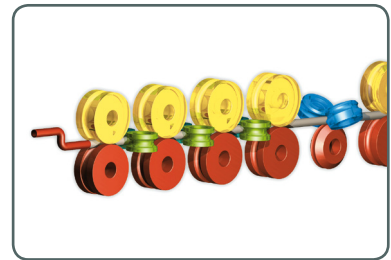
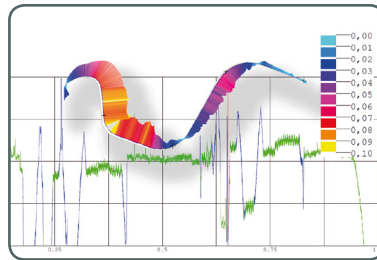


COPRA® RF 2017



Release Notes



**...COPRA® RF &
COPRA® FEA RF**
State-of-the-Art
in Design and
Simulation

Revision Control
Profile Features
Automatic Roll Adjustment
Automatic Station Sequences
SmartRoll Design
Regrind Rolls



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Dear customer,

We are pleased to present the new version of our powerful Roll Design Software – COPRA® RF 2017.

The focus of this version is clearly the interconnectedness of the solutions and components of the COPRA® product family – the keyword in that regard is for now “industry 4.0”.

The absolute highlights are of course the new “Regrind” – functionality and the possibility, to overlay designed and actual roll contour with the “AssemblyCheck” feature. This way a roll design can easily be checked for deviations and can be directly reworked if necessary:

- ⇒ Check the actual roll contour
- ⇒ Check the actual roll widths
- ⇒ Check roll positions in the assembly
- ⇒ Automatically adapt roll diameter regarding the axes

The core for the communication and the data transfer is provided by the RLM Roll Management. Both the COPRA® RF Software as well as the COPRA® RollScanner are able to directly transfer the related information to the RLM data base and make common use of that. To do so the rolls are simply transferred to the RLM data base. If a roll is going to be scanned the COPRA® RollScanner is collecting the roll contour for the comparison directly from the data base. There is no need to search and load the belonging DXF file from a network or the local disk.

On the other hand the designer is able to load the contour of a scanned roll for comparison purposes directly into the design. This makes the changes that have e.g. been applied during roll setup easily documented: the modified rolls are simply scanned and can directly replace the designed rolls.

These are of course not the only new features – there are many other useful improvements:

- ⇒ Direct import of scanned rolls into the RLM data base
- ⇒ Improved flexibility in the design of shaped tubes
- ⇒ Additional options for a better control
- ⇒ And many more...

On the following pages you can find a short summary of the most important new features and improvements.

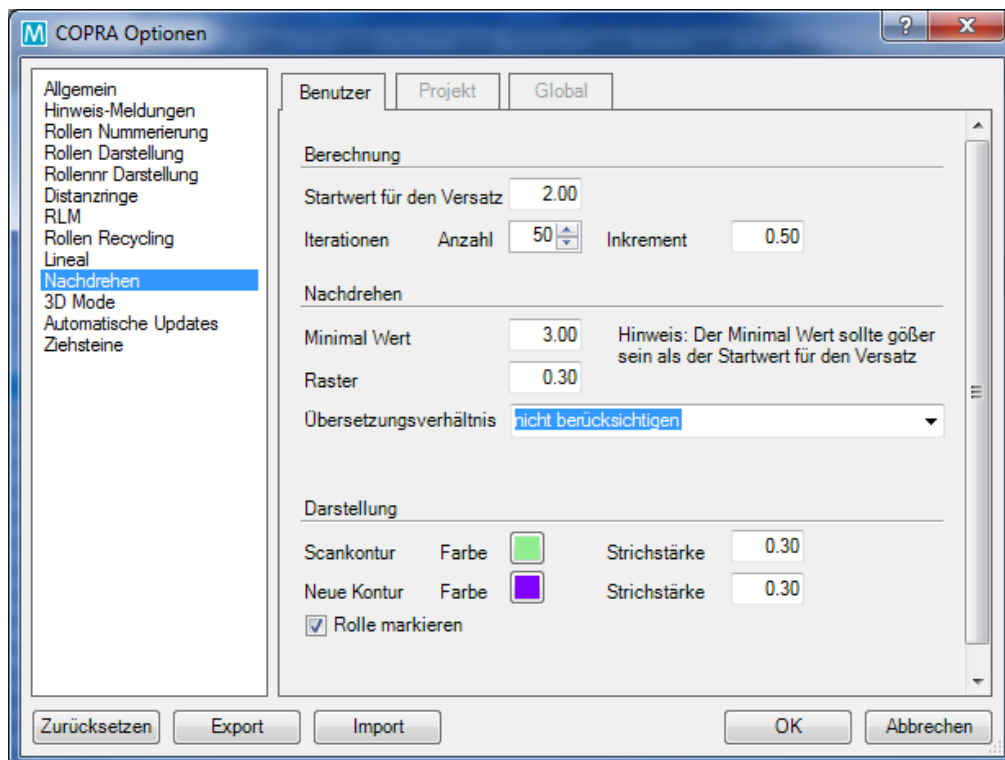
Your data M Team

Valley, 8.8.2016

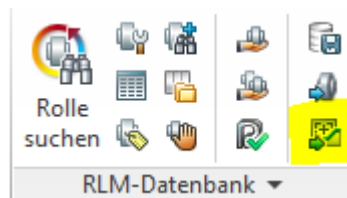
COPRA® RF 2017

1. New Common Features

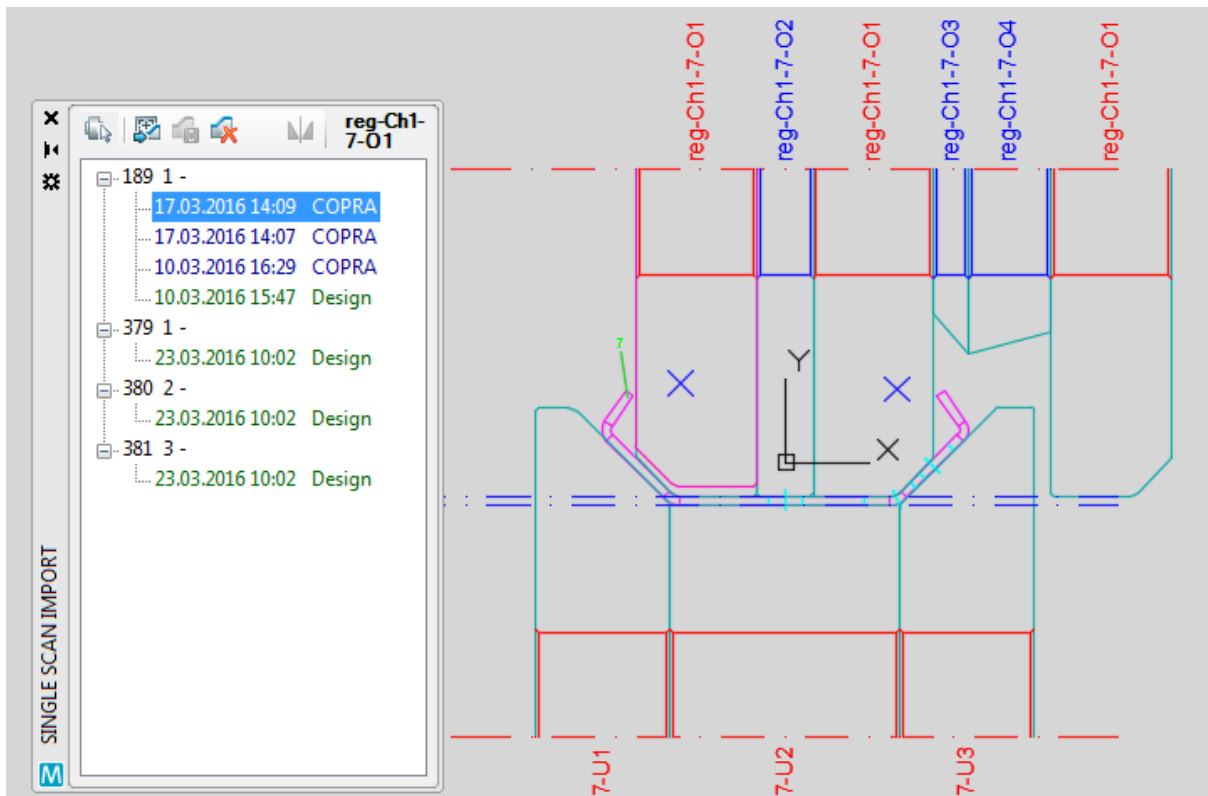
- ⇒ Accessory axes can be mirrored
- ⇒ Enhanced 3D-options – revised settings
- ⇒ Additional options



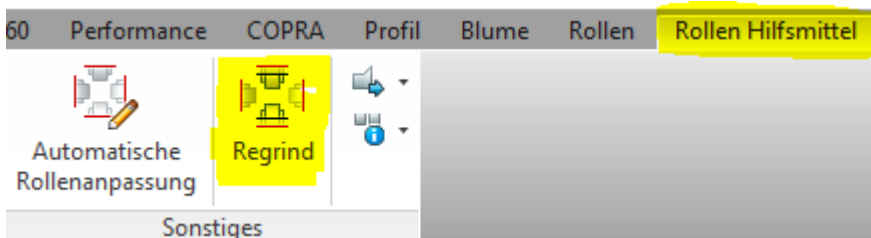
2. Scan-Import



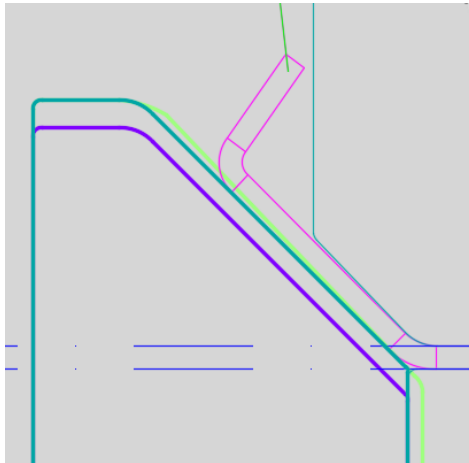
- ⇒ Display of roll scans that have been assigned to a roll
- ⇒ Assign any number of new roll scans to a roll
- ⇒ Delete assigned roll scan
- ⇒ Mirror assigned roll scan



3. Regrind functionality



- ⇒ A roll tooling is designed with COPRA® RF
- ⇒ The rolls are automatically transferred to the RLM data base
- ⇒ The manufactured rolls are scanned with the COPRA® RollScanner
- ⇒ The scanned contours are directly transferred to the COPRA® RLM data base and automatically assigned to be designed contour
- ⇒ The designed and scanned contours can directly be overlaid and compared. The identification is done via the roll number or a QR-code

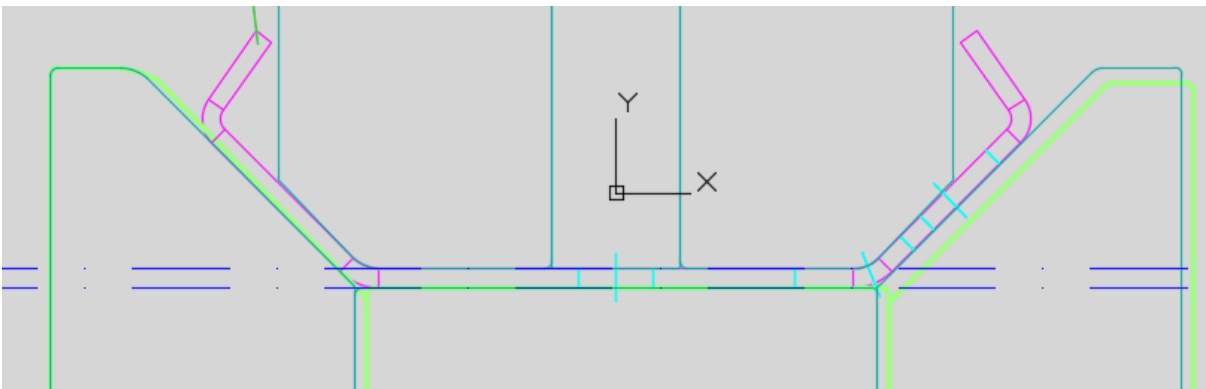


- ⇒ Any deviation of the roll width or forming radius will be instantly calculated and is immediately displayed in a table
- ⇒ The necessary change of the roll diameter can easily be determined and made visible
- ⇒ The roll with the highest wear will be used as reference for the calculation of the new roll diameter
- ⇒ The necessary change of the rolls diameter and the necessary adaption of the axes is done automatically

Name	max.Dev. Radial	max.Dev. Axial	max.Dev. Pos	Axis shift	Gear Master for ratio	gear ratio	
Deviation limits:							
6. Stich	0.00	0.00	0.00		1.40	none	
7. Stich	3.50	1.58	1.58		1.40	none	
Oberachse (6)							
Number	Dev.Radial	Dev.Axial	Dev.Pos	Shift value	Max.Ø	Breite	Pos
1	3.50	-0.05	0.00	3.60	196.00	36.29	108.47
2	2.00	0.00	-0.05	3.00	196.00	16.94	91.53
3	3.50	-0.05	-0.05	3.60	196.00	36.29	55.24
4	0.00	0.00	-0.10	3.00	110.29	10.24	45.00
5	0.00	0.00	-0.10	3.00	110.29	25.00	20.00
6	3.50	-0.05	-0.10	3.60	196.00	36.29	-16.29
Unterachse (3)							
Number	Dev.Radial	Dev.Axial	Dev.Pos	Shift value	Max.Ø	Breite	Pos
1	2.00	1.58	0.00	3.00	198.00	40.40	25.00
2	2.00	0.00	1.58	3.00	140.00	69.20	65.40
3	2.00	0.00	1.58	3.00	198.00	40.40	134.60
8. Stich	3.50	-0.05	0.00		1.40	none	

4. Assembly check of the rolls

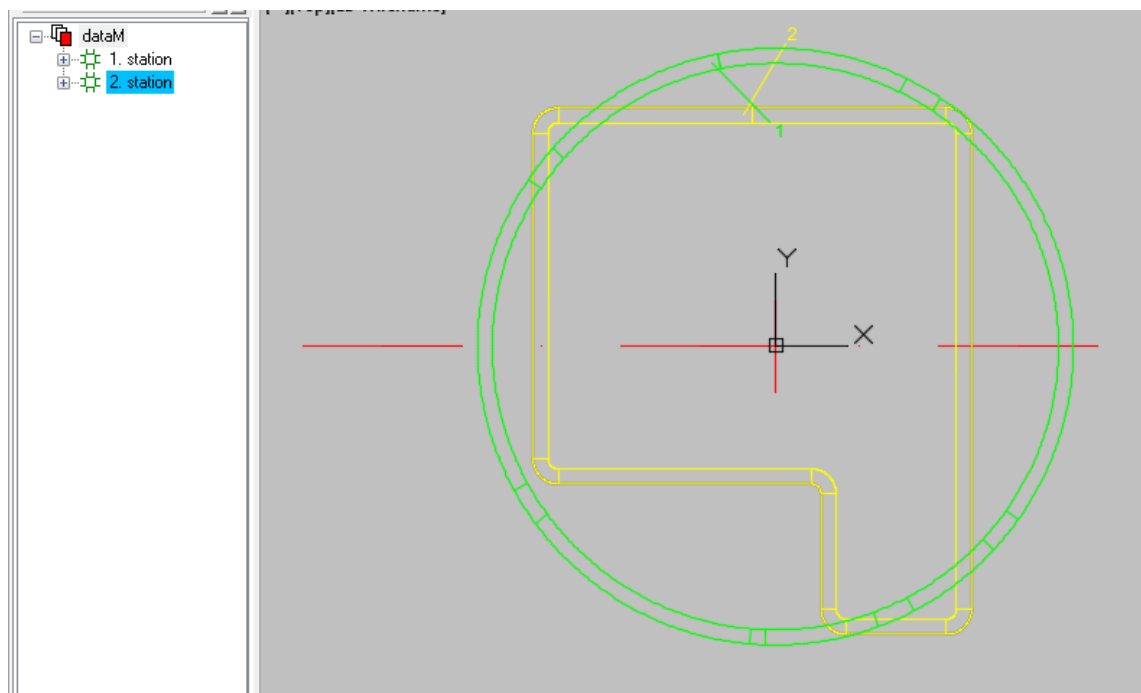
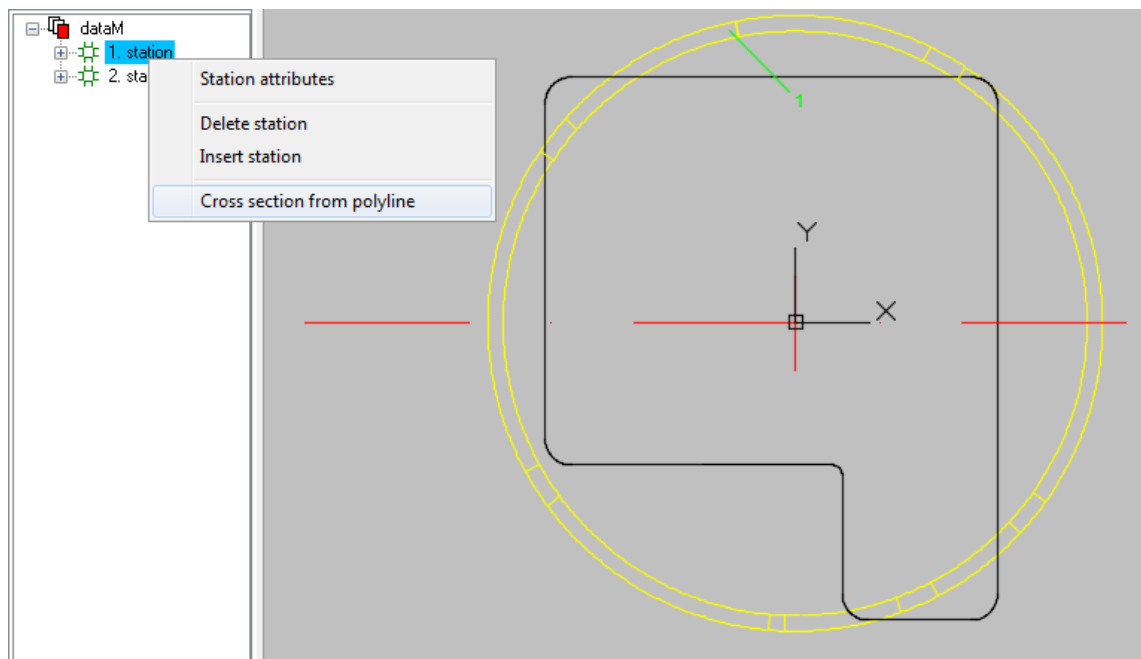
- ⇒ The first roll will be aligned with the machine side
- ⇒ All following rolls will be aligned to the previous roll
- ⇒ Detailed information about assembled roll positions are available
- ⇒ Accumulating tolerances in the roll widths may lead to wrong roll positions and are displayed



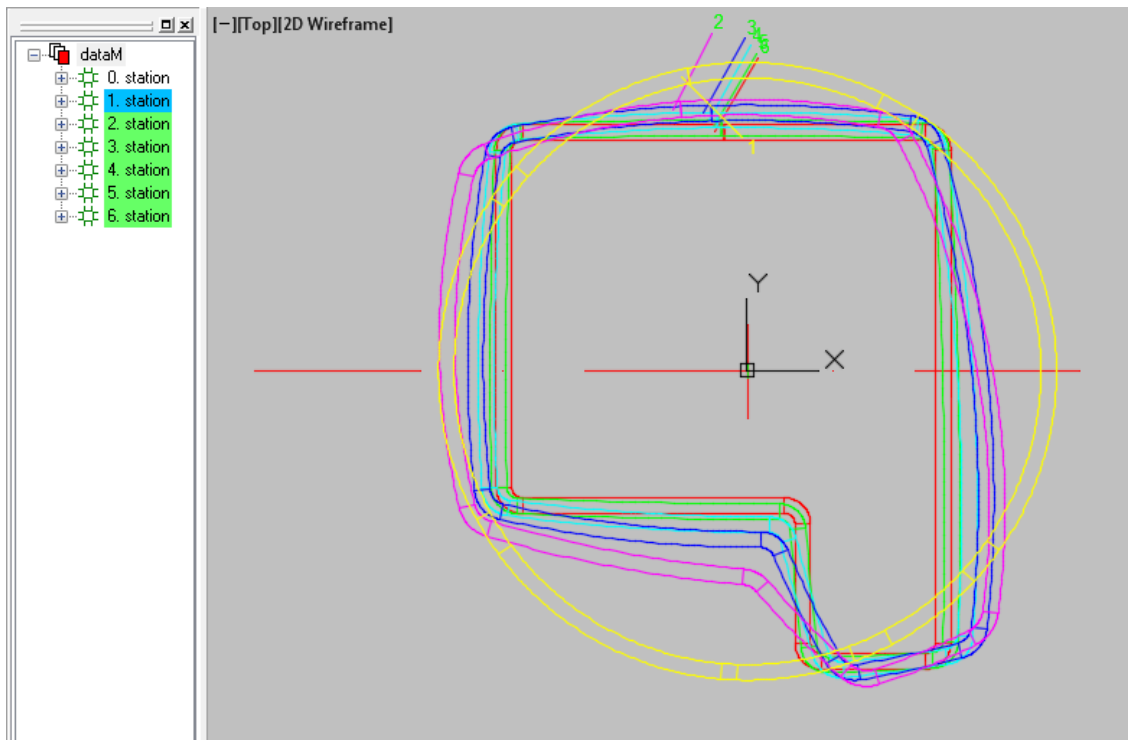
Unterachse (3)		2.00	1.58	1.58
	Number	Dev.Radial	Dev.Axial	Dev.Pos
	reg-Ch1-7-U1	2.00	1.58	0.00
	reg-Ch1-7-U2	2.00	0.00	1.58
	reg-Ch1-7-U3	2.00	0.00	1.58

5. Shaped Tubes with any cross sections

So far the takeover of geometrical data from a polyline was only possible for a COPRA® RF base profile. For non-parametric projects COPRA® RF now offers the possibility to assign a profile section from a polyline to an individual station.



This way it is very easy to define the end cross section and/or start cross section for the COPRA® shaped tube sections.



6. COPRA® Options

Following settings are now also available in the new COPRA® options:

- ⇒ Roll display: visible edges, hatch
- ⇒ Settings for 3D-mode
- ⇒ Settings for Automatic Updates
- ⇒ Settings for drawing dies

7. Downhill forming

- ⇒ Downhill-forming with constant point of gravity: the profile is now be moved in both x- and y-direction
- ⇒ After applying a downhill forming the module is reset correctly now

8. SmartRoll-Search

- ⇒ Flag for contour-search is now set automatically
- ⇒ The filter for combi rolls is taken into account now

9. SpreadSheet

The number of digits of each SpreadSheet editbox is now set to the global SpreadSheet setting

10. Roll Attributes

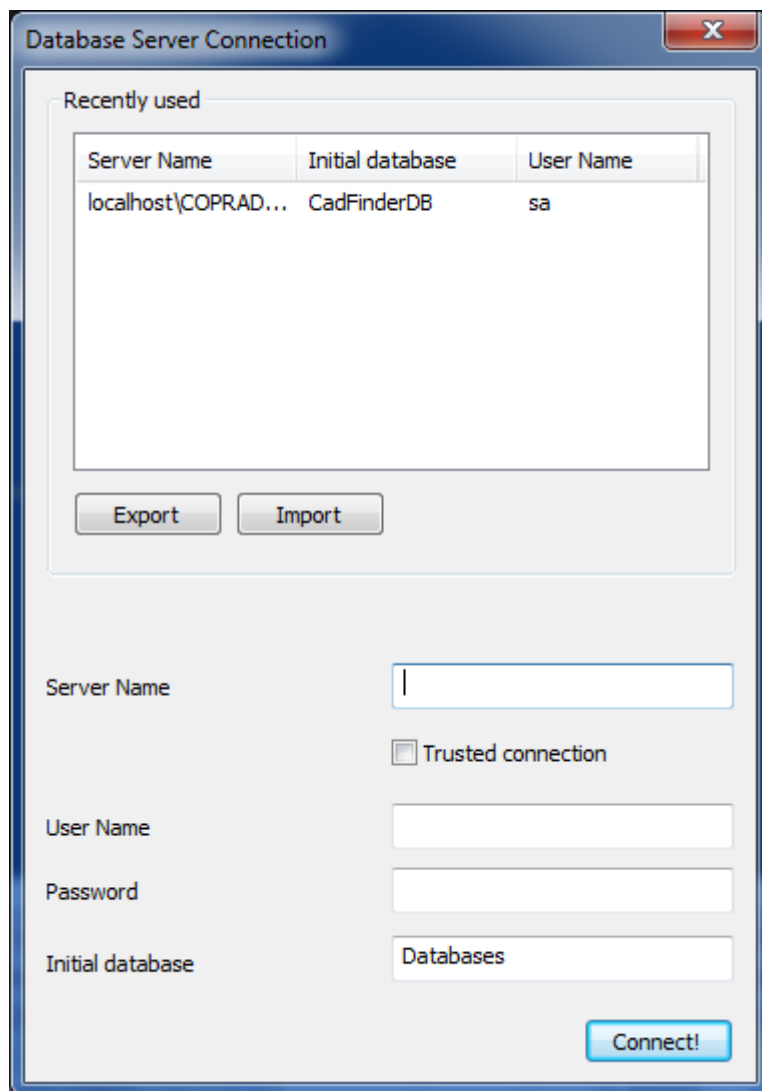
10 additional user attributes have been added

11. Single Roll Dimensioning

- ⇒ Multiple used rolls (referenced rolls):
the number of used rolls – till now added to the roll number in brackets – can now optionally be added to the drawing by an attribute
- ⇒ A filter for the creation of the roll drawings is now available for:
 - create drawing for all rolls
 - create drawing for all rolls, which are only used in the current project
 - create drawing only for private rolls (private = only used in this project)
- ⇒ With an additional option the user can select that roll drawings are only created for those rolls that have been changed

12. Database Connection (CadFinder, Roll Database)

- ⇒ Pack&Go for moving a database from one computer to another
- ⇒ New GUI for database connection: possibility to see and select all previously used connections



13. Additional language Japanese

Japanese is now available as a COPRA® language

14. Revision

Revision projects have a real read-only status now, no changes can be applied

15. BugFixes since COPRA® RF 2015 SR2.1

- ⇒ Multiple screen redraws after moving rolls with the SmartRoll function
→ fixed now
- ⇒ Error when changing the roll width of a right accessory axis in 2015 project → fixed now
- ⇒ Program crash, when a new project was created with an open hole pattern editor window in the current project → fixed
- ⇒ Sporadic error message “attribute already exists” when opening the project info dialog or when starting single roll- or assembly plan dimensioning → fixed now
- ⇒ When leaving a revision project some rolls disappeared in a few cases
→ fixed now
- ⇒ Rotating side rolls in a 2015 project: if only one side (left or right) was rotated, the other (not rotated) axis disappeared → fixed now
- ⇒ SmartRoll copy: in some cases referenced rolls were not recognized as referenced rolls → fixed
- ⇒ Converting a classic project in a parametric one: if there was an offset and a rotation between 2 profiles, the offset was lost in the converted profiles → fixed
- ⇒ Single Roll Dimensioning; drawings for referenced rolls (used more than once) were created multiple → fixed

COPRA® RF 2017 SR1

We would like to thank all of our customers who gave us some great feedback on COPRA® RF; this has allowed us to identify some additional improvement opportunities. With this unique feedback we are able to develop a focused COPRA® RF so that all users can benefit. We also would like to thank you for your loyalty as a customer and your feedback about this release.

The following commands and functions have been updated:

1. General Information

- ⇒ In the roll attributes dialog the current status of the default value is explained in the tooltip.
- ⇒ In the SmartRoll table editor the active row and column is now colorized.

2. Single roll dimensioning

- ⇒ Filtering rolls: The rolls for dimensioning can be selected by all rolls, only private rolls and only rolls used in the current project.
- ⇒ A new setting is available for creating new drawings only for rolls that were changed.
- ⇒ ToDo: Referenzen anlegen zulassen
- ⇒ For referenced (cloned) rolls:
The number of available rolls is now also available as an attribute in the title block.
- ⇒ If no prefix is set in the CadFinder settings, the hyphen in the filename is omitted.

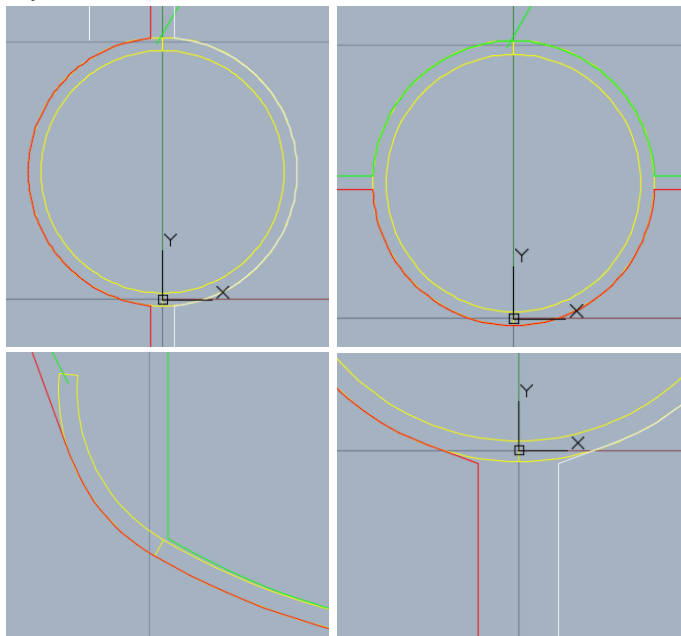
3. Sawing list

- ⇒ Filtering rolls: The rolls for dimensioning can be selected by all rolls, only private rolls and only rolls used in the current project.
- ⇒ When using the material list, a predefined width addition can be set optionally.

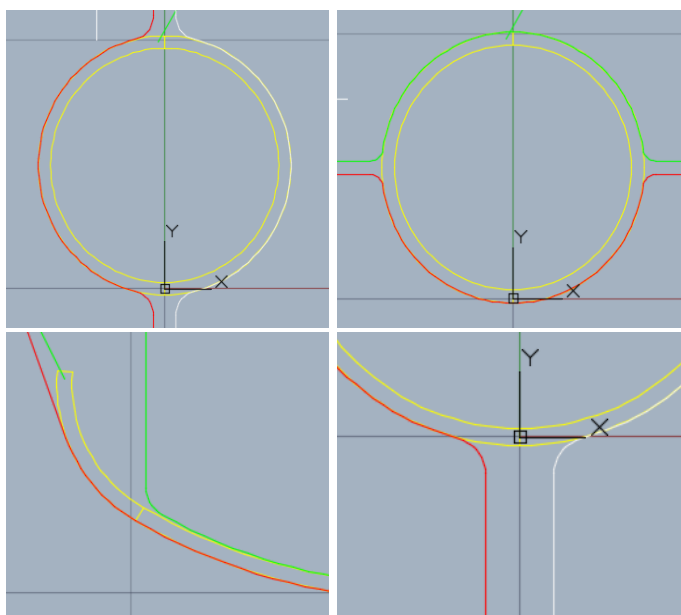
4. Tube mills

⇒ Automatic rounding of arcs across multiple roll elements is now possible.

○ Up to now:



○ Now:



5. Solved problems

⇒ CadFinder: Searching by attributes for documents didn't work correct.

⇒ Roll utils: Wrong function behind command „Resolve 1 clone in project“

- ⇒ Punched Sheet: Punching with 2D-tool was crashing if the number of stored 2D-tools exceeded a special size.
- ⇒ Changed Copra settings were saved when a project gets saved, not directly when closing the dialog with „OK“.
- ⇒ Hardness (RC) in the title block is now written without decimal places.
- ⇒ If a revision project was active when COPRA® is initialized, an error occurred.
- ⇒ Converting a classic project into a parametric project:
If a profile had a rotation and a translation relative to the previous section, the translation was lost.
- ⇒ The column width in the SpreadSheet bending sequences dialog got always smaller by opening the dialog.
- ⇒ Spacer default attributes: Newly created spacers got the type „roll“ instead of „spacer“. After reopening the type was correctly set.
- ⇒ Single roll dimensioning: If accessory rolls are present, for „Sequence of rolls one by one“ the last roll was created twice.
- ⇒ RLM roll search: Exception occurred if the selection in the search result list was changed after a roll was inserted and not confirmed.
- ⇒ Option „Highlight rolls“: If this option was deactivated, the contour of the rolls were nevertheless highlighted and remained permanent.
- ⇒ Japanese: Parameters in parametric roll dialogs were displayed wrong.
- ⇒ Profile by CAD: Edit box for thickness was not always accessible.
- ⇒ Regrind: After changing the display mode, not all rolls were displayed correctly.
- ⇒ RLM: Wrong GUID-allocation after importing the project into the DB
- ⇒ RLM-Undo: Project was marked as not saved, even if it was saved before.
- ⇒ Edit roll attributes in table: Not all attributes could be set to default.
- ⇒ Joining rolls on a right side axis was faulty.
- ⇒ Sawing list in table: Number of rolls was not considered for calculating the total weight.

- ⇒ Spreadsheet: Joining of elements when using a polyline as profile sent errors.
- ⇒ Single roll dimensioning: Dimensions of the bore was missing at top and bottom rolls.
- ⇒ Inventor/SolidWorks-Interface: Creating the profile is improved.
- ⇒ Spreadsheet: Decimal places of all editor boxes is now set to the defined value.
- ⇒ SmartRoll Move: Redrawing is improved.
- ⇒ Free designed rolls: Adding a contour is improved to avoid occasionally crashes.
- ⇒ Free designed rolls: Orientation of the radii was wrong when adding a contour to a bottom roll.
- ⇒ Adjust driving diameter: Stock rolls were changed without asking for permission.
- ⇒ Spreadsheet: Warnings for strip width calculation methods are now only shown in the element where the calculation method is set.
- ⇒ Roll representation: If a retaining ring in the right bearing is set, a part of the bore contour was missing and therefor the roll could not be hatched.
- ⇒ Single roll dimensioning: Drawing for referenced rolls was created for each instance of the roll.
- ⇒ FTM: Cage rolls were not displayed correctly.
- ⇒ Rectangular tubes: the position of the round tube was wrong.
- ⇒ Rolls: After changing the roll type (roll/spacer) in the roll attribute dialog or table, the roll numbers were not updated.
- ⇒ Rolls: By changing attributes of a roll, the project was not always set into the „changed, need to save“ (red disc symbol) mode.
- ⇒ Rolls: The material could not be changed by using the roll attribute table.
- ⇒ Tube mill, flowing roll: The value for „dD“ was not editable.
- ⇒ When switching from a revision to the referenced project, this was partially disrupted.
- ⇒ Rotating side rolls: If only the left or right axis was rotated, the other one disappeared.

- ⇒ SmartRoll copy: Referenced rolls where not always recognized and therefor the new inserted roll was no reference.
- ⇒ SmartRoll search: Option „Search“ was missing in the command line.
- ⇒ SolidWorks-Interface: mirrored rolls where positioned wrong.
- ⇒ Inventor/SolidWorks-Interface: Sometimes the bore was created wrong.
- ⇒ When starting COPRA®, the error message „invalid colour index“ was displayed in the command line.
- ⇒ Automatic roll adjustment: Dialog now only appears if axes are existing in the base profile.

COPRA® RF 2017 SR1.1

1. General Information

- ⇒ Inner radius 0 now allowed when importing a profile from polyline
- ⇒ SmartRolls Table Editor: better marking of the current cell

2. Solved problems

- ⇒ Rollnumbers are recalculated directly after inserting or deleting of a roll now
- ⇒ Inventor/SolidWorks-Interface: in some cases the profile could not be lofted
- ⇒ Rolls: rolls could not be hatched when retaining rings were inserted in right bearings
- ⇒ Sawing list: the number of each individual roll was not taken into account for the calculation of the total weight of the rolls
- ⇒ Highlight rolls: if the toggle “Highlight roll” was not set in the new COPRA® options, roll entities was still highlighted with line thickness 0 on the current AutoCad layer
- ⇒ Single roll dimensioning: manual definition of the reference point was not possible in all cases
- ⇒ Single roll dimensioning: if “sequence of roll” was set to “roll by roll” the last roll was not identified correctly in all cases
- ⇒ Single roll dimensioning: if “sequence of roll” was set to “roll by roll” and theCadFinder was activated, the option “same roll (again)” caused some error message because of a locked current drawing.

COPRA® RF 2017 SR1.2

1. Solved problems

- ⇒ Rounding bottom rolls at position $x = 0$ now correct
- ⇒ Hole pattern in symmetrical projects: arc on symmetry line cannot be saved as a hole pattern, 3D model cannot be generated-> fixed
- ⇒ Problems with more than 30 holes in a project -> fixed
- ⇒ SpreadSheet: Mirroring stations horizontally/vertically with a displacement: die possibly defined displacement vectors are not mirrored -> fixed

COPRA® RF 2017 SR1.3

1. General information

- ⇒ SolidWorks Interface now compatible with SolidWorks 2016 SP5 and 2017
- ⇒ Performance optimization in the following cases:
 - a) Switching roll number to fix/default in the roll attribute dialog
 - b) Closing COPRA® options dialog
 - c) Saving a project
- ⇒ "Profile from CAD" in parametric projects now with double precision
- ⇒ Drawing Dies: drawing die list reactivated
- ⇒ Drawing Dies: different proposal for new name - now "oldName(1)"

2. BugFixes

- ⇒ Converter 2013->2015: database id's from classic rolls are overtaken now
- ⇒ 3D-Mode Settings are not applied when called from the 3D-Ribbon-Panel -> fixed
- ⇒ Tube mill with 2015 project types: error message "CfRoll:: typeOf --> nEnt>MaxEnt" for certain tolltypes" -> fixed
- ⇒ Tube mill with 2015 project types: crash when changing max. sheet thickness for selected passes -> fixed
- ⇒ Info Parts: wrong mapping of info parts in some cases after deleting or inserting of stations -> fixed
- ⇒ Info Parts: inserting passes: info parts are referenced, but not copied -> fixed
- ⇒ Checkout: checked out projects are locked in read only mode -> fixed

COPRA® RF 2017 SR2

1. General information

- ⇒ compatible with AutoCAD 2018 and Inventor 2018
- ⇒ Important bug fix for the SolidWorks interface: under certain circumstances referenced drawings could be deleted.
- ⇒ Improved operating speed when working with CADFinder in a LAN or WAN network.
- ⇒ speed optimization during roll retrieval in the RLM database when many rolls have been found.

2. BugFixes

- ⇒ The default attributes for spacer rings were not correctly assigned in 2015 projects. Fixed.
- ⇒ When importing 3D parts, the project could crash in rare cases and could not be opened afterwards. Fixed.
- ⇒ When converting data format version 2013 to 2015, the existing default attributes were not transferred correctly. Fixed.
- ⇒ The default attribute specifications for single roll dimensioning and assembly plan dimensioning have been adapted.
- ⇒ Inventor- Interface: even if only one roll was modified all rolls were updated in already existing projects. Fixed, now only the modified roll will be updated.
- ⇒ SolidWorks interface: if an existing SolidWorks model was overwritten, the associated standard components could have been deleted from the directory where they were stored. The error occurred only if a project was completely rebuilt, the project already existed and was overwritten.
- ⇒ The error did not occur when updating an existing project. In addition, all referenced documents are copied to the backup directory before deletion, provided the user has confirmed the backup request.
The problem is solved with COPRA® RF 2017 SR2

- ⇒ SpreadSheet: the number of decimal places was not taken into account in the function „split entity“. Fixed.
- ⇒ For parametric projects, automatically displayed passes in SpreadSheet were no longer displayed after clicking a station in CADFinder. Fixed.
- ⇒ The position of a cage was not shown correctly in DTM. Fixed.
- ⇒ Revision projects could no longer be deleted because the associated command was disabled. Fixed.
- ⇒ RLM database: with an order the assignment to a combination roller set did not work. Fixed.
- ⇒ RLM database: under certain circumstances, the number of rolls to be ordered was undercharged by 1 roll. Fixed.
- ⇒ Tube Mill Roll Design: in the case of the 5-roller welding stand, the roll design in 2015 projects was partly incorrect. Fixed.
- ⇒ Tube Mill Roll Design: the calculation method for the strip width has changed automatically in rare cases. Fixed.
- ⇒ RLM database: some rolls were not set to "finished" when publishing in the local project. Fixed.
- ⇒ SmartRolls: in the function „rotate contour“ the new contour had an offset compared to the position of the crosshairs. When rotating a contour via the input with cursor, the new contour was not exactly matching the point. Fixed.

Valley, 15.11.2017

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