

ABOUT TOOL SELECTION

Until Vol. PB-5, preparation for tool selection has been described, but from this time on, it will be into a practical tool selection method. This page features “V-bending” and “R-bending”.

These bending methods are considered “standard machining procedures” and account for the majority of standard tools in the catalog.



STEPS FOR CHOOSING A TOOL

When choosing the tool, it is necessary to check the completed and development drawings and make a comprehensive determination.

To do so, it is important to check that all necessary conditions are met and to select the appropriate tool. When the phenomenon such as “Bending is insufficient and angle does not come out” or “Poor accuracy” appears, it is common when the following contents are omitted.

[Check the following items to make a comprehensive decision.]

- 1. Machine specifications**
- 2. Determine V width**
- 3. Tool combination**
- 4. Bending sequence**
- 5. Required pressure (withstand pressure)**

STUDYING FROM THE DRAWINGS

Study the contents of the table below from the drawing and select the tool.

Confirmation items	Confirmation contents
Material (SPCC / SUS / AL)	Allowable tonnage, tool tip angle (against spring-back)
Material Thickness	Selection of V groove width, tool pressure resistance tonnage for required bending tonnage
Bending length	Allowable tonnage, Length and depth of machine table length side plate
Inner radius	Coining (inner R0.8t~) Air bending (General bending)(inner R1t~2.8t) R-bending (inner R2.8t or more)

READ DETAILS FROM DRAWINGS

Basic tools can be selected from the contents on the previous page, but there are cases where it is necessary to select tools that require simulation, such as “complex bending” and “multi-point bending”. Please see below.

- Together with the items on the previous page**
- 6. Select the machine to use**
 - 7. Tool specification**
 - 8. Determine working conditions**

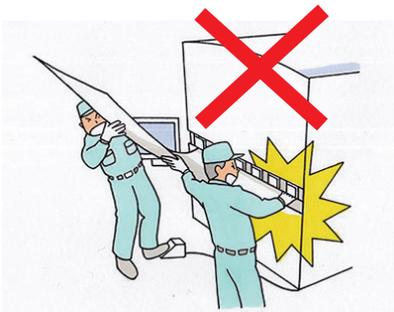
Confirmation items	Confirmation contents
Bending length / height	Minimum length = V-width x 0.7 Table length, Flange length / side plate distance
Z bending dimension	V-groove depth 1st process, Bending height (Material thickness step), Step bending specification tool
Total width of inverse bending	Die length
Box bending	Punch length
Tooling points such as burring	Tool interference
Box bending / Width dimension	Sectional tool length
Hole position near the bending part	Beware of deformation
Width dimension / Weight	Number of people performing bending, Storage of product
Accuracy	Check bending order
Surface condition (Surface without scratch)	Scratch prevention measures (Die shoulder R, Plating, etc.)

When choosing a tool, double check that you have a die!



Surprisingly, they often see the punch and forget the die.

The die has a large effect on the processed material, such as scratches and deflection on the product, so check it carefully.



Check the dies before starting work, and safely perform high-quality bending.

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