

New INDUCTA Software:

New Features and Announcements.

In this issue:

New Software Release

INDUCTA's New Software product line is coming soon!

Page 2

New User Interface

The New Software has a cleaner, more modern tabbed interface.

Page 2

Master / Slave Levels and Material Types per Level

Define master / slave relationships between levels and assign material types per level in RCB. Change material properties across multiple levels quickly.

Page 3

Seamless Data Transfer between New Software

If the model runs in one program, it will run in the others. Common data is also input once and is carried around.

Page 3

Batch Export and Run

Export and run multiple floors with the click of a button. SLB and PTD is run in the background and results can be viewed in the 3D RCB model.

Page 4

Column Design in RCC

New user interface and streamlined calculations allow the design check to be performed with just one click.

Page 5



Column & Wall Scheduling in RCB

Automate the column and wall scheduling procedure using RCB.

Page 5

New Editing and Viewing Features

New editing and viewing features made modelling and viewing results much easier and faster.

Page 5

New Software Release

INDUCTA's New Software product line is nearing completion!

In order to meet the changing demands placed on structural engineers whilst incorporating the latest advances in computer technology INDUCTA is developing a New Software Product line to be released on **August 1, 2016**. [As announced last year](#), the development, maintenance and support of the End of Life Software will be discontinued at this time.

Based on feedback from our users the key features of the New Software will speed up areas of the analysis and design process that are currently slow and cumbersome. The features outlined in the following sections are complete or nearing completion with more to be developed and released.

If you are familiar with the old software then you will be able to use the new software instantly as the fundamental concepts of the software have not changed. However there are many new features ranging from minor fixes to entire new tools and solvers that make the software even more user friendly and faster to model, analyse and design the structure.

The New Software will be made available on our Cloud Licensing System that no longer requires USB dongles. The license validates in the cloud so network license setups will be a thing of the past.

The licenses are available via a license subscription fee with a minimum license of one month available. The software is now accessible at a much lower cost and, as there is no lock-in-contract, the user will only pay for the software as needed. Please refer to the [FAQ Document](#) for more information.

End of Life Software	NEW SOFTWARE
SLABS	SLB
R/C Building	RCB
PT3D	PTD
R/C Column	RCC
Footing	FTN

New User Interface

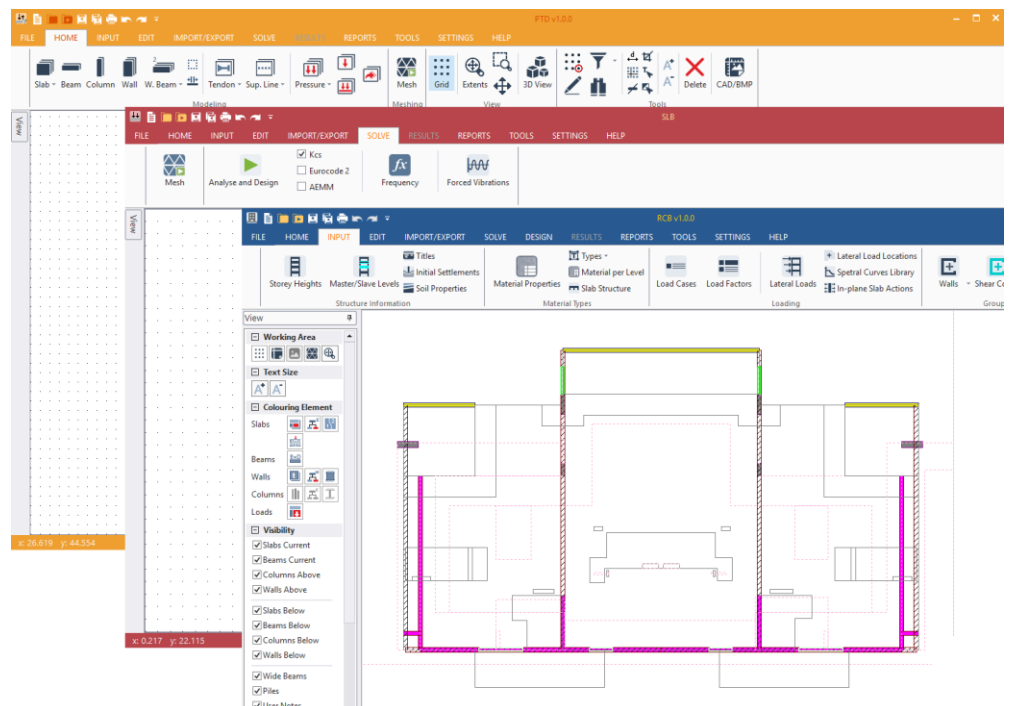
More logical, streamlined and user friendly user interface.

The new interface groups common controls in tabs. All controls have been grouped in a more logical manner and many new modelling and editing features have been added. Controls are no longer hidden away in menus and sub-menus and are now clearly grouped and visible.

The shortcuts have also been restructured so the user can flick through the tabs quickly and perform the most common tasks with the click of a button without needing to go back to its tab.

Please see the following sections on more information on some of the new features.

Note, all screenshots are of pre-alpha versions so the final design may change.



Master / Slave Levels and Material Types per Level

Define master / slave relationships between levels and assign material types per entire floors in RCB.

The software to replace R/C Building, RCB, will have master / slave levels for editing of geometry across multiple floors. Multiple master / slave relationships can be created and also broken if small changes need to be made on an individual floor.

Currently if a user wants to make a change on a typical floor, they must change one floor, delete all the other floors, then copy the floor up again. This will no longer be necessary with the master/slave feature as any changes to the master geometry will automatically be changed on the slave floors.

This feature will also speed up the meshing of the entire structure as the mesh only needs to be generated once for the slave floors and it can be re-used. For larger buildings this will drastically reduce the meshing time.

The wall master / slave relationship will only be for geometry. For example a material type may change between typical floors, so the user may not want to copy up the same material to all slave floors. To account for this a new table for editing material types over levels has been introduced, where the material types for the various structural elements can be set for the entire floor. It is no longer needed to select individual elements per floor and change the types in the properties.

The screenshot displays the software interface for defining master/slave levels and material types. It includes a table for material types, a dialog for setting master/slave groups, and a 3D model of a building structure.

Material Types by Level

Level	Column Type	Wall Type	Beam Type
7 Mezz	--	2 - C50	--
6 G	--	2 - C50	--
5 B1	--	2 - C50	--
4 2 B2	1 - C65	1 - C65	--
3 2 B3	1 - C65	1 - C65	--
2 M2 B4	1 - C65	1 - C65	--
1 2 B5	1 - C65	1 - C65	--

Note:
 * = No uniform material type on the current level
 -- = No element on the current level

Set Master/Slave Levels

Master/Slave groups: 2

Level	Master/Slave Group
17	10 1
16	9 1
15	8 1
14	7 1
13	6 1
12	5 1
11	4 1
10	3 M1
9	2
8 L1 - Podium	
7 Mezz	
6 G	
5 B1	
4 B2	2
3 B3	2
2 B4	M2
1 B5	2

3D Model: A 3D model of a building structure showing a master level (Level 2) and slave levels (Levels 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17). The slave levels are highlighted in orange. The master level is highlighted in blue. The 3D model shows a complex structure with multiple levels and a podium.

Slab Properties:

- Text Size: [A+] [A-]
- Colouring Element: Slabs, Beams, Walls, Columns, Loads
- Visibility:
 - Slabs Current
 - Beams Current
 - Columns Above
 - Walls Above
 - Slabs Reflow

Status: Slave level. Editing is locked.

Coordinates: x: 50.273 y: 31.669 Gx: 50 Gy: 32 z: 5.6 (-8.4)

Seamless Data Transfer between New Software

Input common data once and common calculations such as mesh are only done once.

The New Software will have seamless data transfer between the main programs. If it runs in one, it will run in the other on export without the need to clean up the files and re-mesh.

Currently a transfer floor exported from R/C Building to SLABS may take over half an hour just to clean up and run due to meshing errors from the point load reactions. This is no longer the case. If it ran in RCB, it will run in

SLB, PTD instantly with the mesh also being transferred so no need to re-mesh. SLB and PTD files can be run directly from inside RCB without having to open the other programs (see Batch Export and Run, page 4).

Common inputs, such as Load Case and Combination labels and Load Combination Factors, only need to be input once and they are carried across all three of the main programs. The load case mapping between

the programs is also only done once and carried around as files are imported and exported.

A new file management tool has also been added to keep track of what files were exported when and to give the user the option of adding notes so they can keep track of what options were being checked in that export.

Batch Export and Run

Export and run multiple SLB and PTD files with the click of a button and view results in RCB.

In the End of Life Software floors could only be exported one at a time. The New Software will allow the batch exporting of multiple files. Export settings can differ per floor or can be constant for the entire batch export.

We have also gone one step further and the user can now do a batch run of the files from R/C Building and then view deflection results calculated in SLB and PTD in the 3D RCB model without needing to open SLB and PTD.

This means the entire modelling process is greatly sped up, especially during preliminary design. With the seamless data transfer outlined above and the batch run and export, a process that would have taken hours before can be done in minutes. This is illustrated in the scenario below.

A preliminary 3D model of the structure has been created and the user wants to confirm the thickness by checking deflections of a typical upper floor, a transfer floor and a carpark floor:

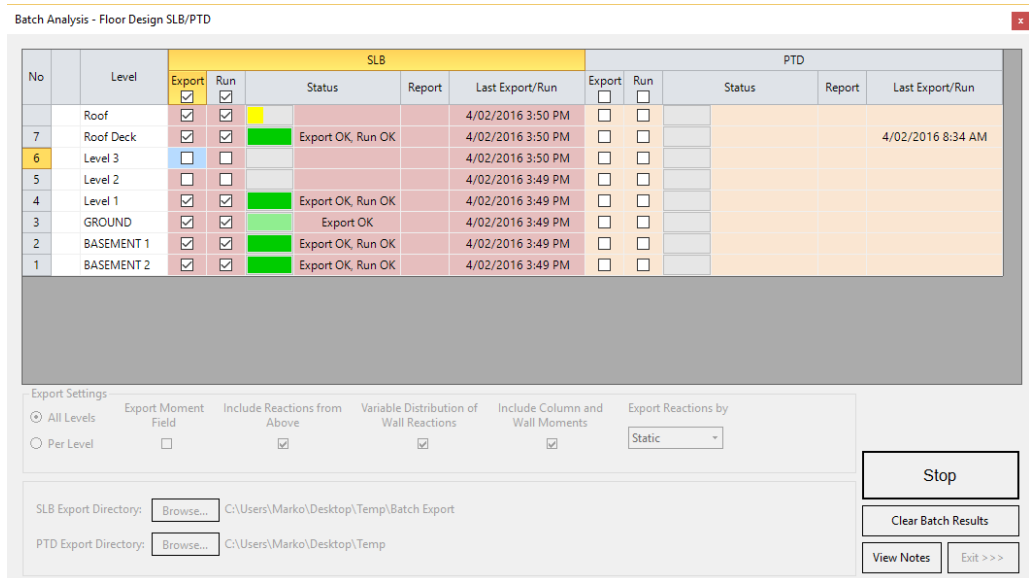
Current Process:

- 1) Approximate the deflections using the I_{gross} deflections in R/C Building.
or:
- 2) Export each floor, clean up in SLABS or PT3D, run and get the deflections. Slow, it can take 10 – 40 min per floor to get results.
- 3) Any major changes to the structure needs to be re-imported in the 3D model

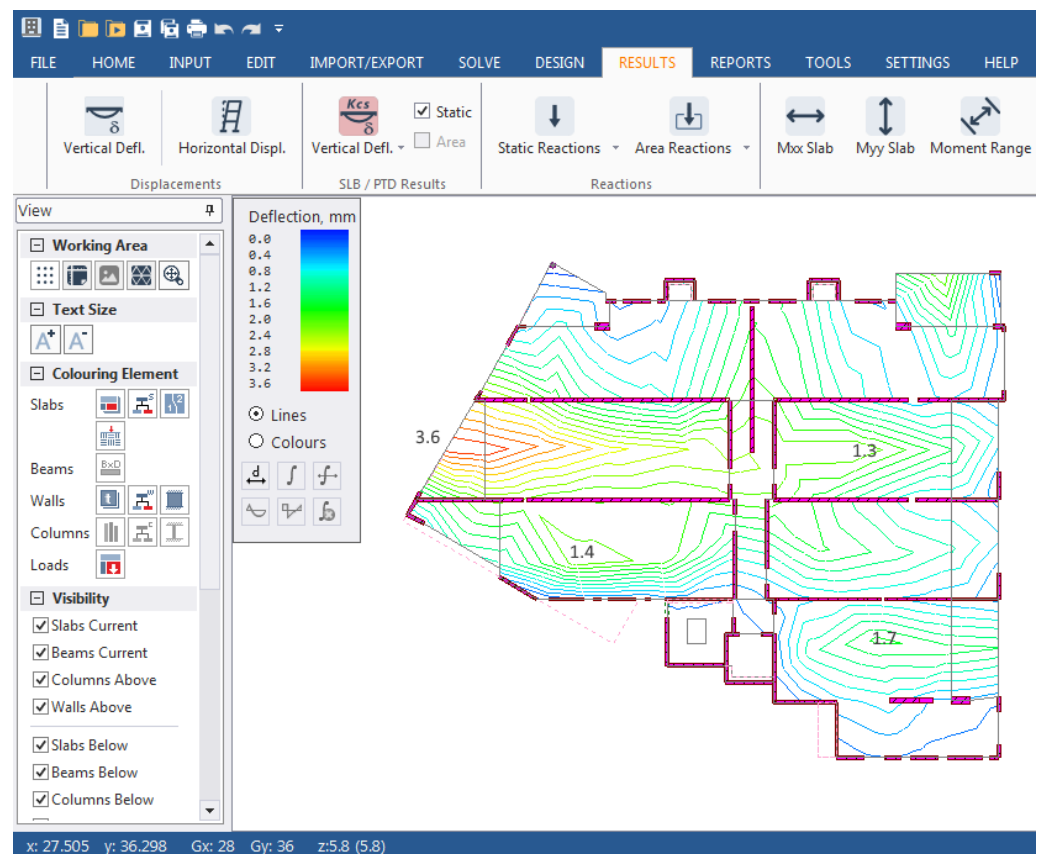
New Process:

- 1) Open batch export window and select the floors to export and run.
- 2) View the SLB and PTD long term $I_{cracked}$ deflection results in RCB. SLB or PTD file to runs in the background (1 - 5min). No need to re-mesh as same mesh is used.
- 3) Make any changes directly in the RCB model without having to re-import.

The above, very common, scenario is reduced from hours to minutes.



Export and run multiple files with the click of a button.



View kcs, AEMM, EC2 deflections that have been calculated using I_{cr} in SLB or PTD in RCB without having to open multiple programs.

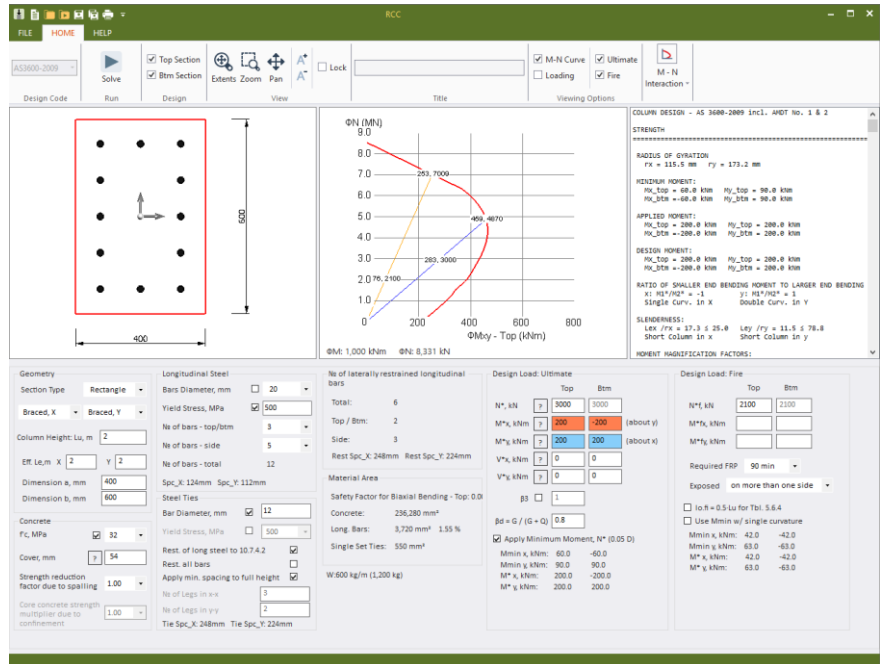
Column Design in RCC

Perform design checks on a single column with the click of a button

The new software to replace R/C Column, RCC has had all of its internal calculations reviewed and re-structured. The column is designed for strength, fire and shear along with the special confinement zone check with the click of one button. No longer does the user need to open up several different windows and do several runs.

The reporting is also more detailed so all calculations are transparent. The loading line for both strength and fire is plotted as is its intersection with the M-N curve. If applicable the special confinement zone is plotted and checked.

A detailed report is available along with a summary of the quantity of materials.



Column / Wall Scheduling in RCB

The calculations above form the core of the column scheduling that is currently in development for RCB. Wall scheduling is to follow once column scheduling is complete.

The user will be able to automatically label columns by vertical alignment in RCB and view all results for all columns in a single table arranged by these labels. As a first pass each column will be designed individually. Based on these results the user can then create design groups both vertically and / or horizontally on the same levels. The worst case design is then used or the user inputs reinforcement to be used for that design group. This process is then repeated until the design is rationalised to the point that the final column schedule has been created. The user will also be able to view the column safety factors as a colour scale on the schedule and see a quantity report based off their inputs or the final design.

The previous process that involved printing out reactions per floor and manually group then together or exporting out reactions to excel and designing in another spreadsheet is no longer needed. This manual process is now automated. For medium sized buildings, a process that could have taken over a week to complete will be able to be done in less than a day. Detailed reports will be available per column if needed for verification.

New Editing and Viewing Features

A summary of some of the new editing features is below. If there are editing features that you would like added please email any suggestions to info@inducta.com.au

- Left Clicking the mouse automatically selects. "Select" mode no longer needs to be toggled on/off with the "Select" button.
- Left Click, and drag net selects. "Net Select" no longer needs to be switched on with the "Net Select" button.
- Snap to midpoint added.
- Selection point/ snap point displayed on screen so the user can clearly see where they will snap to.
- The mouse icon changes based on what snap setting is selected.
- Copy / Move in local coordinates.
- Loads Visibility can be toggled on/off in filter view.
- Material Labels are displayed next to column, wall, slab, beam types.