

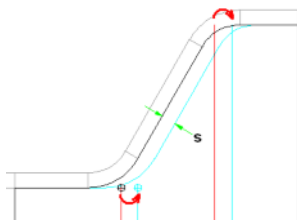
The new function **Parallel Gap** enables creating a gap between roll and profile surface

What's New? – Rel. 5.0

Parallel Gap

After creating a roll (e.g. by scanning the profile contour), the roll first touches the profile surface completely (except for undercuts). If needed, a parallel gap can be created for the whole roll or between to roll corner points. Applications are:

- Coated sheet metal should be processed.
- Raised cut-outs should not be deformed.
- A horizontal sheet guide should have a gap in order to avoid pinching in case of sheet width allowances.
- A clearance angle should be continued in the successive profile segments, e.g. for forming trapezoidal profiles.
- Already finished parts of the profile should not be touched by rolls anymore



The picture shows the working principle: The connection line between the points is moved in parallel by the gap width s . If the connection line does not exist, i.e. if one arc is connected to the next tangentially, the connection point is moved. Thus no new corner points are created, but the existing corner points are moved on the outer tangents

Extended Undo/Redo functions

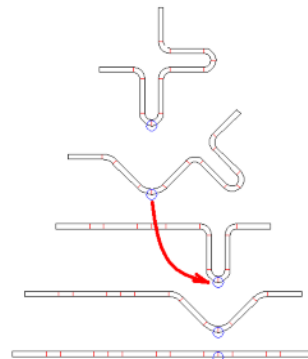
Undo/Redo now works also after changing the drawing view or the stand. The count of the steps can be preset by the user.



The menu item and the button hint shows the name of the operation that can be reversed next. This makes it much more easier to use the Undo/Redo function.

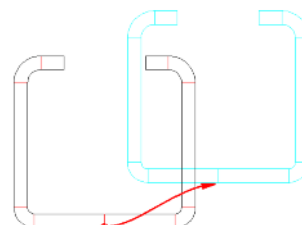
Modify Develop Point

The Reference Point $X0/Y0$ of a profile is identical to the develop point, i. e. the point the profile's legs turn around during developing the flower pattern.



Some applications require to redefine the develop point in a certain pass in order to turn the profile's legs around a different point in the next passes. The new function enables to modify the develop point without moving or turning the profile. The profile list will be re-sorted, a symmetrical profile list (with symmetrical point PS) becomes an unsymmetrical list (with point P).

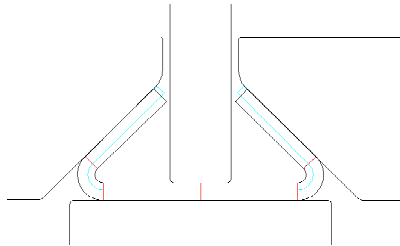
Modify Reference Point



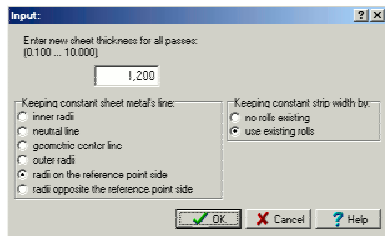
After importing a profile contour from CAD the profile often has not the proper position within the machine stand. The new function enables to modify the x and y coordinate easily either for a single pass or the whole flower pattern. Afterwards the drawing is moved to the new position.

Modify Sheet Thickness

Usually, the roll tool set is designed for a given sheet thickness.



This new function enables to modify the sheet thickness in the design state of the final profile, during flower pattern design, or in a finished project. This may be necessary if the roll tools should be designed for various sheet thicknesses and if the position of the sheet for the minimal and maximal thickness should be checked. Another application is: A running roll forming machine should be refitted for another sheet thickness. The task is to check if this is possible with the existing rolls plus additional spacers or if in part new rolls have to be prepared.



The user is asked to select, which sheet metal's line should be kept constant during this operation:

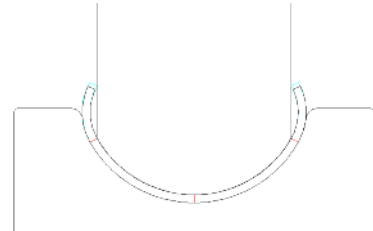
- **Inner radii:** The outer radii are changed.
- **Neutral line:** This is the virtual line whose length is not changed during bending. Inner and outer radii are changed.
- **Geometric center line:** This is the virtual line in the center of the sheet. Inner and outer radii are changed.
- **Outer radii:** Inner radii are changed.
- **Radii on the reference point side.** This point always is on the sheet metal's bottom side near the profile's web center point. Dependant on the complexity of the profile inner or outer radius are changed.
- **Radii opposite the reference point side.**

If the selection **Keeping constant sheet metal's line** is applied on all passes, different strip widths will result in the passes inevitably (except for neutral line constant). In order to avoid this, the user can select between two different methods for keeping constant the strip width by:

- **No rolls existing:** The selection which line should keep constant, is applied on the final pass L01 only. All other passes are created newly by presetting the arc angles and arc bending methods from the origin flower pattern. Thus all passes get the same strip width, however, the radii in passes L02..Lnn will differ from the constant line setting above. If rolls exist, they will not fit to the new profile contour. This is why this setting makes sense only during flower design, if rolls not yet exist. The function works similar to using the **Development Table**.
- **Use existing rolls:** The selection which line should keep constant is applied on all passes. The inevitably resulting different strip width is corrected by lengthening or shortening the profile elements at the band edges. Thus a flower pattern is obtained with different allocation of the straight lengths to the profile elements. However, because profile and roll contours fit together or are parallel together, the displacement of the band edges is an indicator if the roll set is good for the new sheet thickness or if it has to be adapted.

Modify Strip Width

After defining the desired profile cross-section the strip width of the flat sheet is defined, too. Sometimes the question comes up, whether an already existing strip with a differing width can be used for forming this profile or whether a strip with a standard width can be used. Another important application is: If the roll tools are already designed, the designer wants to know how a strip behaves between the rolls, in case the width allowances are at the minimal and maximal limits.

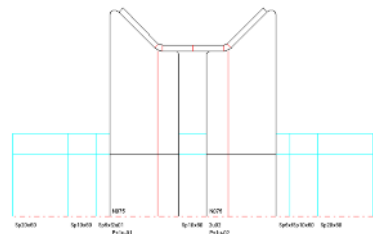


For this purpose the new function **Modify Strip Width** is provided. It shortens or lengthens the profile elements of one pass or of the whole flower pattern at the left and right band edge in order to get the desired strip width in this way:

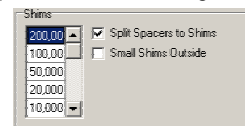
- Is the profile element at the band edge a line **L**, it is lengthened or shortened.
- Is the profile element at the band edge an arc **A**, the angle is increased or decreased by keeping the radius constant.
- Is the profile list symmetric (i.e. it contains a symmetric point **PS**), the band edges are modified symmetrically.
- Is the profile list asymmetric (i.e. it contains a point **P**), the partition of the strip width modification to the left and right band edge can be preset.

Spacer Rolls as Objects

Spacer rolls are needed to fix the horizontal position of the forming rolls on the bottom and top shaft. They have a smaller diameter than the forming rolls and do not touch the profile. Up to now, the available space between rolls and stands was filled with spacers quite simply. However, this kind of spacers could not be handled as rolls.



A new kind of spacers are **Spacer Rolls**, that are handled as forming roll objects. They can be selected by mouse-click, can be dimensioned and modified, and they are named dependant on special number keys for spacer rolls only. A new function creates spacer rolls automatically by filling the available space, also the space between forming rolls.



If needed, spacer rolls are split into shims automatically dependant on the user defined table of shim widths. In order to name the spacer rolls for the user's needs, two new variables are provided for the roll width and the roll diameter.

More info: www.ubeco.com