

# Secondary operations

## Economic aspects

These costs are often very significant:

- tumble deburring / finishing
- thermal treatment (quenching, etc.)
- plastic deformation
- machining (tapping, etc.).

- Sometimes even:

- Some secondary operations, such as surface treatment, increase cost by a factor of 2 or more. External variables in process control can also affect cost.

- These costs can be avoided in the first step, by optimizing design (e.g. avoiding "over tolerancing");

- Dealing with small parts, often an initial cost for the setup of the operation (small tools for handling, etc.) adds to the cost per part;

- These costs do not reduce with lot size as much as MiM costs (less dependent on quantity).

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