NC Express

Software version release: 25.2

5th January 2026

New features in NC Express 25.2

UNFOLDING

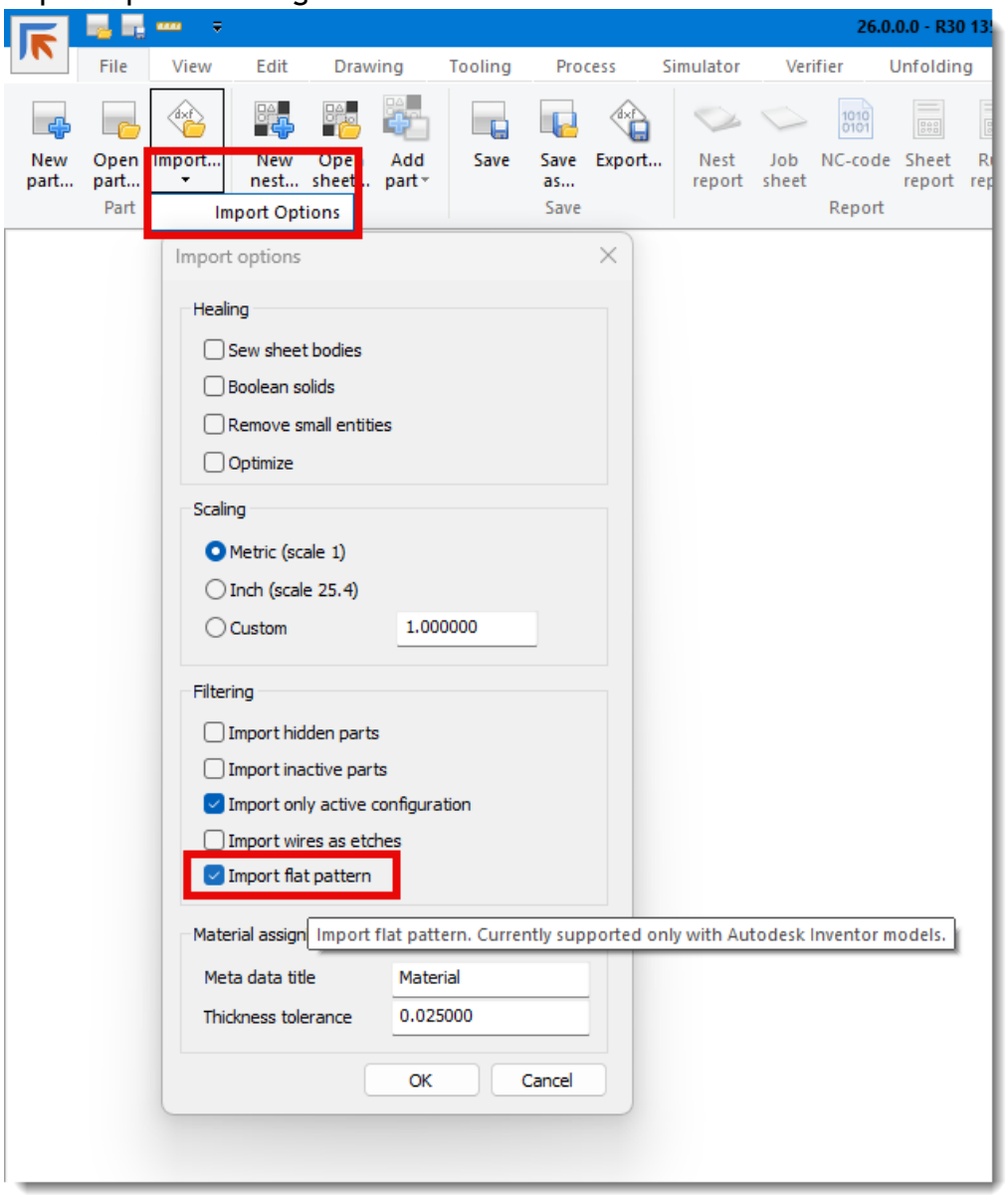
Supported 3D formats and versions

- Autodesk Inventor (*.ipt, *.iam), up to 2026
- SolidWorks (*.sldprt, *.sldasm), up to 2025
- Solid Edge (*.par, *.psm, *.asm), up to 2025
- Siemens JT (*.jt), up to 10.10
- Siemens NX (*.prt), up to 2412.7000
- PTC Creo (*.prt.x, *.asm.x), up to 12.0
- Catia (*.catproduct, *.catpart), V4 (4.15 to 4.26) and V5-3DX (R10 to R35, R2023 to R2025), V6 (R2025)
- IGES (*.igs, *.iges), up to 5.3
- STEP (*.stp, *.step), AP203 (E1, E2), AP214 (up to E3), AP242 (E1, E2, E3, BO XML), AP209
- Spatial ACIS (*.sat), up to 2023 1.0
- Parasolid (*.x_t, *.x_b), up to 37.1

Inventor: option for importing unfolded flat patterns

PREMIUM

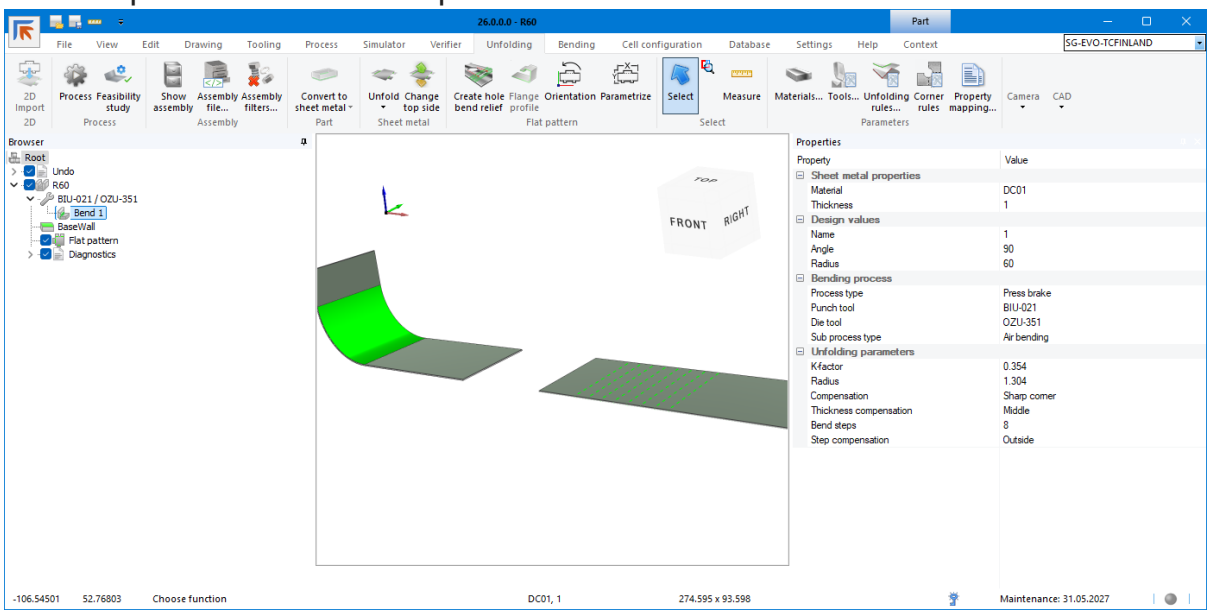
You can now import an already unfolded flat pattern. This can be activated in the Import options dialog:



Note that information about bending lines is not included, only the cutting geometry. Also, this functionality is currently implemented only for Autodesk Inventor models.

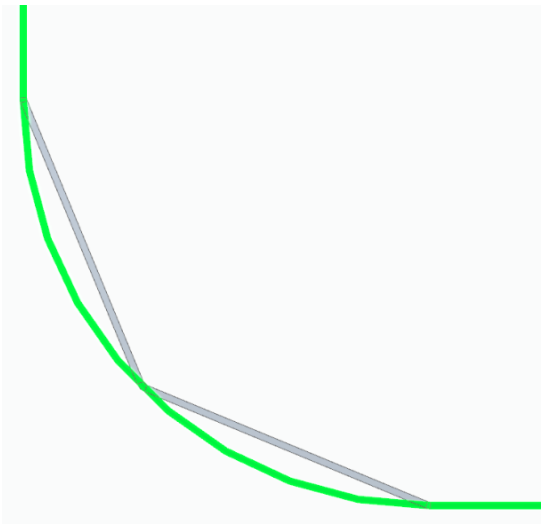
Splitting a big radius into step bends

You can now split a big radius into multiple smaller steps in Unfolding. This can be defined by setting the radius smaller than the design and increasing the number of the new parameter's bend steps:

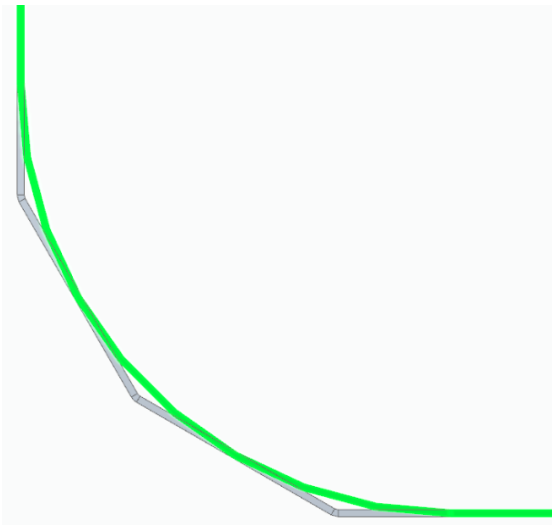


Another new related parameter is Step compensation, which defines on which side of the part an approximated step bend should not exceed the original geometry. Values that can be selected are Outside (default) and Inside.

Example: illustrations of a three-step compensation.



When Outside is selected.



When Inside is selected.

PANEL BENDER

Options for adding centering automatically

You can now have additional centering(s) automatically added to improve the precision of the bends.

Bend length to add center defines the value where centering is added when entering on the side of the part where the bend length exceeds the defined value.

Additional centering defines whether centering is automatically added to long sides, short sides or all sides.

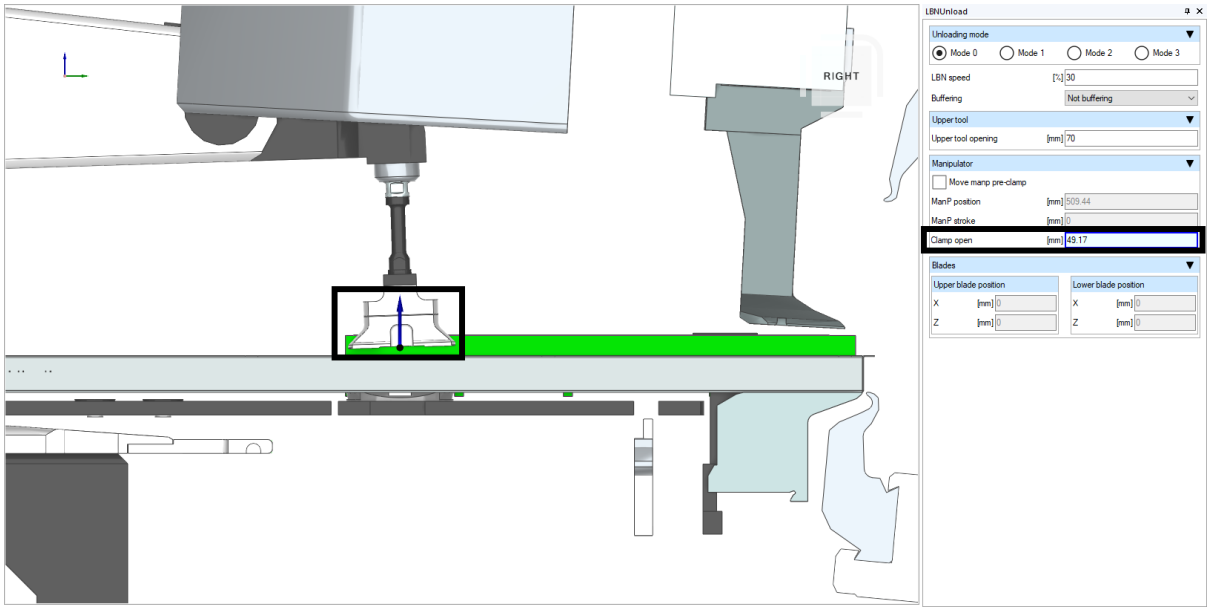
These new parameters can be changed to program parameters to apply them for the selected program and to default parameters to set the value as default for new programs.

Option for a height-programmable clamp

You can now set the clamp's exact height for the following phases: LBN, Belt, SmartUnload, Center, ASPCenter, RepositionOnUpperTool and RepositionOnCups.

The height-programmable clamp feature, as an option, can be enabled for each of the above phases separately.

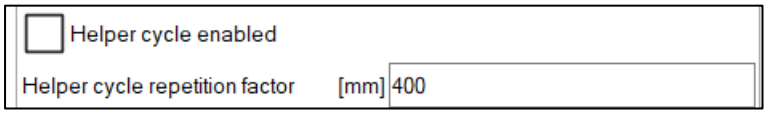
If the feature is enabled, NC Express will initialize the clamp height to the minimum feasible value. The operator will then change the clamp height if needed, either by moving the 3D view dragger or by editing the Clamp open control directly.



Break helper cycle

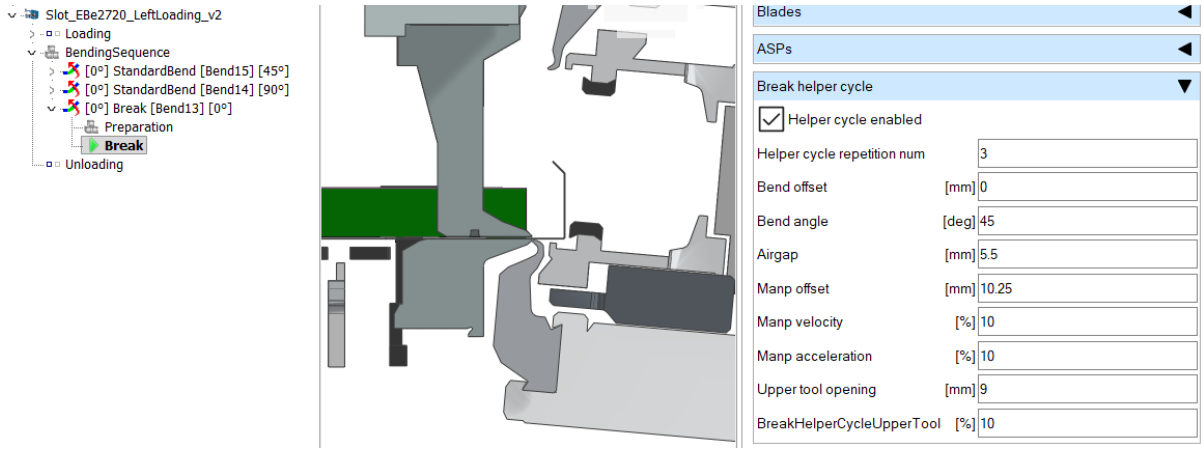
Also known as the “break weakening cycle”. It is an additional functionality for the breaking phase. It consists of one or more standard bend + smash bends executed to the bending line to “weaken it” and makes the profile detach easily.

In default and program parameters, users can configure two new properties:



One enables the additional cycle by default, while the other is used for the default number of repetitions (number of repetitions = bend length / factor).

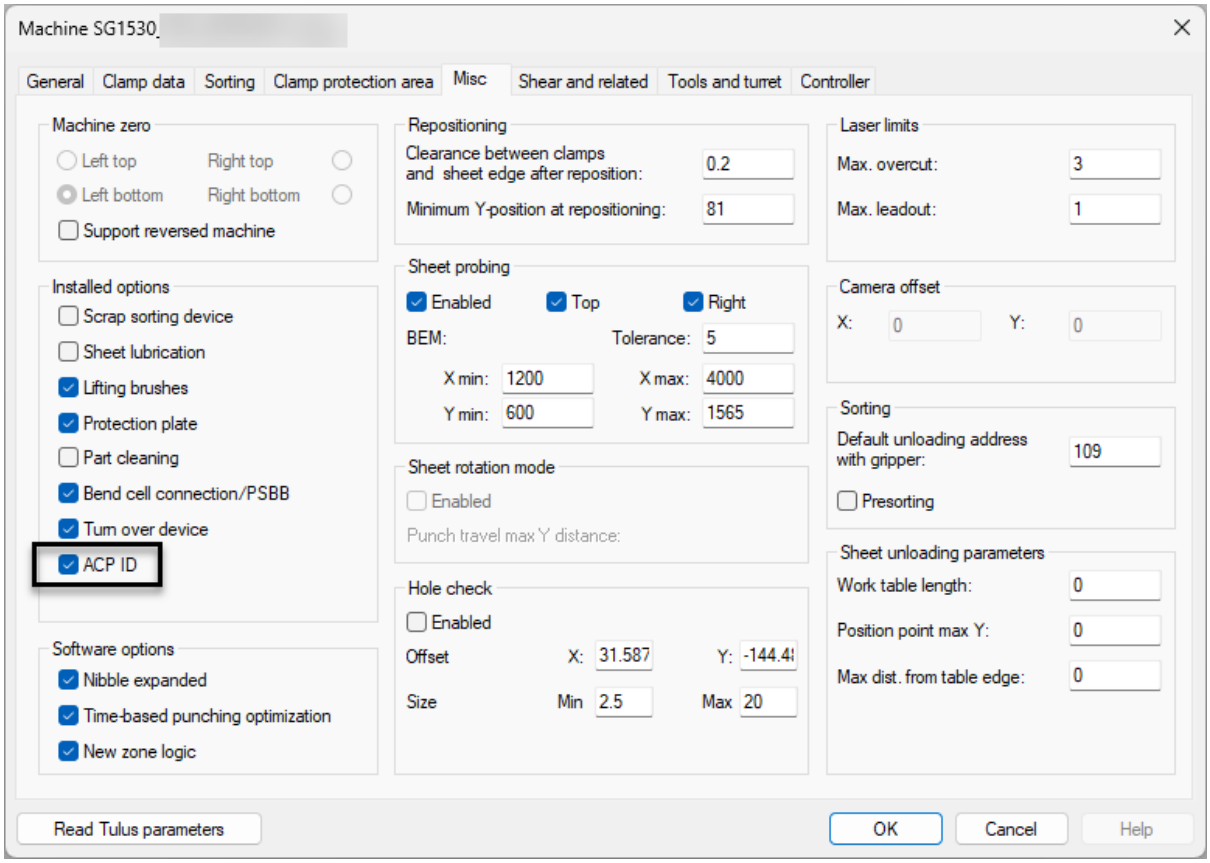
Upon activation of the additional cycle, the user can adjust its parameters:



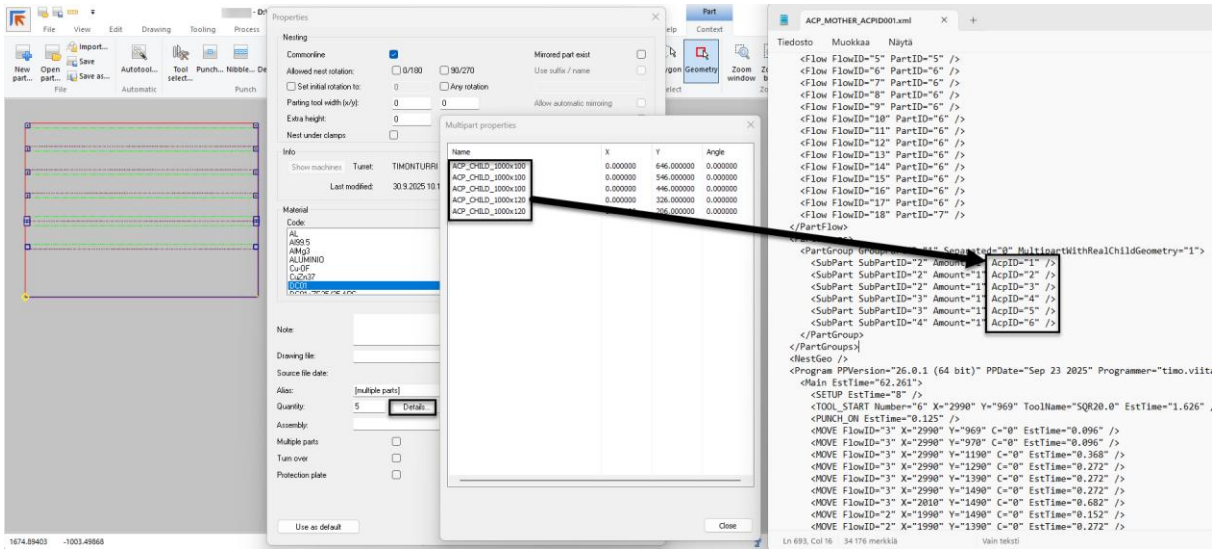
Some are for the standard bend movement, like ***Airgap*** or ***Bend angle***, and others are for the smashing movement, like ***Upper tool opening*** and ***Manp offset***, which are used to bring the bent line under the upper tool to flatten it.

ACP enhancements

The advanced cutting parts inventory is now improved so that all individual child parts are also counted. There is a new machine setting to activate ***ACP ID*** writing to the NC code.



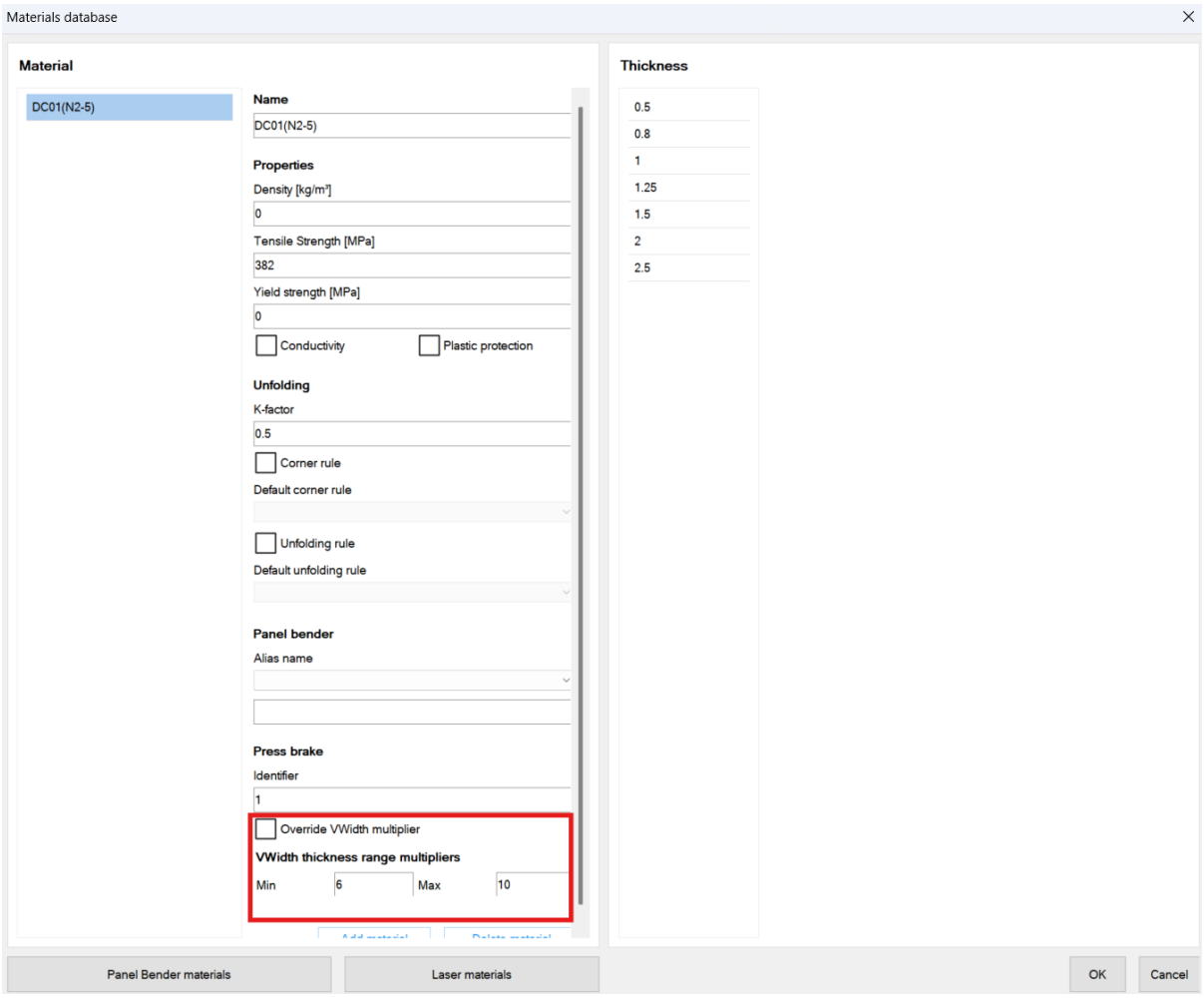
When this option is active, we write the AcpID for each ACP child part and for the ACP related scrap part. Tulus Cell and Tulus Office use these.



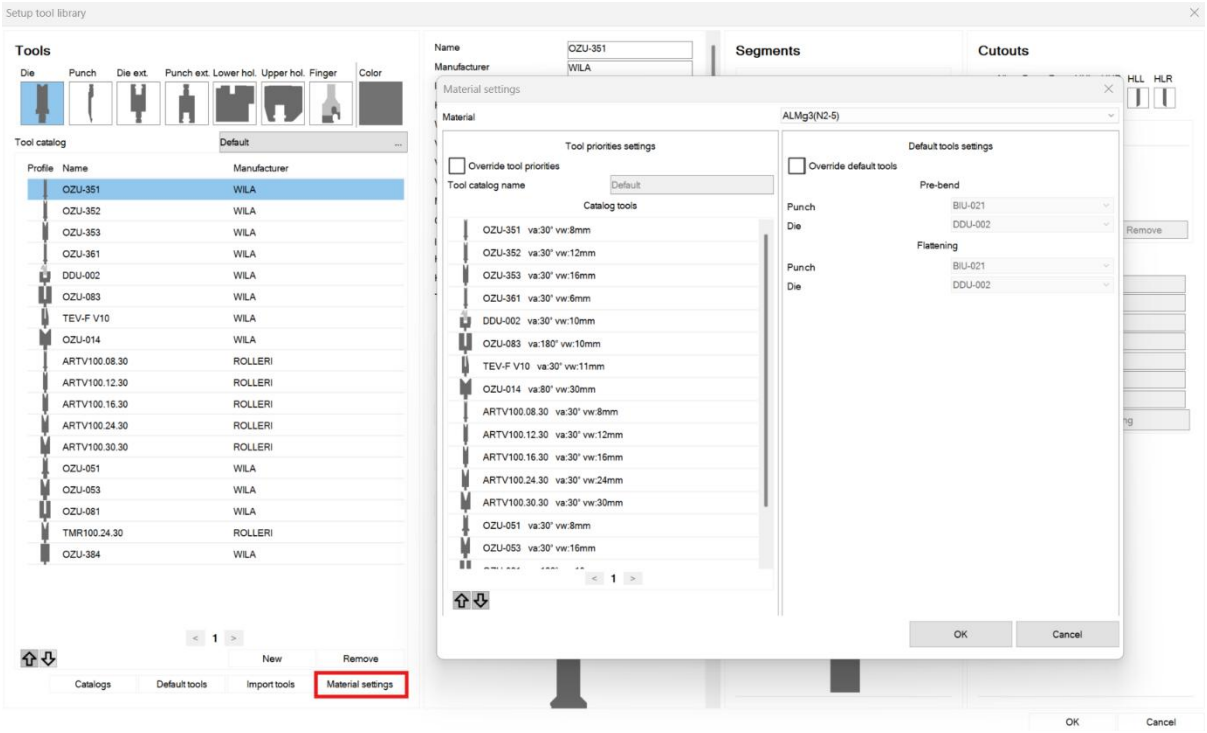
PRESS BRAKE

Material-based die width multiplier and tool priorities

You can now define different die width multipliers for each material. If ***Override VWidth Multiplier*** is not checked for a material, the global parameters for the VWidth multiplier will be used.

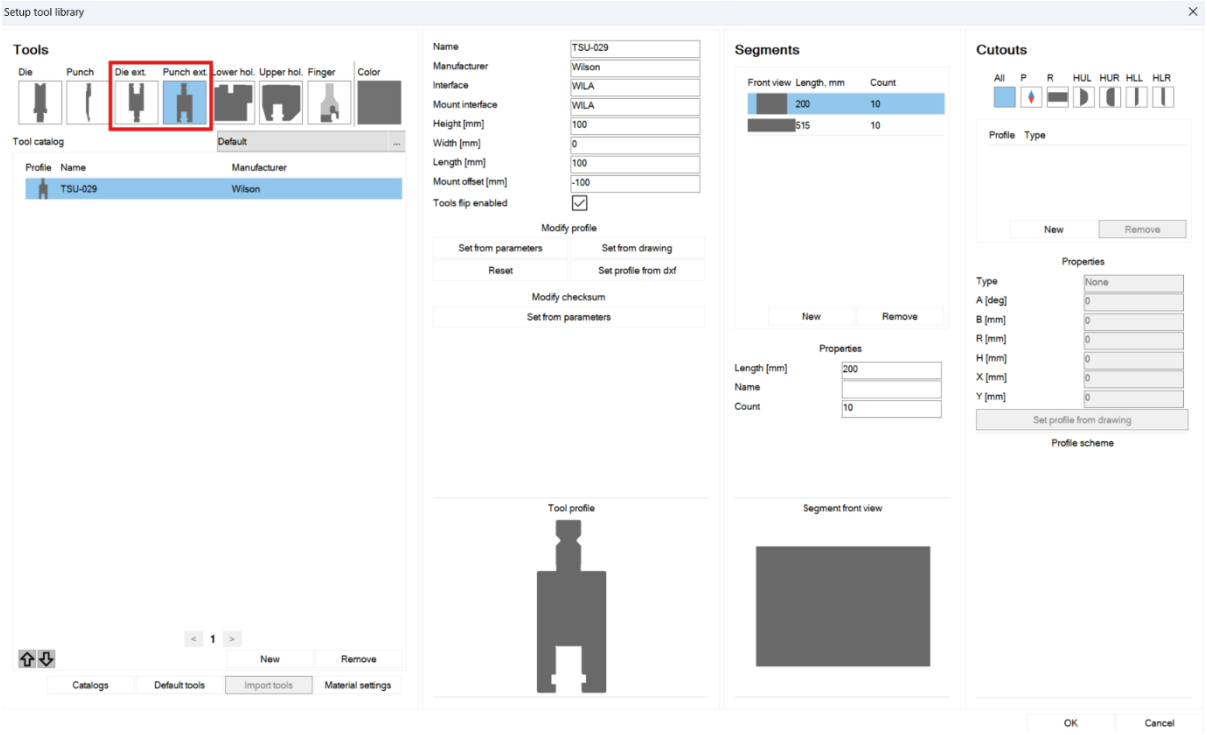


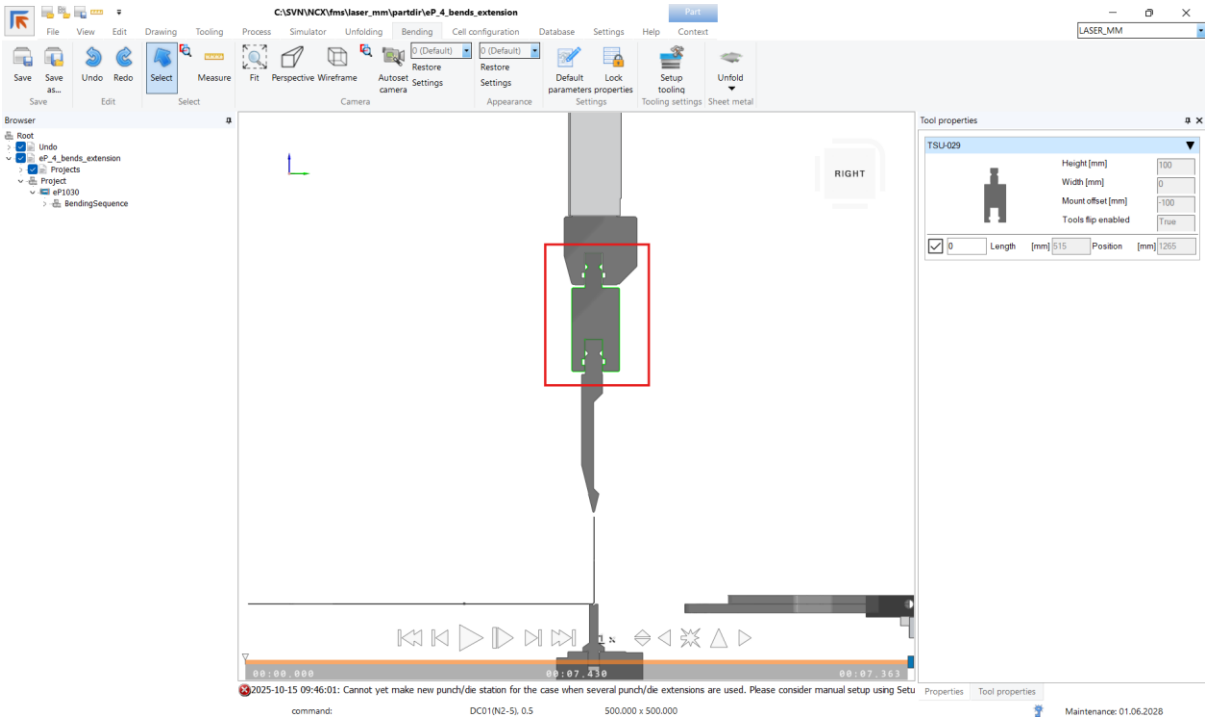
Different tool priorities can also be specified for each material. If ***Override tool priorities*** is not checked for a material, default tool priorities will be used.



Support for punch and die adapters/extensions

Die and punch extensions are now supported. Extensions are tools mounted on the machine's main holders, onto which the bending tools are then mounted. Their main purpose is to create taller tool compositions.

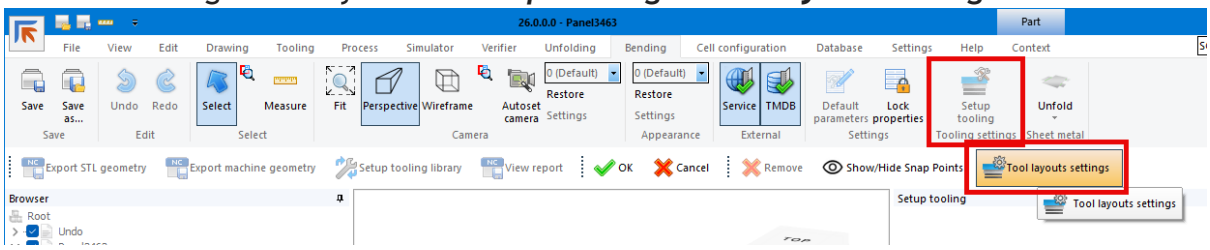




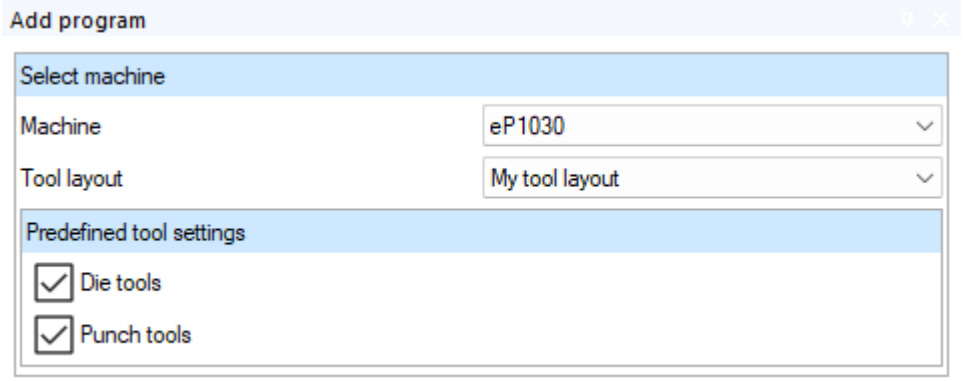
Support for tool layouts

You can now save and load a tool layout for press brake machines similarly as you already can for panel bender machines.

You can manage tool layouts in ***Setup tooling - Tool layout settings***:

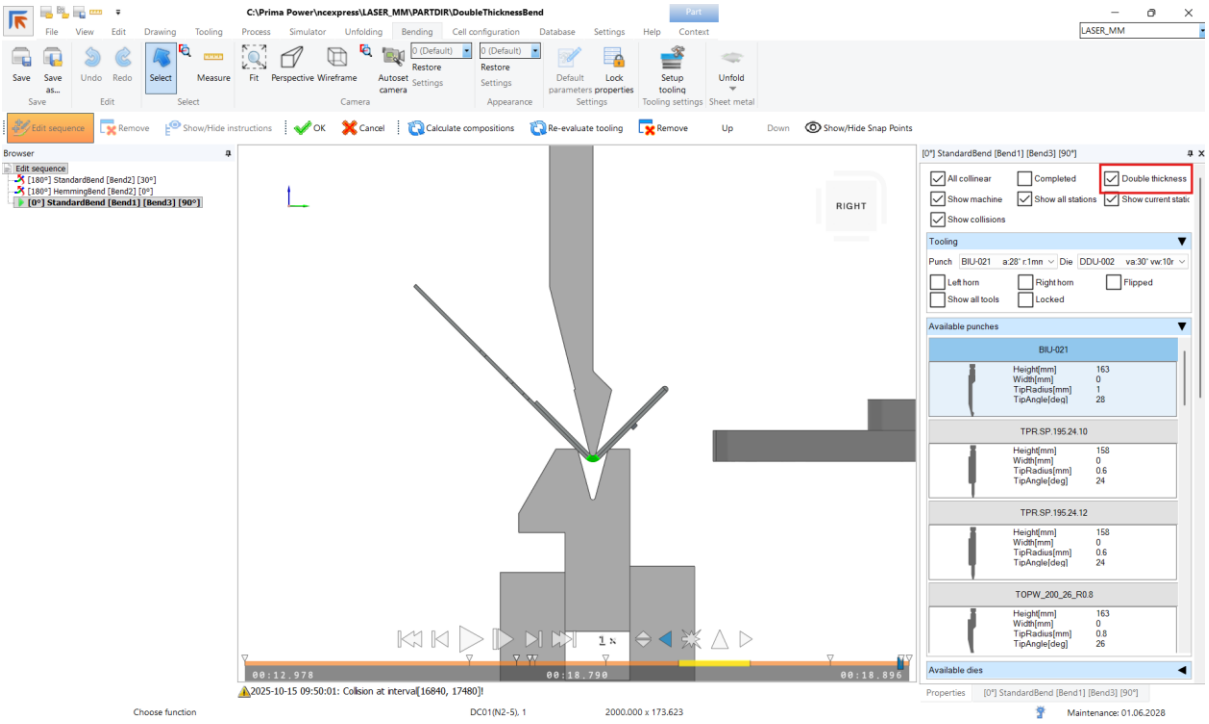


You can load a tool layout from Tool layout settings or by selecting a layout from the combo box when adding a new program:



Support for double-thickness bending

You can now perform double-thickness bends. The ***Double thickness*** option must be enabled from the ***Edit Sequence*** menu.



Faster and better Autotool

There are numerous improvements for Autotool that improve results and performance. In many cases, Autotool will now result in a more optimal tooling, reducing the number of tool stations and the need to manually adjust the tooling.

To name a few improvements:
- Positioning of the part to the edge of the tool station
- Reusing/positioning existing stations for coaxial bends

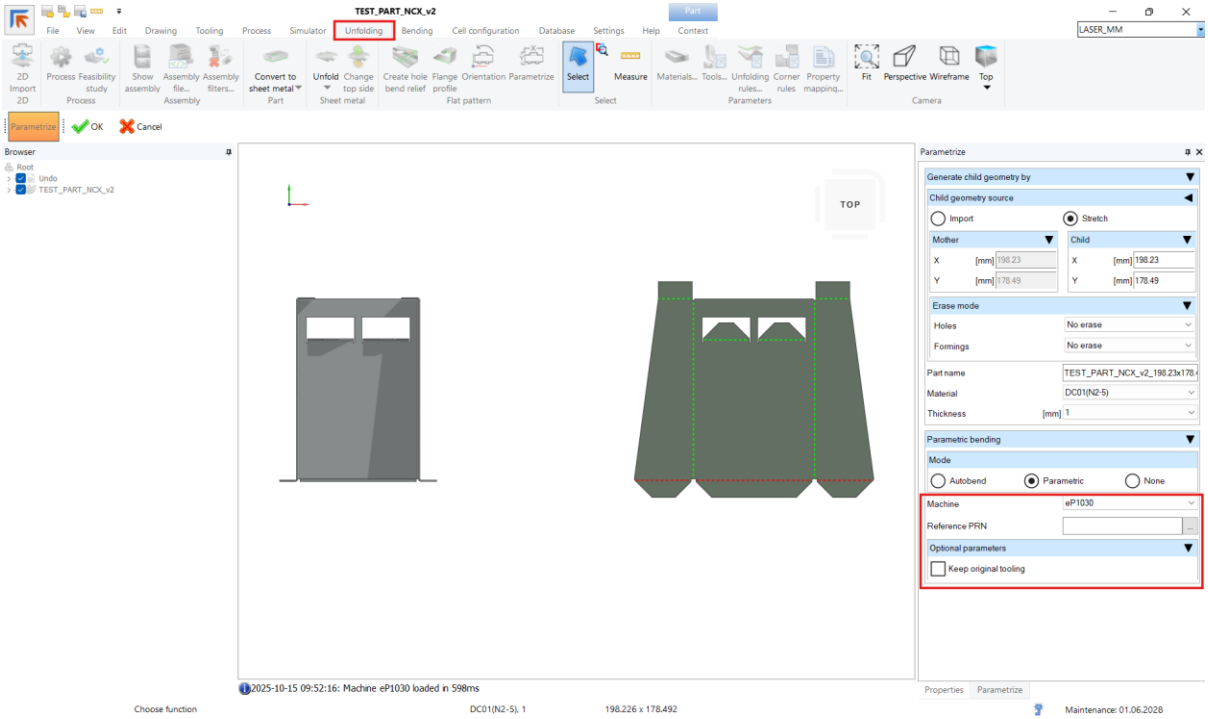
Autobend/automatic bend sequencing

Autobend has been improved to have more stable results. Current behavior is prioritizing the short side cycle, also allowing long side/mixed cycles if such are identified to be more suitable for the part.

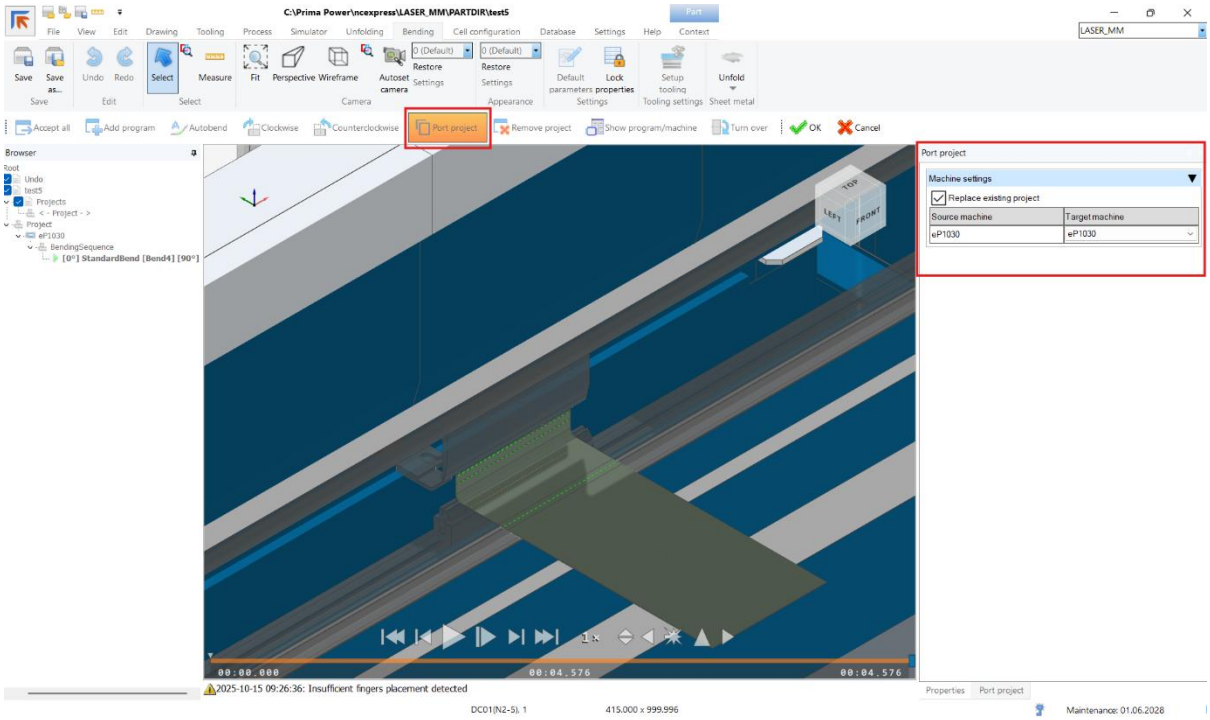
Cell porting

Cell porting allows you to change the press brake cell while preserving the program you have already created. Cell porting will create another program with the target cell, attempting to preserve the tooling and other user choices as much as possible.

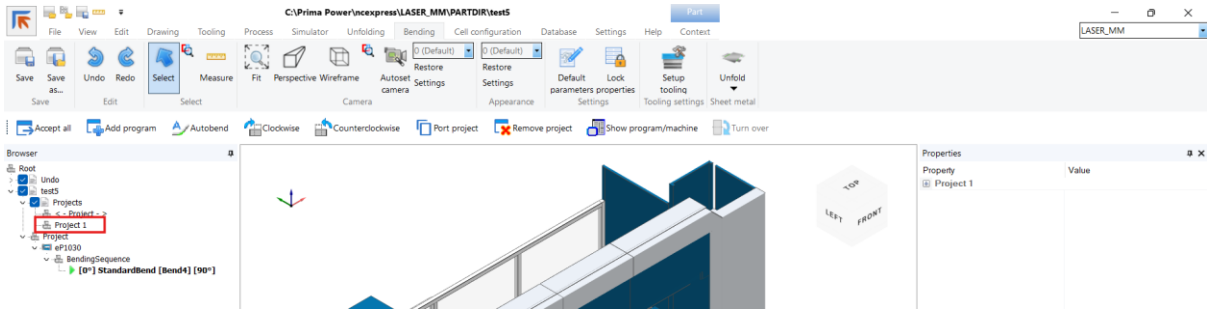
Cell porting can be combined with Parametric Stretch.



You can also port a project from the Bending tab using the Port project command. You can either replace the current project or create a new one using the ***Replace existing project*** option.



The newly created project will be under Projects in the tree view. Double-click on the other project to switch to it.

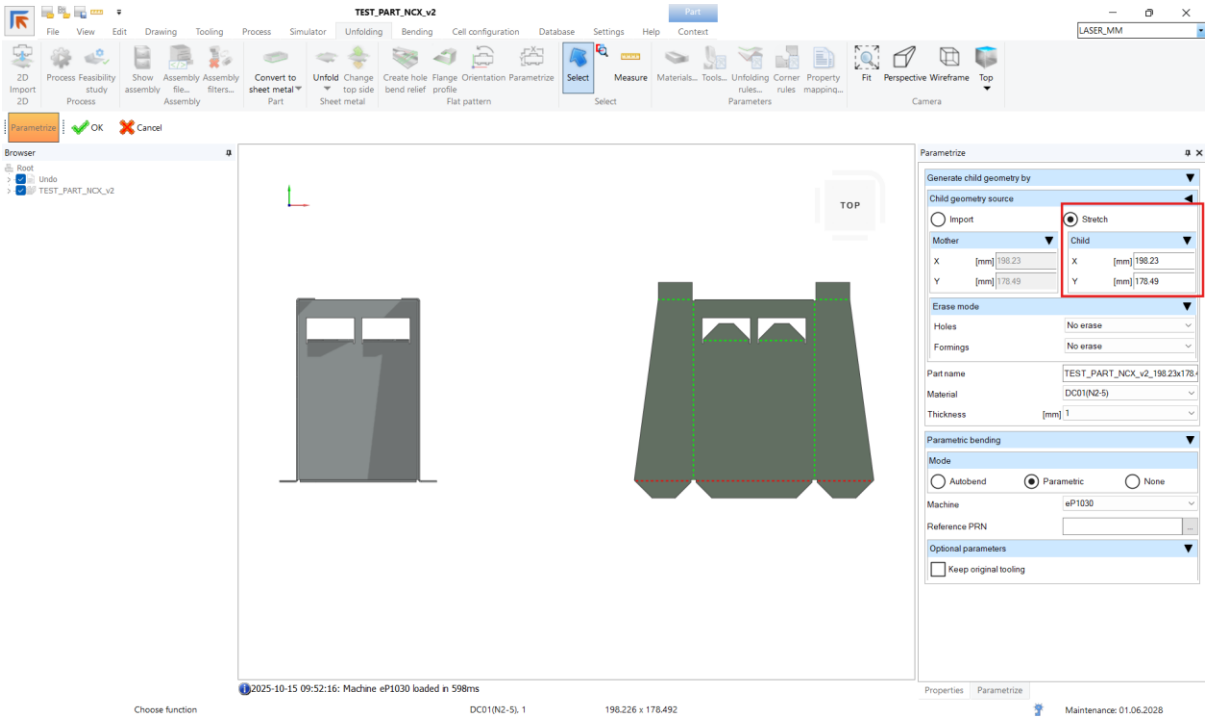


Parametric stretch

Parametric Stretch allows you to change the dimensions of your part and create a program that tries to preserve the user choices made in the original program as much as possible. The dimensions of the tool stations will change according to the new part dimensions. The finger positions will be proportionally shifted to provide similar part support compared to the original program.

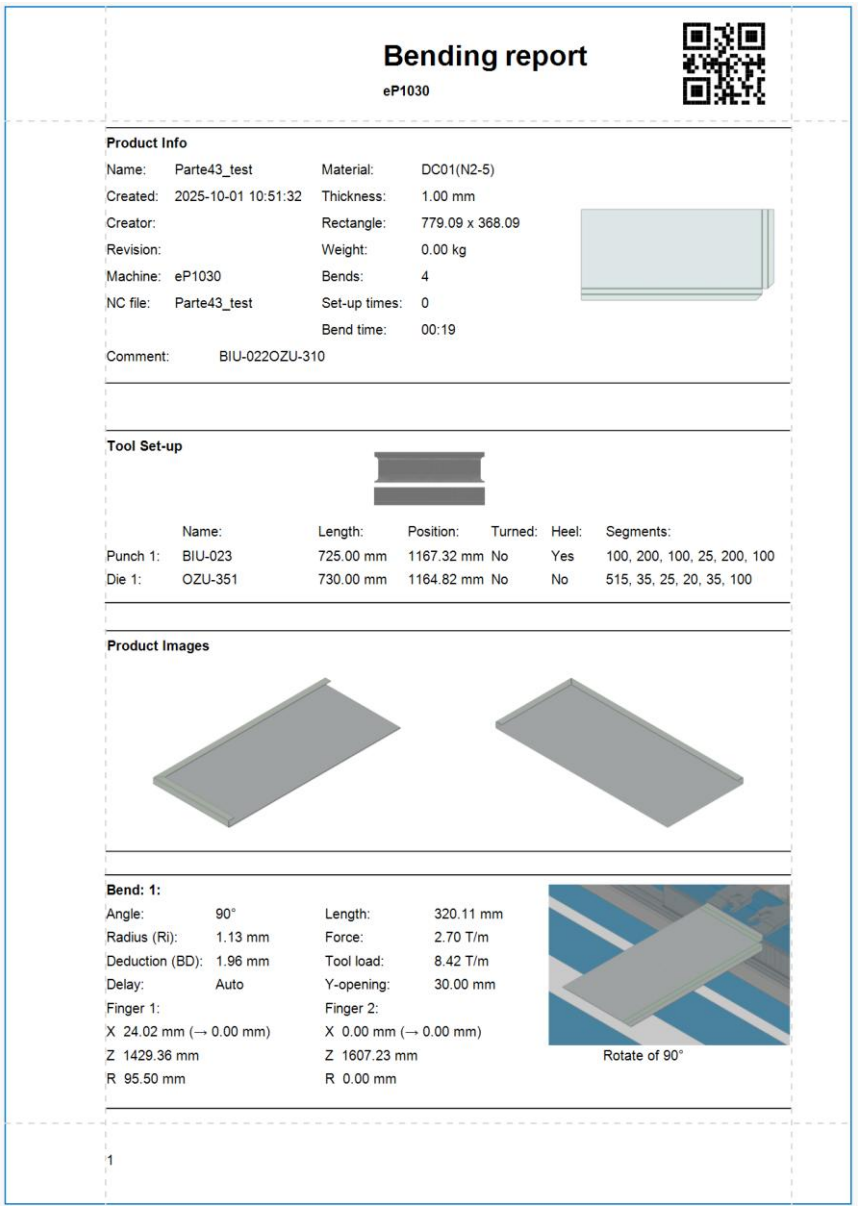
Parametric Stretch can be combined with Cell Porting.

You can use the ***Keep original tooling*** option to change the part dimensions without changing the tool station dimensions.



Outputting a PDF report of the program

You can generate a report of your program in PDF format. The report contains information describing the program's bending sequence, the required machine tool compositions and other useful details.



Bending report

eP1030

Product Info

Name:	Parte43_test	Material:	DC01(N2-5)
Created:	2025-10-01 10:51:32	Thickness:	1.00 mm
Creator:		Rectangle:	779.09 x 368.09
Revision:		Weight:	0.00 kg
Machine:	eP1030	Bends:	4
NC file:	Parte43_test	Set-up times:	0
		Bend time:	00:19

Comment: BIU-022OZU-310

Tool Set-up

	Name:	Length:	Position:	Turned:	Heel:	Segments:
Punch 1:	BIU-023	725.00 mm	1167.32 mm	No	Yes	100, 200, 100, 25, 200, 100
Die 1:	OZU-351	730.00 mm	1164.82 mm	No	No	515, 35, 25, 20, 35, 100

Product Images

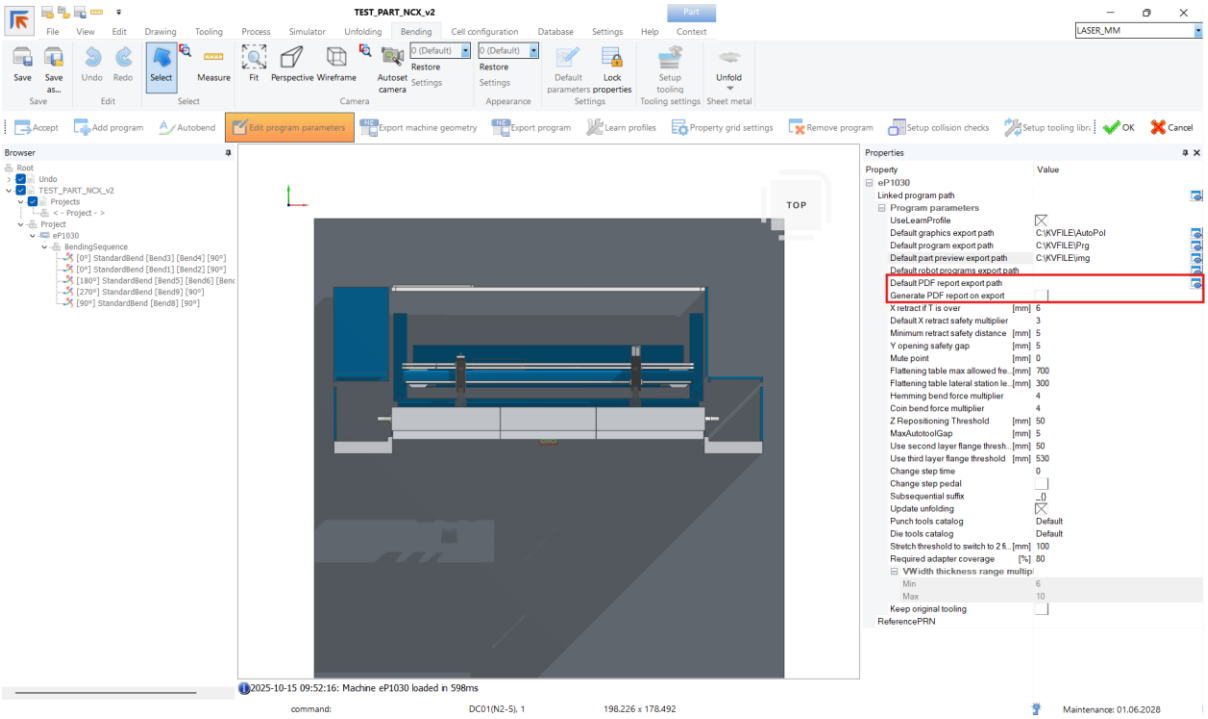
Bend: 1:

Angle:	90°	Length:	320.11 mm
Radius (Ri):	1.13 mm	Force:	2.70 T/m
Deduction (BD):	1.96 mm	Tool load:	8.42 T/m
Delay:	Auto	Y-opening:	30.00 mm
Finger 1:		Finger 2:	
X 24.02 mm (→ 0.00 mm)		X 0.00 mm (→ 0.00 mm)	
Z 1429.36 mm		Z 1607.23 mm	
R 95.50 mm		R 0.00 mm	

Rotate of 90°

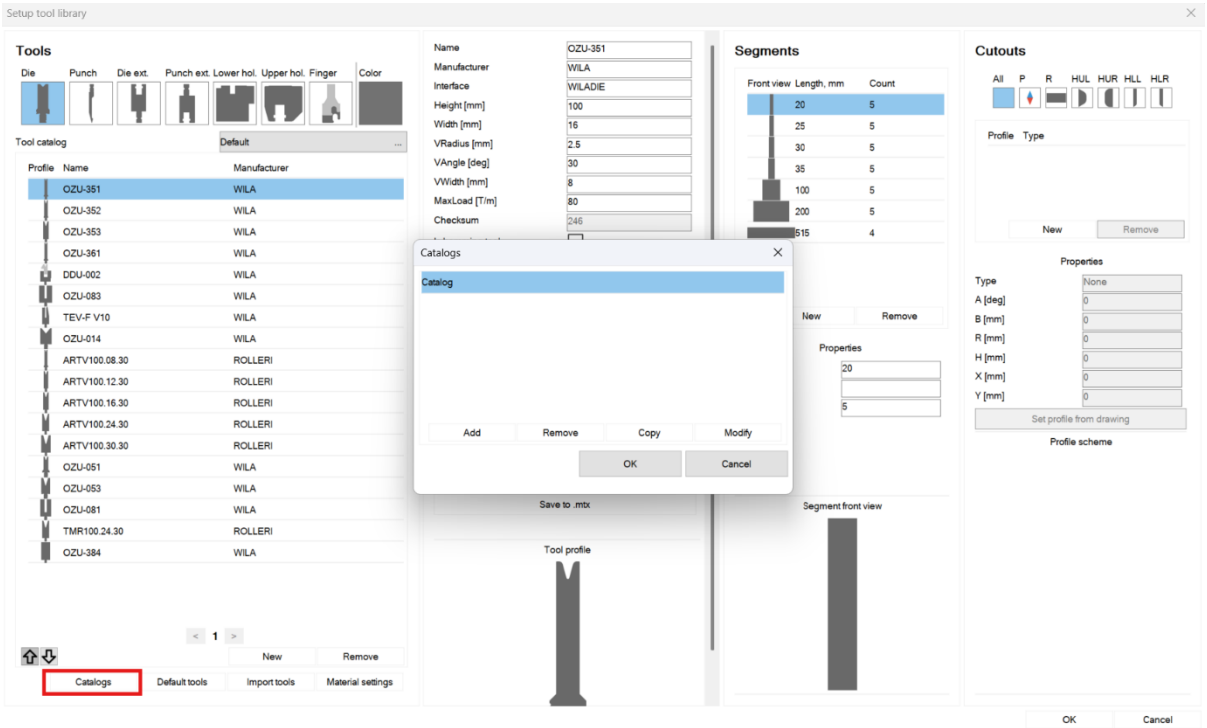
1

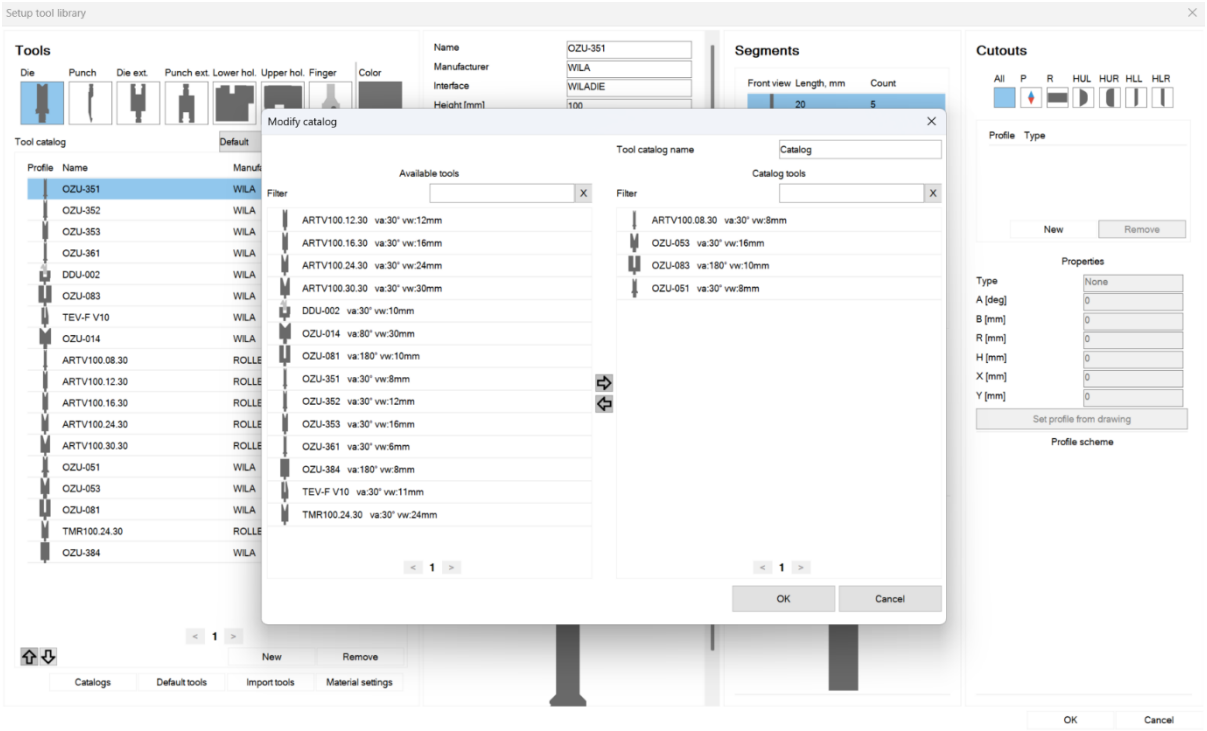
The report can be inspected using the ***View report*** command. The report can be generated upon accepting the bending program by enabling the ***Generate PDF report on export*** parameter. The default destination path for the generated report can be set by overriding the ***Default PDF report export path*** parameter.



Possibility to construct catalogs from the tool library

You can now define tool catalogs with tools from your tool library. You can create catalogs for punches, dies, punch extensions and die extensions.

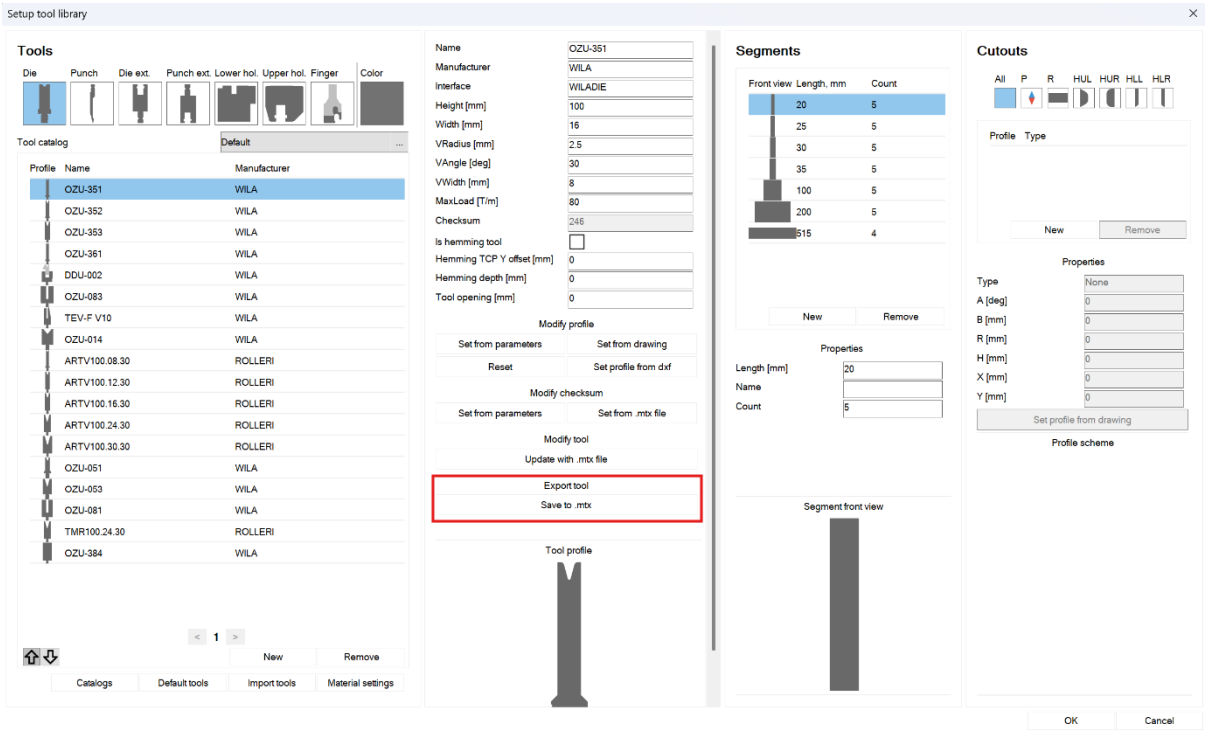




After defining catalogs, you can specify which one is to be used from the Cell/Default Program/Program parameters using the relevant fields. The default catalog contains all the tools from the tooling library.

Exporting pnz and mtx files from the setup tool library

Punch and die tools can now be exported independently using the ***Save to .pnz*** and ***Save to .mtx*** functionalities from the ***Setup tool library*** view.



LASER

Time estimation enhancements

The Tulus time calculation module now includes improved estimations for gas consumption, specifically for ET, RT and SMT nozzles.

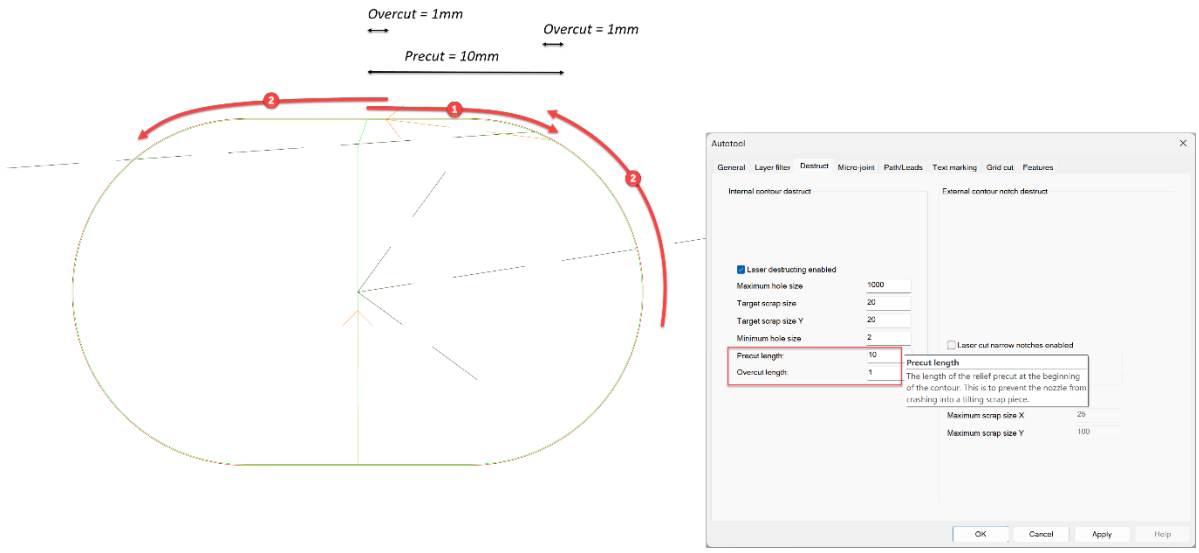
Additionally, PSR robot sorting times are now estimated and can be displayed in the ***Sheets*** list by enabling the ***Sorting time*** column (see page 28).

Laser destruct enhancements

Two reliability enhancements have been implemented for laser destruct cutting when ***Reduce piercing*** is enabled under ***Settings - Options - Autotool***:

- Pre-cut on contour cuts
- Alternate swath direction on horizontal cuts

These improvements are designed to minimize the risk of collisions with tilting scrap pieces. ***Precut length*** and ***Overcut length*** distances can be adjusted in the ***Autotool*** – ***Destruct*** dialog.



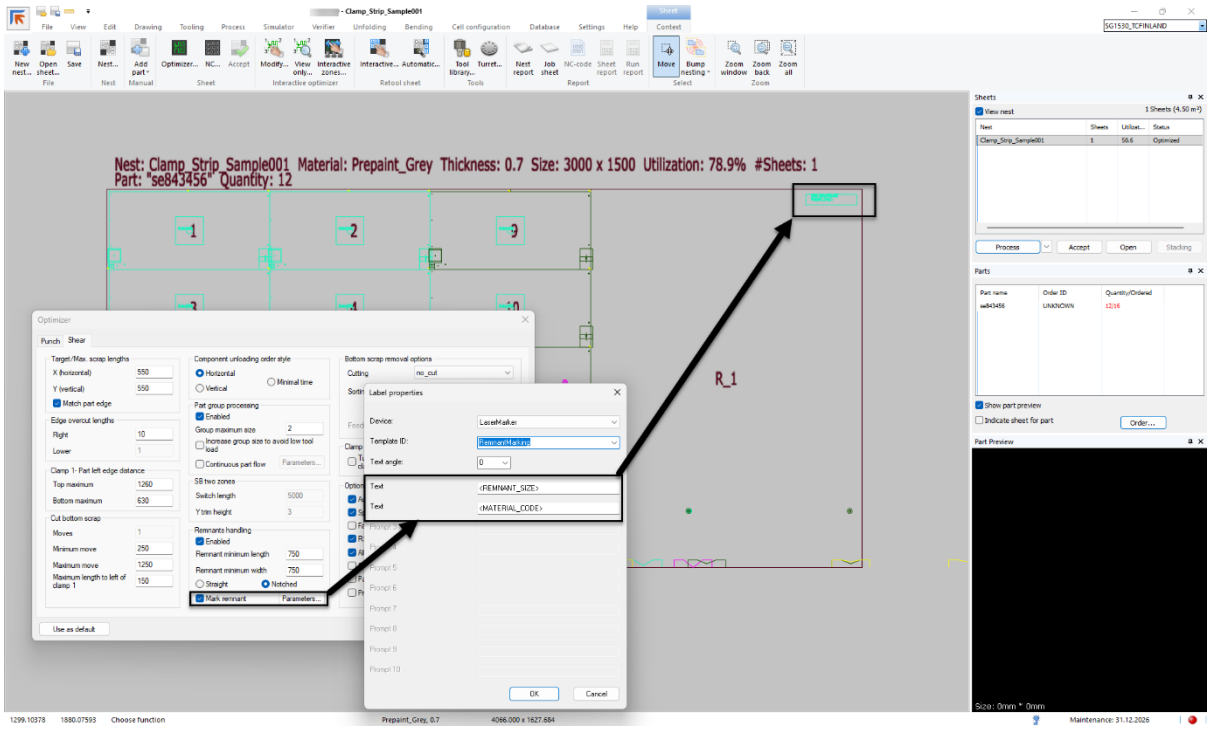
PUNCH-SHEAR

Remnant marking with an external marking device

Remnant marking with an external marking device can utilize the same device configuration and templates as regular part marking. However, only a limited set of reserved words is supported. The available reserved words for remnant marking are listed in the following table.

<REMNANT_SIZE>	Size of the remnant in format “width x height”
<SHEET_ID>	ID of the sheet from which the remnant is created
<THICKNESS>	Material thickness
<MATERIAL_CODE>	Material code
<LENGTH>	Size of the remnant in X direction
<WIDTH>	Size of the remnant in Y direction

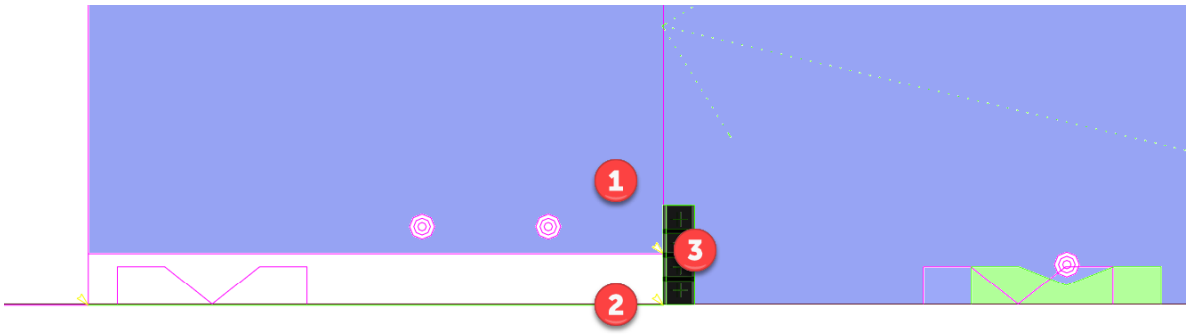
Remnant marking is activated from the optimizer. Activate Mark remnant checkbox and select from the Parameters dialog which label template is used for remnant marking. You need to add the remnant marking template to the .INK file in the LIB directory.



Detecting shear slugs on the sheet bottom

A reliability issue has been addressed where a punch nibble on the sheet bottom could open the bottom too early, causing an uncontrolled release of shear scrap (#2).

The software now detects this situation and automatically delays such punch hits (#3) until after the shear scrap hit (#2), ensuring a controlled and safe release process.

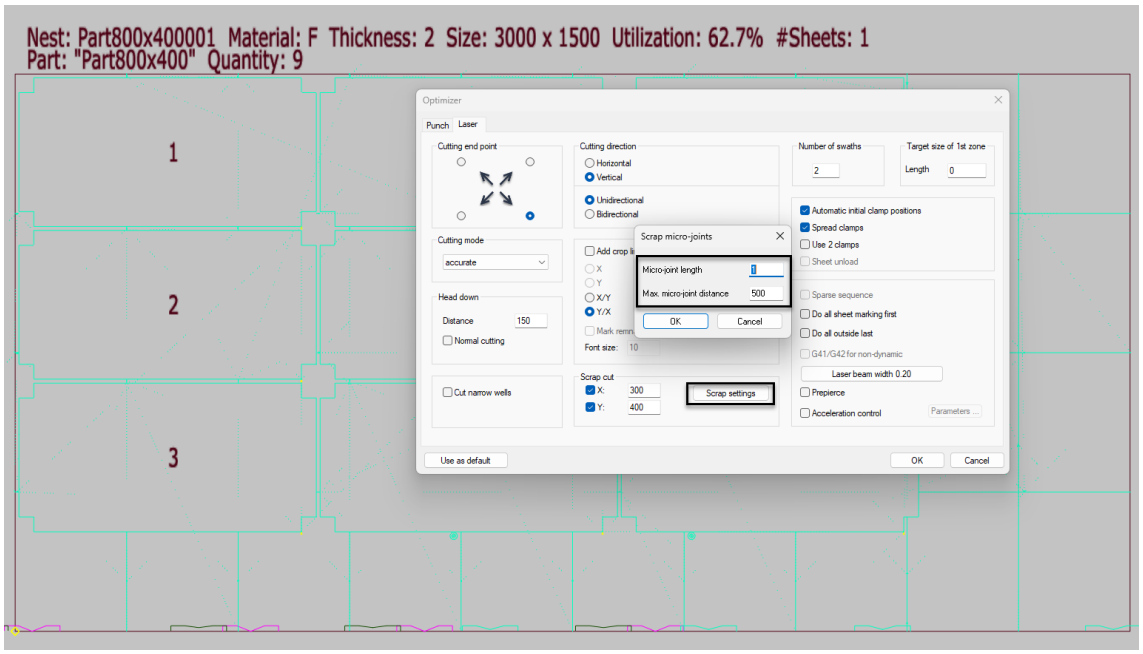


LASER-PUNCH

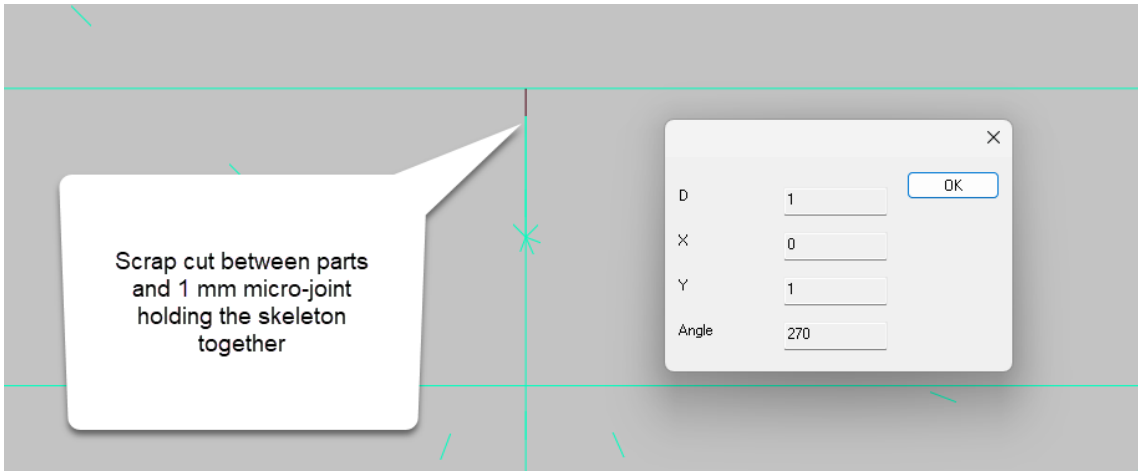
Automatically added laser scrap cuts that weaken the skeleton

Automatic scrap cuts that weaken the skeleton is a new functionality that helps skeleton handling by cutting it to smaller pieces and leaving the micro-joint to keep the skeleton in one piece.

Optimizer has new settings for setting the micro-joint length and maximum micro-joint distance.



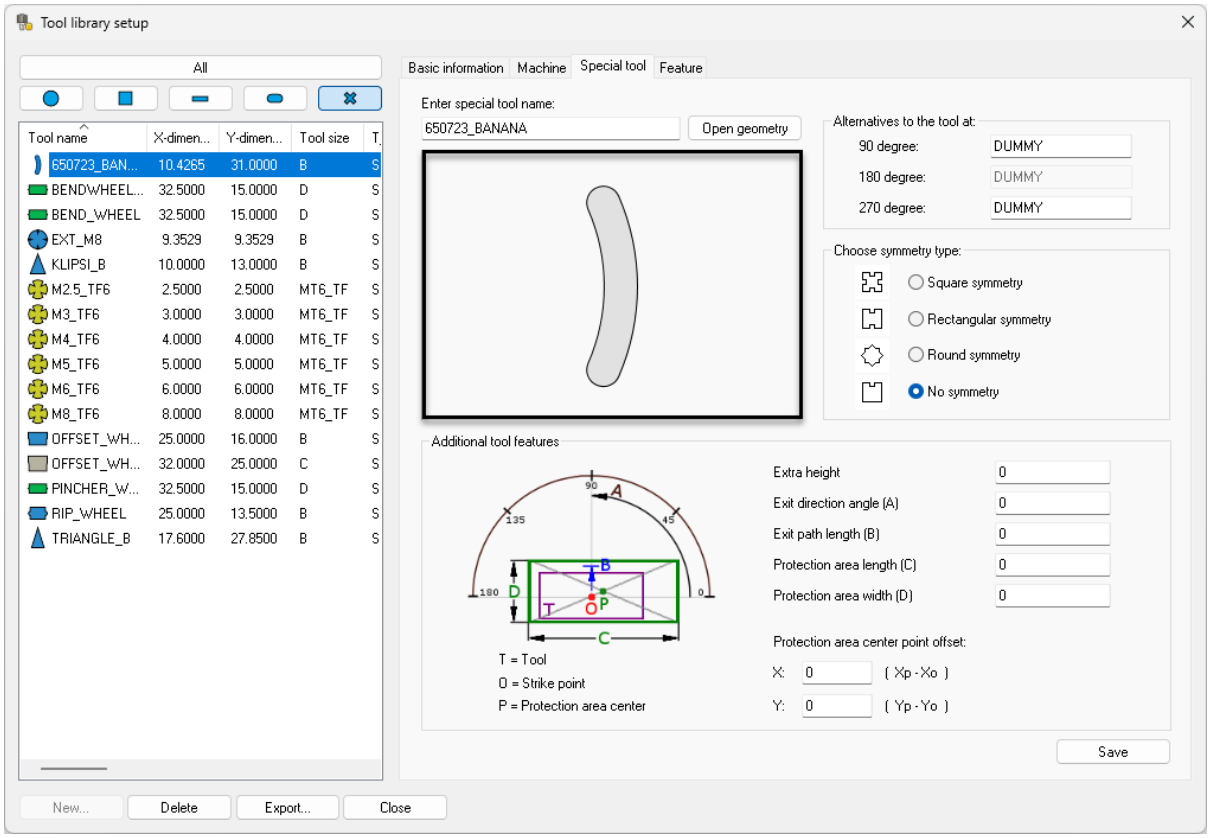
The result after optimizing is the 1 mm micro-joint in each scrap cut, which keeps the skeleton together.



Other usability enhancements

Special tool shapes shown in the tool library

The shapes of special tools are now shown directly in the Tool library setup – Special tool tab. It helps the user to recognize the tool easily. The dialog's old functionalities are also rearranged to give room for the shape window.



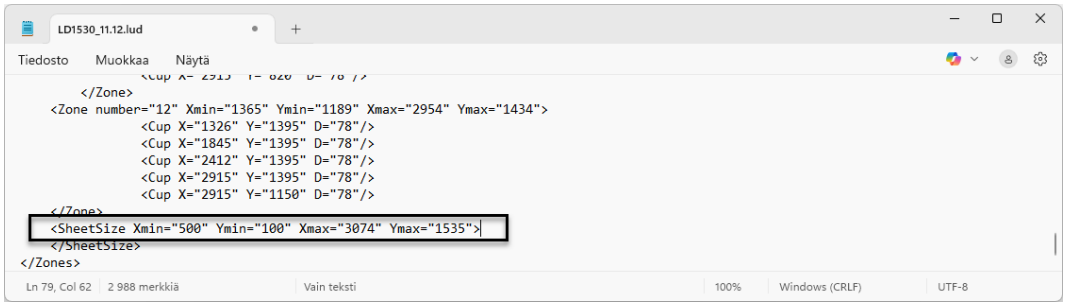
Filtering sheet sizes by machine sheet size limitations

Nesting sheet sizes are now automatically filtered based on the size limits defined in the loader configuration file (.lud) located in the LIB folder. NC Express recognizes both Loading Device (LD) and Compact Express (CE) as valid loaders.

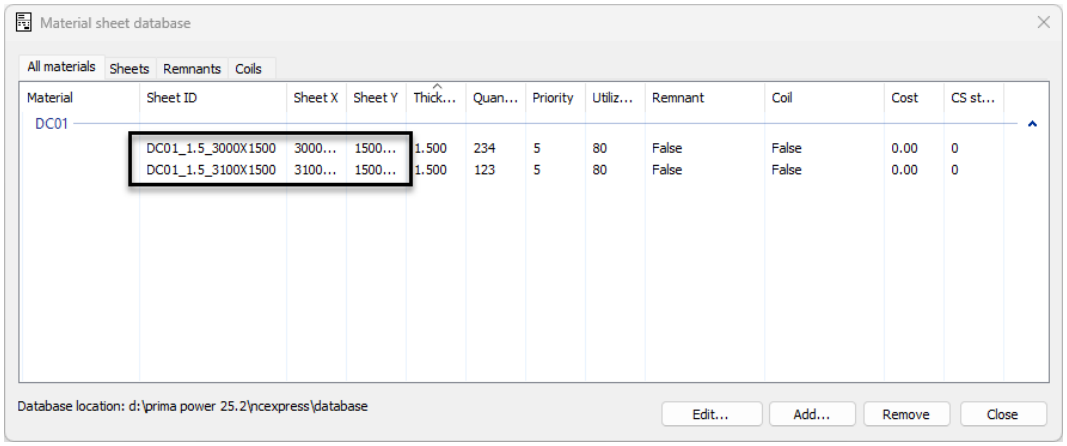
Any sheet size that falls outside the defined minimum and maximum values is excluded from the available sheet list.

This feature ensures that order-based automatic production uses only sheet sizes compatible with the machine, improving reliability and reducing errors.

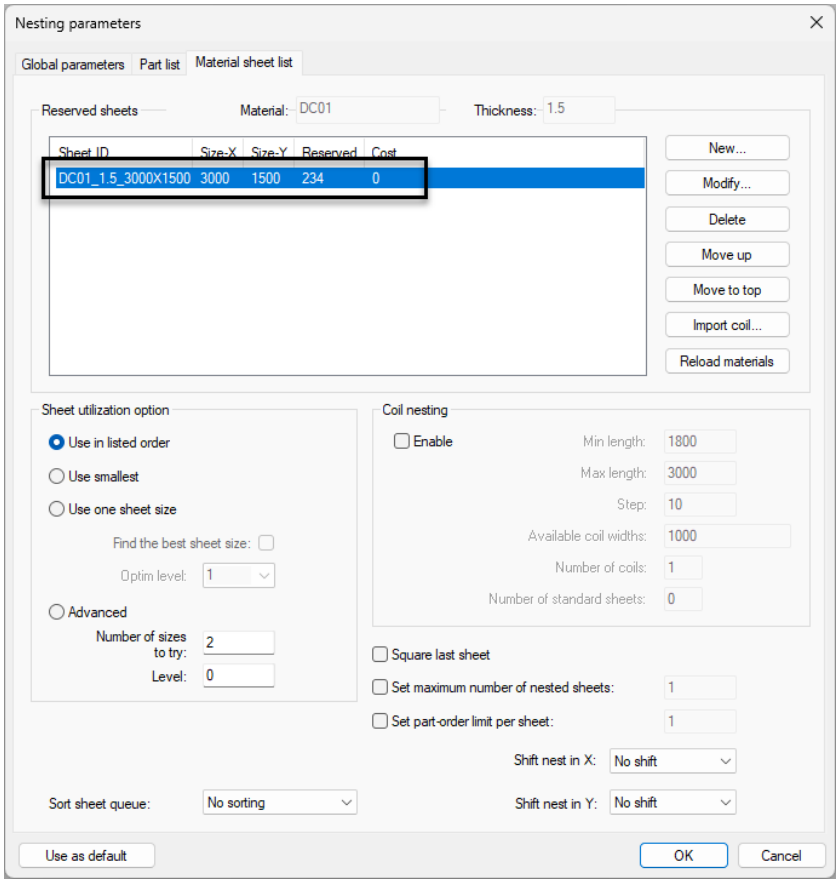
Example: Lud-file has Xmax=3074 set for maximum X size.



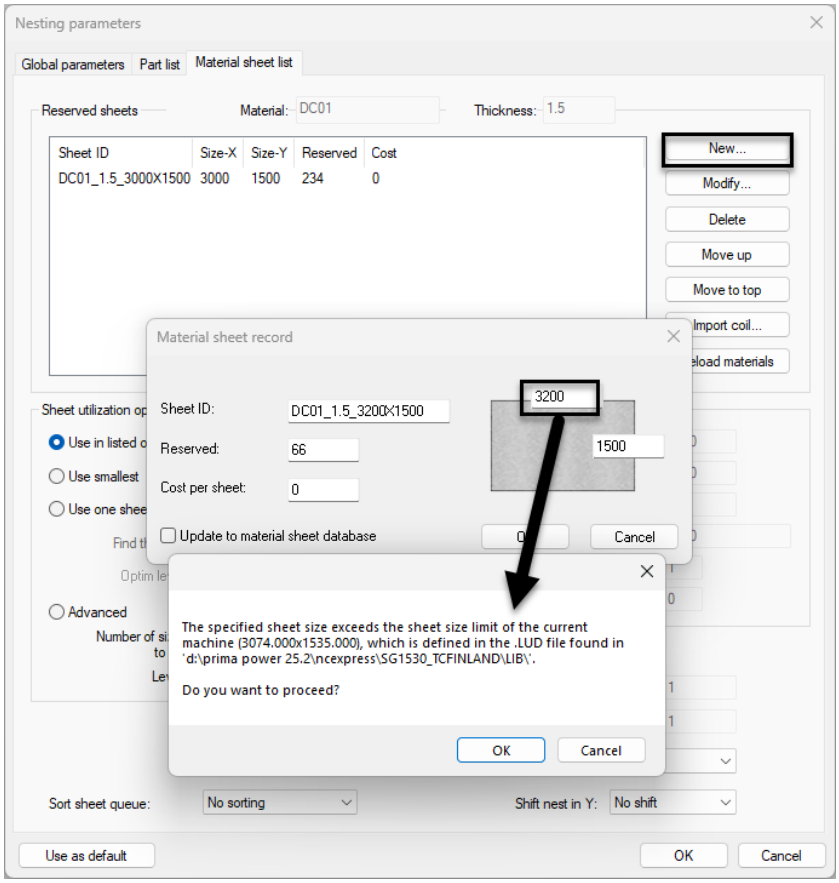
Sheet database has two sheet sizes X3000 and X3100:



When creating a new nest, the system selects only the smaller sheet because the larger one exceeds the Xmax limit.



The nesting dialog now checks new sheet sizes and shows a warning if they are too big or small.



Time calculation indicator

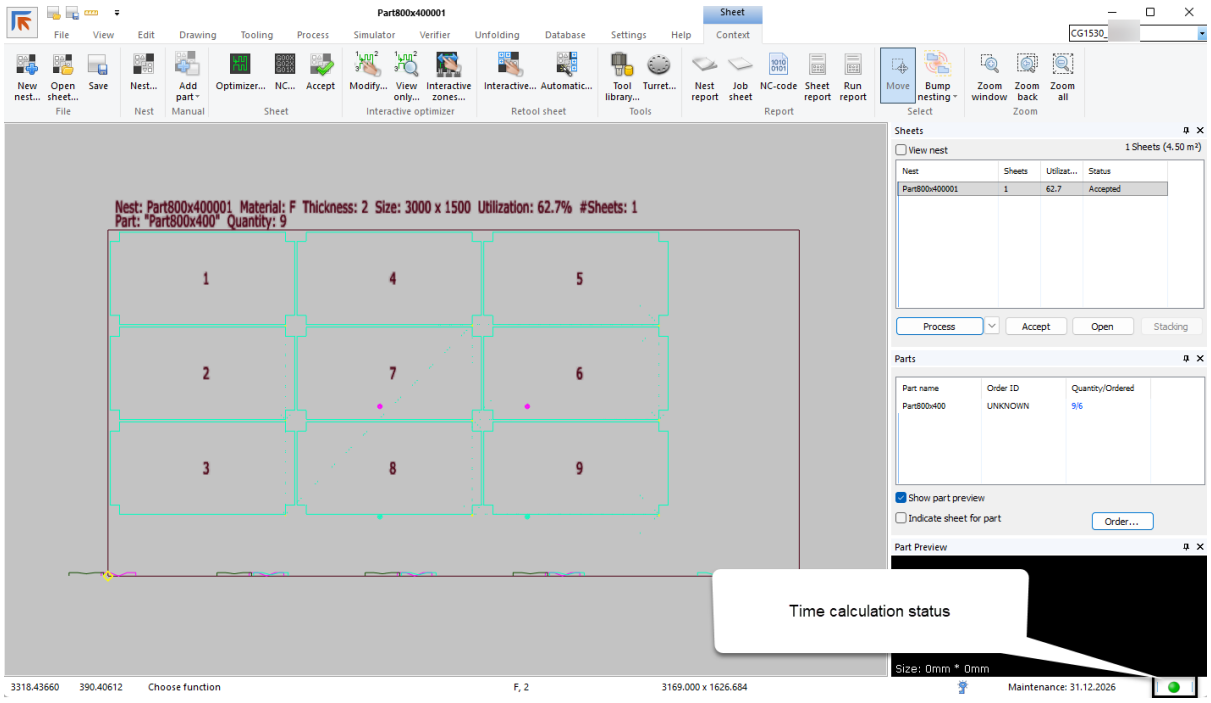
Tulus time calculation status indication is shown with different colors in the bottom right corner of NC Express.

Green: The connection to the machine is working and all configured files are reachable from the machine. Time calculation is fully functional including the connection to configured remote paths.

Red: The connection to some of the needed files is broken. The details can be found from the TimeCalcUpdateDiagnostic.xml file. Time calculation can be functional even if remote paths to the machine are broken.

Grey: The time calculation is set off from machine settings or from Settings – Options.

Yellow: Status update is active.

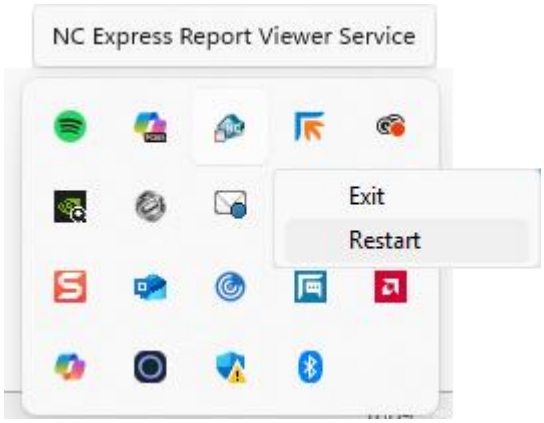


Performance improvement in reports

The NC Express Report Viewer now operates as a background process, improving overall performance. The viewer is automatically launched when required, which significantly speeds up PDF report generation and ensures faster display of reports.

You can monitor the background process status via the Windows system tray. In the Task Manager, the process appears as:

`NCX_ReportViewer.exe`

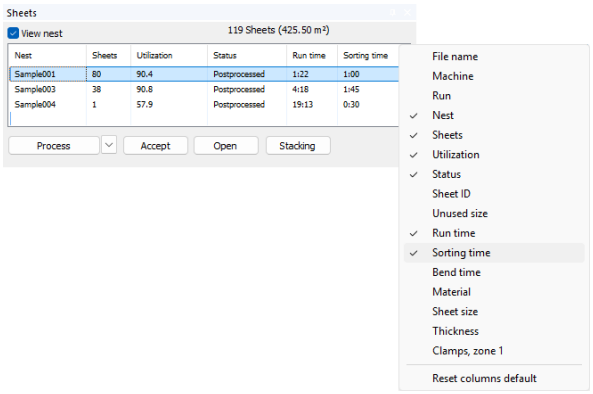


Sorting time as a column in the sheets list

Nest Explorer now includes a dedicated column for **Sorting Time**, allowing users to easily compare **cutting time** and **unloading time** before generating reports. Post processing phase evaluates these times.

To display the Sorting Time column:

1. **Right-click** on the column headers in Nest Explorer.
2. Select **Sorting Time** from the context menu.



Order database with Tulus Office enhancements

"Completed" tab visualization when the Tulus Office order database is configured

When **Tulus Office** is enabled, a new **Completed** tab becomes available in the **Order Database**.

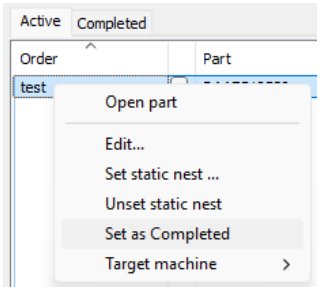
- The **Active** tab displays all **nestable part orders:** orders that are ready for the nesting phase.
- The **Completed** tab shows all **nested part orders**: orders for which the nesting phase has been successfully completed within Tulus Office.

"Set as Completed" command for Tulus Office orders

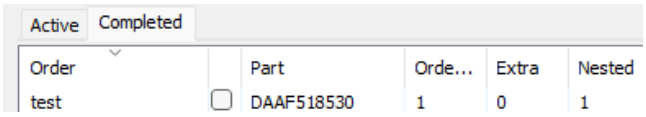
Even if only a subset of parts has been produced, the order can still be manually closed—for example, when all required material sheets have been consumed on the real machine.

To manually complete a part order:

1. Go to the **Active** tab.
2. Right-click on the desired part order (multiple selection is supported) and select **Set as Completed** from the context menu.



3. The selected part order(s) will move to the **Completed** tab.



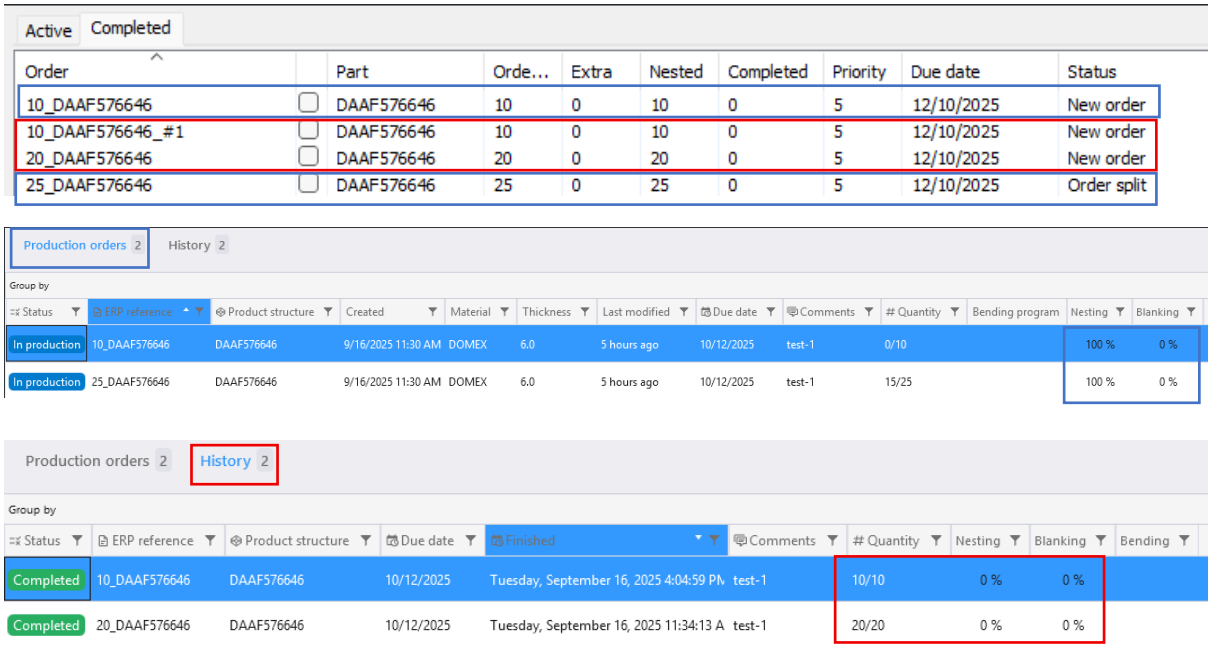
In Tulus Office, the nesting phase will be automatically closed, and any missing parts will be marked as *skipped*.

If all parts in the part order are skipped, Tulus Office will also automatically close the **Blanking** phase.

Example overview:

- **Fully produced order:** 10_DAAF576646
- **Partially produced order, then manually closed:** 25_DAAF576646 Tulus Office keeps these in the production list to continue with the blanking phase.

- **Orders completed without production:** 10_DAAF576646_#1 and 20_DAAF576646
  Tulus Office moves these to the **History** tab, as all parts are skipped and no blanking is required.

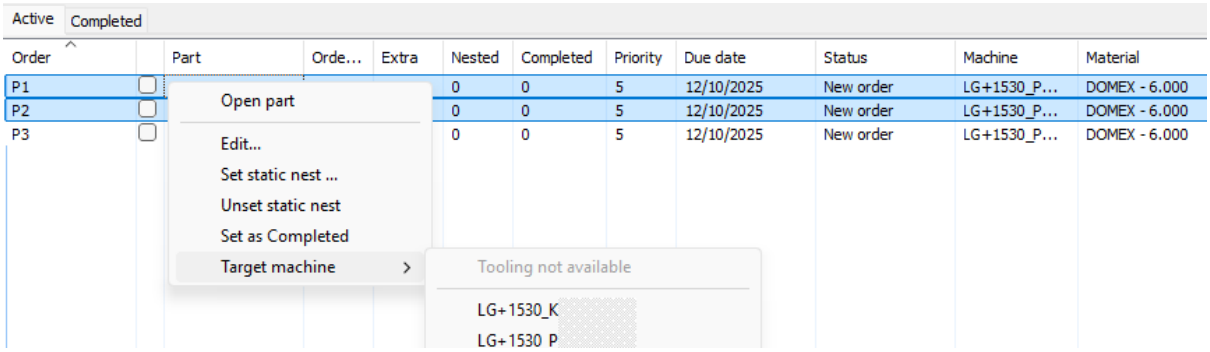


Changing the target machine of Tulus Office orders

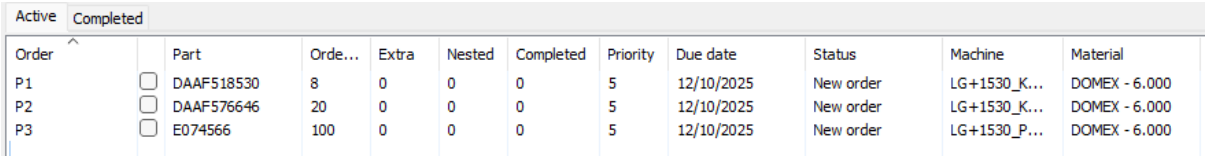
You can now define tooling and nesting on a different machine than the one originally assigned in the part orders of Tulus Office.

Steps:

1. Go to the **Active** tab.
2. Right-click on the desired part order (multiple selection is supported) and choose **Target Machine** from the context menu.
   A list of configured machines will appear. Select the desired one.



3. The **Machine** column will be updated. Tooling and nesting will be scheduled in NC Express for the newly selected machine.



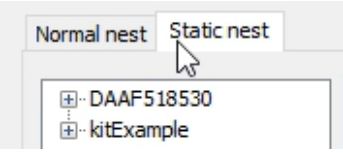
Note: Tulus Office will not update the order data until the acceptance phase is completed.

Manual assignment of NC Express static nests to Tulus Office orders

This feature allows users to manually assign a **static nest**, previously defined in **NC Express**, to one or more part orders of **Tulus Office**. This is useful when you want to reuse optimized nestings for specific parts.

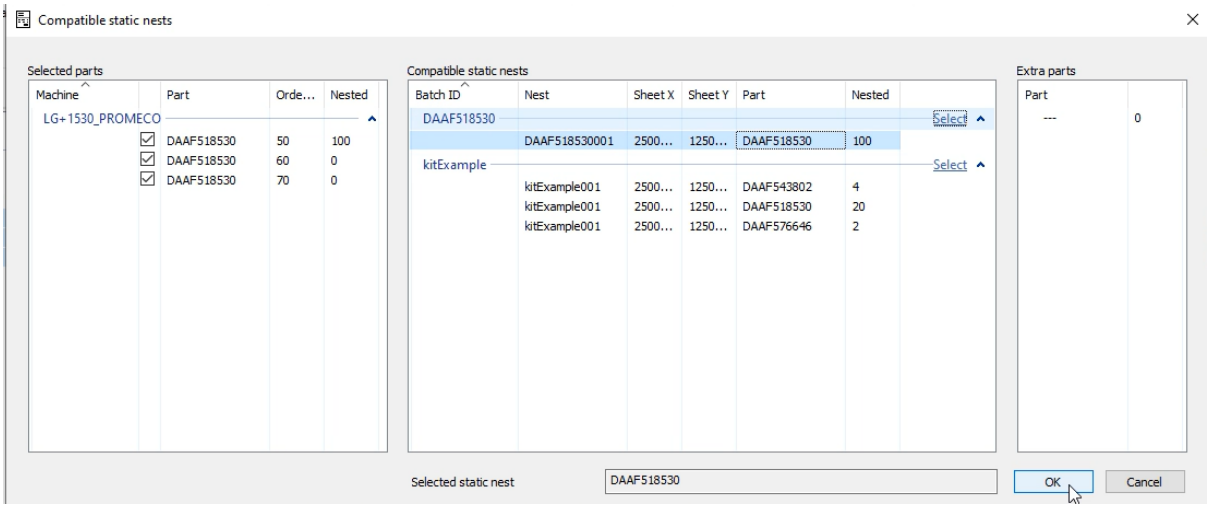
How it works (example):

Let us say there are two static nests for the part DAAF518530 stored in Nest.mdb within NC Express.



1. Open the **Active** tab in Tulus Office.
2. **Right-click** on the desired part order (multiple selection is supported).
3. From the context menu, choose ***Set static nest…***

4. Select a compatible static nest from the list and click **OK** to confirm.



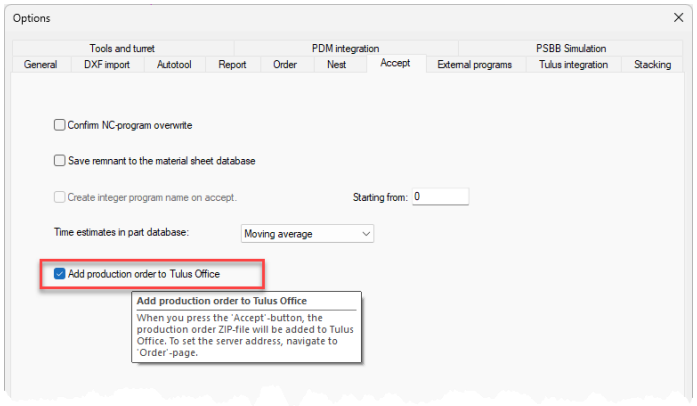
5. The selected static nest will now appear in the dedicated column and will be used during the nesting process.

Material	Order		Part	Orde...	Extra	Nested	Com...	Priority	Due date	Status	Machine	A..	C..	R..	Revision (part)	N..	Static nest
- 0.000																	
	test	☐	DAAF518530	1	0	0	0	5	08/05/2025	Incorrect material	LG+1530_PRO...				28.02.2022 15:19		
DOMEX - 6.000																	
	Test_static_toSet_50	☑	DAAF518530	50	0	0	0	5	12/10/2023	New order	LG+1530_PRO...				28.02.2022 15:19		DAAF518530
	Test_static_toSet_60	☑	DAAF518530	60	0	0	0	5	12/10/2023	New order	LG+1530_PRO...				28.02.2022 15:19		DAAF518530
	Test_static_toSet_70	☑	DAAF518530	70	0	0	0	5	12/10/2023	New order	LG+1530_PRO...				28.02.2022 15:19		DAAF518530

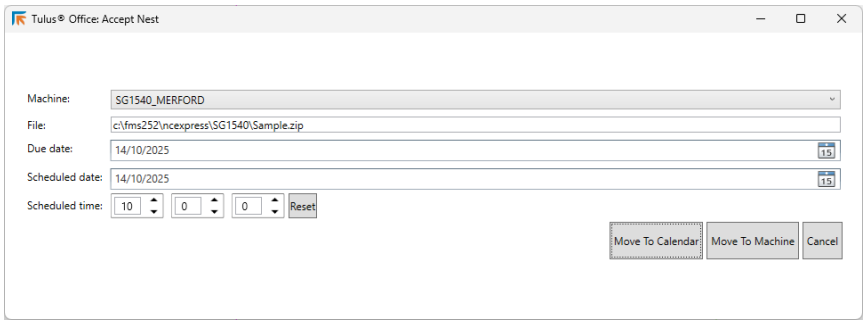
Adding production order to Tulus Office

You can now easily add a newly created **production order ZIP file** directly to **Tulus Office**.

1. Go to ***Settings - Options - Accept*** and activate ***Add production order to Tulus Office***.
2. On the ***Order*** page, make sure to set the ***Tulus Office server IP address***.



When this option is enabled, pressing the **Accept** button will open a small dialog that allows you to **add the task directly to either the machine calendar or the work queue**.



Windows support

NC Express 25.2 supports operating systems from Windows 7 and Windows Server 2012 up to the latest versions of Windows 10 and Windows 11.

This is the last release available in both 32-bit and 64-bit builds. The upcoming **NC Express 26.1** will be available **only as a 64-bit** version.

Note 1: If you upgrade an existing installation from 32-bit to 64-bit and your system uses customized report templates, you will need to recreate those templates for the current reporting system.

Note 2: If you have software integrated with NC Express using ParaNCX interface, please contact Prima Power before updating to 64-bit build. This concerns applications such as Tulus Office Premium, Tulus Office Power Processing, Batch Processing and PowerPlan, among others. The integrated software will also need to be compiled in 64-bit, as well.