Module 8

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Join Type

The join type setting is used to set the type and configuration of any seams and overlaps.

**Overview**

There are **TWO** main types:

1. **Butt:**
   
   No allowance on any side. This may be used when both sides of the join “butt” up against each other as is usually the case when fabricating from plate.

2. **Lap**

   Additional material is added so that edges overlap to allow for brazing, soldering or riveting.

   Laps may be applied to the upper and lower edges to allow joining to adjacent parts.

   A lap may also be added to each end of the pattern to form a joining seam.
Join Type Dialog Box

The join type and laps sizes are applied through the “Join Type” dialog, accessed by clicking the Join Type button.

Butt Join Option

While the “Butt” option is selected, lap allowances are set to 0 and notching options are “grayed out”.

Click the Join Type button to open the dialog (shown above) and set lap options.

Butt Join option selected.
**Lap Join Option**

When the “Lap” option is selected the Lap sizes may be entered and the Notch style options are enabled.

By default, the Notch Style “Lap forms a notched corner” is enabled. The diagram below shows the result of the settings applied in the dialog above. A lap of 10 is applied to the left end of the pattern, a lap of 6 is applied to the top edge and a lap of 10 is also applied to the lower edge.
**Notch Style Options**

There are two Notch Style options: ‘Notched Corner’ and ‘No Notches’ that may be applied in several ways.

**Notched Corner**

![Notched Corner Diagram]

In the above example the Notch Angle of the left side end lap is set to 90. The notch angle is measured from the end line of the pattern. Changing the notch angle to 60 would give the following result:

![Notch Angle 60 Diagram]
When a Notch Angle is applied to the upper or lower lap, notches are cut at each press line. The nominated notch angle from the last segment measured around the profile. The diagram below shows a notch angle of 80 degrees applied to the lower profile.

NOTE: A notch angle of 0 on the upper and lower edges means that no notches are applied around the profile, other than the notch in the “corner” formed between the end lap and the upper or lower profiles.

No Notches
When the 'Notch Style' option is set to 'No Notches', no corner notch is formed and the profile is continued around the end laps. When this option is selected, the Notch Angle options are “grayed out” and ignored.

Important Note

The ‘No Notch’ option explained above can only be applied when the pattern is a **full pattern**. If ‘Half Pattern’ is set in ‘Properties’ or using the ‘Special Properties’ options, the ‘No Notch’ option in the Join Type dialog is disabled.
Some Special Cases

Rectangle to Round.

A typical application of notching is shown below. Set the notch angle of the upper profile to 0, and the notch angle of the lower profile (which forms the rectangle) to, say 70 degrees to form notches at each corner.
Rectangular Ducting

Rectangular ducting is used in the HVAC industry. The shape shown opposite is a typical reducer.

The ‘Join Type’ dialog appears a little different and is applied as shown below.

This lap size is applied all around the rectangle at the front end.

This lap size is applied to both long edges of the top plate.

This lap size is applied all around the rectangle at the rear end.

This lap size is applied to both long edges of the vertical side plate.
**Setting Default Join Types**

You may set default values for the Join Type dialog if you are making many shapes with the same lap configuration. To do this, select the “Tools” from the pull-down menus, and then select “Global Options”. Next, select the ‘Join Type’ tab.

Set the lap settings for you most frequently used shapes and click the save button.

Now each time you access the Join Type dialog your default settings will be pre-loaded.