NEDCON

Racking Design Software (RDS)

Explanation of the Racking Design Software of NEDCON

In this document, you will find an explanation of the Racking Design Software from NEDCON. A system that meets your needs as a NEDCON partner by means of compositional adjustments!

Intro

For many years now, you have been familiar with our design tool PST for pallet racking, an Excel and VBA oriented tool that we have developed and continuously adapted since the mid-90s.
Because Microsoft will no longer support the Excel and VBA versions in the future and the calculation method is an (accurate) approximation of a finite element package, we decided to develop new software for the design of pallet racks.

The Racking Design Software

The Racking Design Software (RDS) will replace the PST system. The RDS system contains all the current features of PST. However, the new RDS system has been extended with new functionalities. RDS was developed using the latest technologies. The advantage of this is that RDS can be used directly via the internet, without a Citrix connection. A PC, laptop, tablet or even a mobile phone with internet connection is enough for this tool.

The main difference between PST and RDS is that RDS automatically generates and checks complete calculation models. These models are comparable to models generated by a structural engineer. This development makes RDS even more accurate than PST and gives it more possibilities.

As mentioned above, RDS also includes new features. These are as follows:

- The height classification can deviate (within certain limits) from the height classification of the rack row
- Pick and Deposit stations
- Slide-through protection
- Preparations for earthquakes in several European countries
- Can be used in several languages

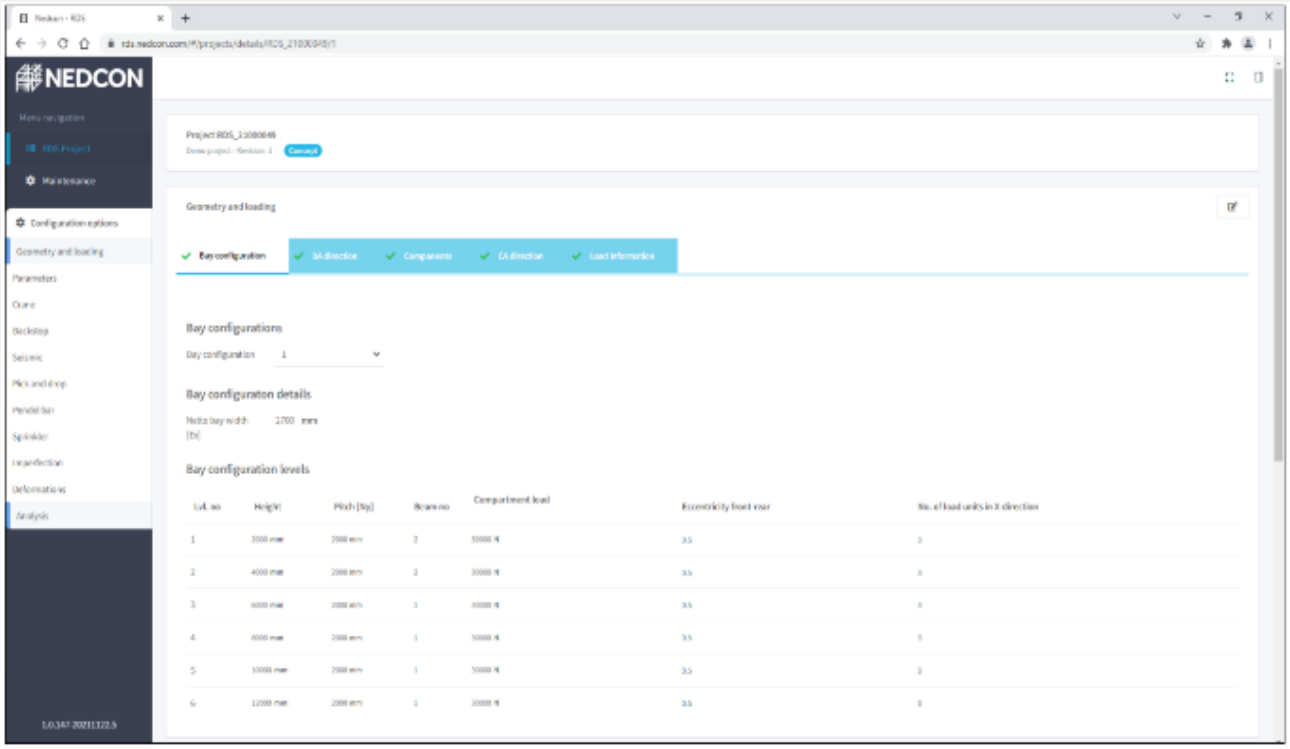
RDS will initially be available in English and German. As a NEDCON partner and current PST user, you will automatically gain access to RDS. We can also grant access to partners who are not yet using our design tool.

By the time RDS will be available for you as a NEDCON-partner, depending on the development of Covid-19, there will be live trainings and online tutorials. We will communicate with you in an early stage about the availability and the training sessions.

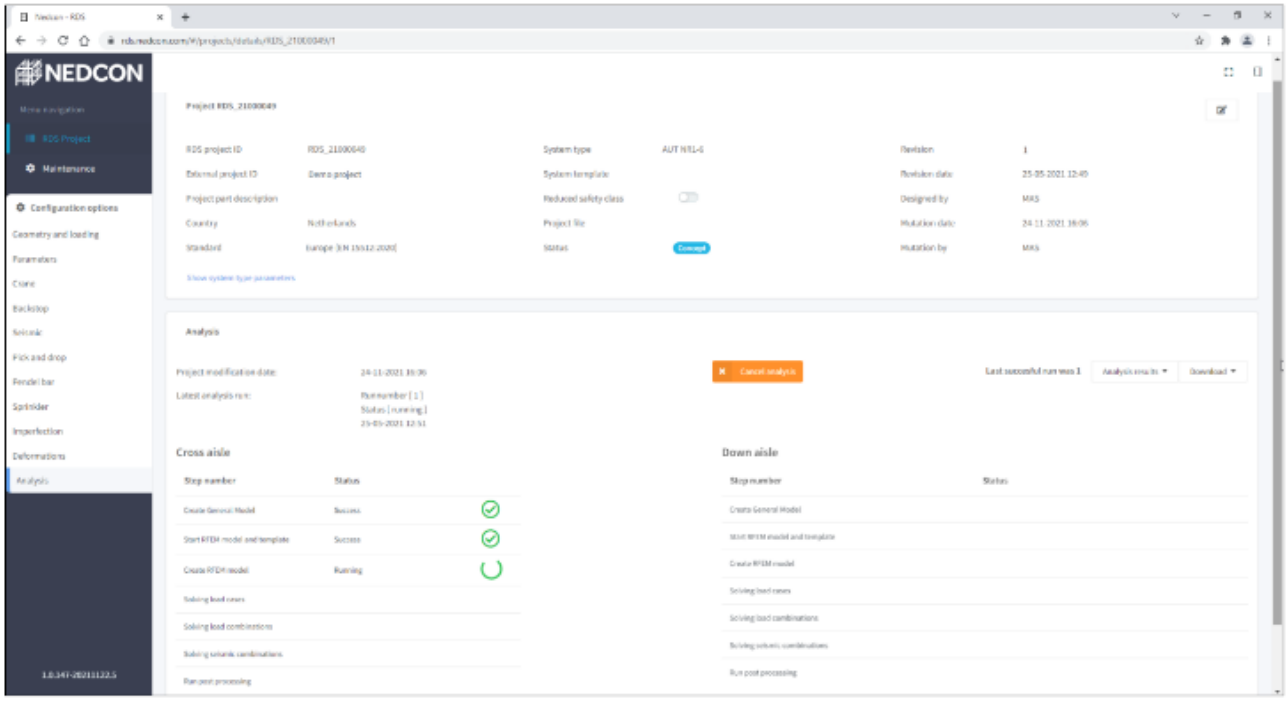
Do you have any other questions regarding RDS? Please contact us at resellers@nedcon.com

To give you, as an idea of the RDS layout, here are some screenshots:

Input of project data:



Analyzing a construction:



Overview with component checks:

Summary of Post Processing Results - runnumber [5]

Cross aisle - Checks on strength

Component	UC Section	UC Ends
12083255070PR_M10-S355MC	49%	
OB704015_M10-S250GD	4%	7%

Down aisle - Checks on strength

Component	UC Section	UC Ends
12083255070PR_M10-S355MC	59%	14%
CC1305015-S275JR	77%	70%
CC1505015-S355MC	88%	97%

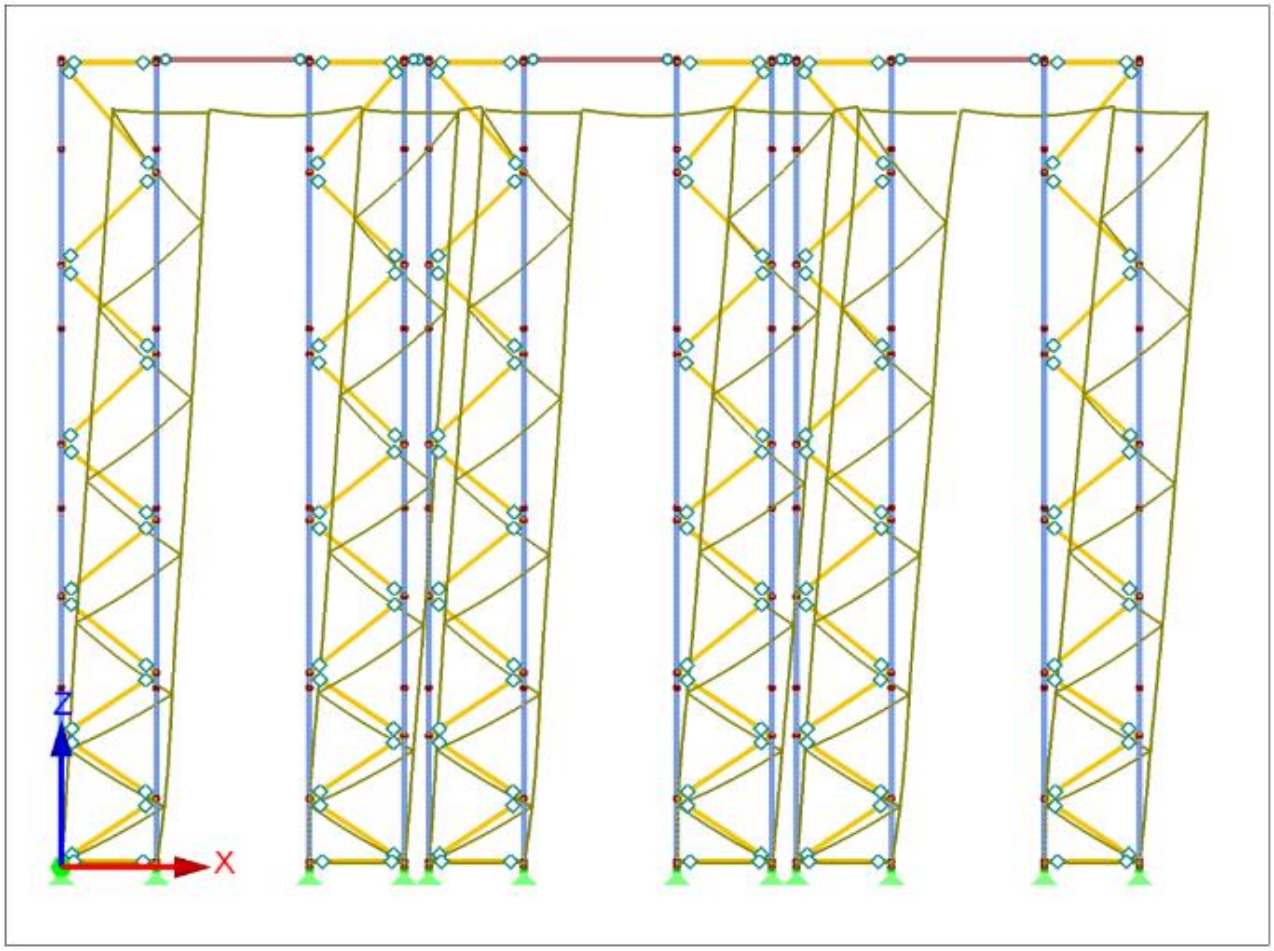
Cross aisle - Checks on Stiffness

Deformation	UC
Upright CA	11%

Down aisle - Checks on Stiffness

Deformation	UC
Upright DA	28%
Hook-in beams	102%

Deformation of a rack in a frame direction:



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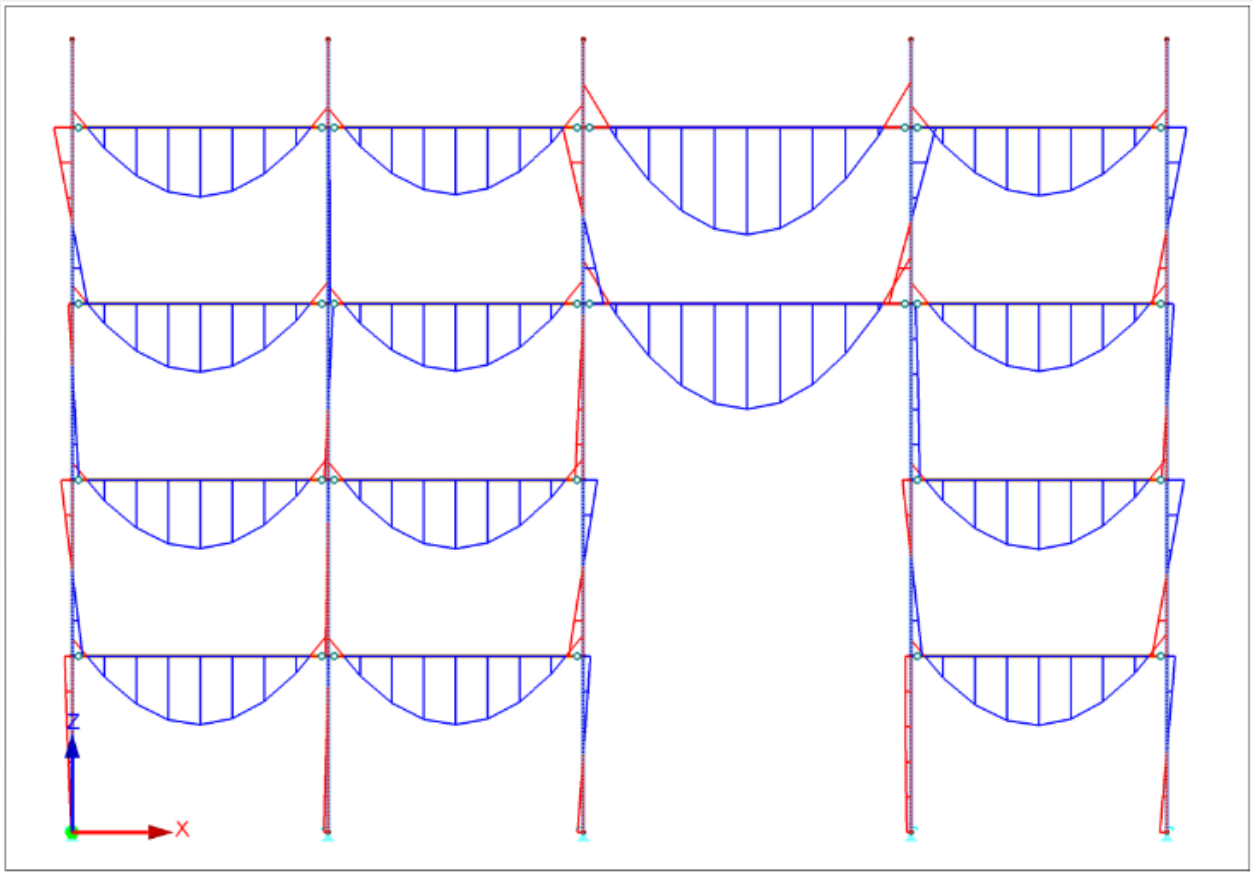
Bending moments of a racking (with tunnel) in downaisle:



Report of an upright generated by RDS:

RDS report

Project

RDS project ID	RDS_21000544
Project ID	Demo project
RDS revision	0
Project designed by	MAS
Project created on	25-10-2021
Project designed by	MAS
Date of last modification	25-10-2021
Date of report generation	24-11-2021 16:16

General data

System type	NR6
Detailed system type	AUT NR1 - Single sided
Country	Germany
Standard	EN 15512:2020
abZ+aBG	Z-14.8-833, Z-14.8-834 & Z-14.4-853
Material handling	Automatic
Safety class	Normal safety class
Number of middle frames	2
Number of outside frames	1
Entry of frames	Single sided

Bay configurations

Number of bay configurations	2

Bay configuration 1

Netto bay width	2,800 mm

Height [mm]	Pitch [mm]	Compartment [N]	Ecc. F-R	No. DA bins
2,000	2,000	30,000	0.50	3
4,000	2,000	30,000	0.50	3
6,000	2,000	30,000	0.50	3
8,000	2,000	30,000	0.50	3

Start of a report generated by RDS:

RDS frame arrangement report

Frame geometry

Frame depth	1,100	mm
Frame height	9,000	mm

Parts list

Frame

Upright	12083255070PR_M10	
Frame brace	OB704015_M10	
Σ frame brace length	15,111	mm
Frame arrangement	600-2	

Vert. height [mm]	$L_{FBR,ctc}$ [mm]	$L_{FBR,tot}$ [mm]	No. braces in frame
0	970.00	1,026.00	2
600	1,140.57	1,196.57	3
750	1,226.13	1,282.13	3
900	1,323.22	1,379.22	3
1,050	1,429.48	1,485.48	1