



Release Notes

COPRA® RF State-of-the-Art Roll Forming Design

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COPRA[®] RF version 2023

data M Sheet Metal Solutions offers its customers a variety of software and hardware solutions as well as services in the field of roll forming. The programs COPRA[®] RF and COPRA[®] FEA RF for design, simulation and analysis are market leaders worldwide and form the basis for our COPRA[®] Roll Forming workflow.

COPRA[®] RF includes features specifically tailored to meet the needs and requirements of today's roll form designer.

Enhancements

- AutoCAD 2023 The version AutoCAD 2023 is supported
- AutoCAD Mechanical 2023 The version AutoCAD Mechanical 2023 is supported
- Inventor 2023 The version Inventor 2023 is supported
- **Simplified installation** The administrator no longer needs to start AutoCAD. AutoCAD profile creation is done entirely by the user when AutoCAD is started for the first time.
- New roll attribute 'Number like spacer ring'

This allows simple rolls to be automatically assigned roll numbers according to the 'diameter x width' scheme without treating them like spacer rings in downstream processes (e.g. single roll dimensioning).

• Extended material properties

The company voestalpine Stahl GmbH provides the material properties for 90 steel strips. These contain all relevant parameters and flow curves for use in COPRA[®] FEA RF.

The material properties are fully integrated into the COPRA[®] workflow and are thus automatically available for the subsequent simulation calculations in COPRA[®] FEA RF.



In the material dialog, the additional manufacturer material data can be displayed for selection.

0	Load material - Currently used	material: HSS				Show search bar	Show vendor materials Filter	: Strip Material Dis	play mode: 📃 Sele
laterial	l turne								
aterial	Subtype								
	Name	 Description 	Where used	Common Name	VDA Name	EN Name	Vendor	Material type	Subtype
1									
	al type: (14 items) al type: Cold Rolled Steels (76 items)								
	type: Complex Phase Steels (CP) (12 items)								
k	voestalpine_CR1000Y1370T-CH_U	JC-EG_2021		CP1400-HD			voestalpine Stahl GmbH	Cold Rolled Steels	Complex Phase Stee
Ŀ	voestalpine_CR570Y780T-CP_GI_	2021		CP800	CR570Y780T-CP	HCT780C	voestalpine Stahl GmbH	Cold Rolled Steels	Complex Phase Stee
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Ŀ	voestalpine_CR580Y980T-CH_HB	_UC-EG_2021		CP1000-HD			voestalpine Stahl GmbH	Cold Rolled Steels	Complex Phase Stee
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	voestalpine_CR900Y1180T-CH_U	C.E.C. 2021		CP1200-HD			voestalpine Stahl GmbH	Cold Rolled Steels	Complex Phase Stee

Additionally the flow curve from the stored material data of a material can be displayed in a diagram.



In edit mode additional material can be imported. Use a XML file to import tensile test data to materials.

An example for this is the file "data_M_demo_material.xml", which is located in the directory <COPRA[®] installation directory <\material.



• Example " data_M_demo_material.xml"

```
<MaterialList>
 Start of the first material
  <ApMaterial xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <!--
   The material's name
    <Name>data_M_demo_material</Name>
   The material's yield strength
    ---
    <YieldStrength>205.0</YieldStrength>
    <!--
    The material's ultimate tensile strength
    <\!\!\texttt{UltimateTensileStrength}\!\!>\!\!305.0\!<\!/\texttt{UltimateTensileStrength}\!\!>
    <1--
   The material's A80 elongation
    <ElongationBreakA80>20.0</ElongationBreakA80>
    <!--
    The material's specific gravity
    <SpecificGravity>7850.0</SpecificGravity>
    <!-
    The material's hardness
    <Hardness>0</Hardness>
    <!--
    The material's poisson ratio
    <PoissonRatio>0.3</PoissonRatio>
    <!--
    The material's young's modulus
    <YoungsModule>210000</YoungsModule>
    <!--
    The material's flow stress
   <FlowStress>0</FlowStress>
```

In edit mode selected material in the table can also be exported into a material file (.xml).



Other improvements

- Setting for number of visible decimal places for distance ring numbering introduced
- Setting introduced that allows fixed roll attributes or a fixed roll number to be retained for copies of rolls
- Parameters last used when creating parametric rolls are saved in order to have them available again the next time they are used
- Improved readability of installation side-dependent roll attributes (e.g. retaining rings left/right)
- Continuous roll numbering accelerated throughout the plant
- Fixed problems when inserting passes
- Fixed problems with incorrect installation side-dependent roll attributes for rolls with symmetrical outer contour
- Some rolls were not mirrored in 'Mirror database'
- Incorrect referencing of info parts after inserting passes
- Incorrect transfer of project data from archive files fixed
- Incorrect numbering with continuous roll numbering fixed
- Faulty full section display of rolls on accessory axes fixed
- Incorrect transfer of sheet thickness from old archive file fixed



