenges of day-to-day use.

**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 forks.
- 5. INSPECTION:** Crack test (MPI) every fork, check hardness and tolerances.
- 6. FINISHING:** Shot blast and paint the final fork.

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.**



# FORK TYPES & TERMINOLOGY

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.

- 1. HOOK TYPE (ISO or ITA):** Hook forks are the most common fork in the market. Hook type forks have dimensional tolerances controlled by international standards ISO 2328 or ANSI B56.11.4.
- 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 truck.
- 3. BIG FORKS:** Big forks are high capacity forks, 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 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).

