

Manual Beveling vs. Automatic Beveling

We've helped a lot of companies over the years find the right beveling solution for them. We would like to compare some Basics about beveling methods:

There are four basic ways to bevel the end of pipe or tube prior to welding:

1. Hand Grind
2. Torch or Plasma cut by hand or with machine
3. Portable beveling machine
4. Stationary beveling machine

Each process has its own benefits and drawbacks. To make it easier to compare and contrast the four basic beveling techniques we've laid them all out below.

1. HAND GRINDING

Hand grinding is really only a viable beveling solution if you are handling a few pipes or tubes. There are a number of drawbacks that make this method unsuitable for large scale operations, including:

- Very dirty operation
- Inconsistent bevel, depends on operators skill
- Potential safety issues from flying grinding particles
- Fire Hazard
- Takes a long time to do
- Grinding Wheels are expensive
- Can't process J-Bevels or special forms.
- High operators costs and high workload for operators

2. TORCH OR PLASMA CUTTER

Although using a torch or plasma cutter to produce bevels is quicker than hand grinding, this option still has many of the same drawbacks as hand grinding, including:

- Dirty operation
- Fire hazard
- Can't cut all materials
- Can't process J-Bevels or special forms
- Requires Oxygen/Acetylene gas or Dry compressed air
- Flat Land on end of pipe still requires hand preparation
- High operators costs and high workload for operators

3. PORTABLE BEVELLING MACHINE

A portable beveling machine offers some benefits over hand grinding or using a torch or plasma cutter. For one thing, a portable beveling machine produces a more consistent bevel than hand or torch/plasma cutting. It also, as the name implies, provides a portable beveling solution that is capable of producing J-Bevels. However, a portable beveling machine does have some drawbacks such as:

- Dirty, chips and any coolant must be contained somehow or fall to floor
- Slow
- Electrical cords a hazard
- Possible guarding issues
- Expensive custom ground tooling
- High operators costs and high workload for operators

4. CEVISA's BEVELLING MACHINE

Many of the issues associated with the other three bevelling methods are eliminated when using a CEVISA beveling machine. One of the major benefits of their bevelling machines are that you achieve a consistent bevel each time, including land width and angle. Some of the other benefits include:

- Fast, normal cycles time in seconds
- Will face the end of the pipe square
- Uses inexpensive industry inserts
- Clean
- Safe, all cutting operations happen in totally enclosed guarded area
- Minimal Maintenance
- Quick changeover, easy to setup
- Lowest cost per bevel
- Covers large range of pipe or tube
- J-Bevels, Standard 37.5 Deg Bevels, and others can be done on the same machine with the proper tooling.
- Any non skilled operator can produce consistent parts.
- Low workload

If you are interested in learning more or need help finding the right pipe beveling solution for you, please contact us.