

RCDC FE

Design, Detailing, Drawing, and Reporting for Slabs and Foundations

RCDC FE is a structural design, detailing, and drawing solution for reinforced concrete slabs and foundations. RCDC FE integrates with various finite-element-based analysis products and delivers a seamlessly integrated design and documentation process. RCDC FE can be applied to flat slabs and plates, rafts, mats, pile rafts, and combined foundations.

Expedite Concrete Design

With RCDC FE, you can design a variety of concrete elements in an automated, interactive workflow. You will gain full control of your designs by setting a collection of carefully considered parameters, from design strip width and stations, mesh coverage, minimum and maximum reinforcing ratios, mesh, and extra bar spacings, bar sizes, shear bar or link preferences, anchorage settings, and many more. Designs can be driven by arrangements created by the application or prescribed by the designer. Check for code compliance using envelope FEM plate design forces or automatically create load combinations. RCDC FE also supports rebar curtailment.

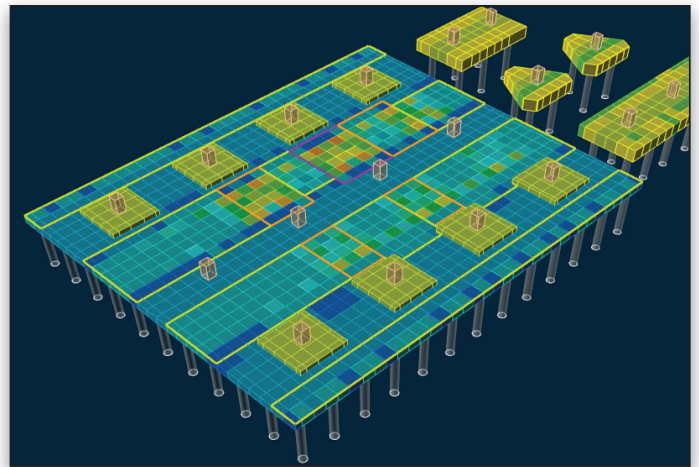
Using RCDC FE you can design non-orthogonal shaped buildings. The application allows you to control the design and detailing direction of each region independently. The user can perform different checks including crack width, long-term deflection, thermal cracking, and punching as per code requirements.

Produce Comprehensive Quantity Takeoffs

With your designs complete, it is easy to gain critical insight into concrete design alternatives with comprehensive material takeoffs and cost estimation organized by material, size, and shape. Additionally, you can gain a better understanding of the overall construction by obtaining formwork area and cost estimates up front.

Design to International Standards

You can extend the reach of your business practice and take advantage of global design opportunities by using international standards and specifications. With RCDC FE it's easy to design and produce drawings according to global design standards in compliance with publications from India (IS) and United States (ACI).



Required reinforcement contour view

Produce Concrete Drawings and Schedules

The main requirement from the design process is the production of project documents. With RCDC FE you can produce comprehensive reinforcing drawings including automated reinforcing labels, dimensions, and notes. Reinforcing placement drawings can also be produced, including sections, plans, and details from the 3D model. You can customize all drawings to adhere to your organization's standards. All documents update automatically to changes made in the 3D model. With the design checks complete, you can quickly produce detailed design drawings for in-plan detailing and cross section details.

System Requirements

Processor:

Intel® Pentium or equivalent

Operating system:

Windows 8 or later

System memory:

Minimum of 1GB of RAM,
2 GB recommended

Disk space:

Requirements will vary depending on the modules you are installing. A typical minimum is 500 MB free space.

Display:

Graphics card and monitor with 1280x1024 resolution, 256 color display (16-bit high color recommended)

Find out about Bentley at: www.bentley.com

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RCDC FE At-A-Glance

Design

- Automatic grouping of elements (DP, CS, MS, and CSJ)
- Automatic identification and grouping of regions depending on top or bottom surface matching
- Punching shear check for single wall
- Different mesh coverage for top and bottom
- Different mesh and extra reinforcement spacing for top and bottom
- Control automatic designs through simple dialogues
- Control detailing requirements through simple dialogues
- Validate designs with summary graphics, which allow user modifications to prescribe alternative solutions
- Quickly design various elements within the context of an overall design
- Lock and unlock designs to prevent accidental editing
- Produce detail design calculations, general arrangements, in-plan detailing, detail sections, and material takeoffs
- Support for IS 456 and ACI 318M-11

Analysis

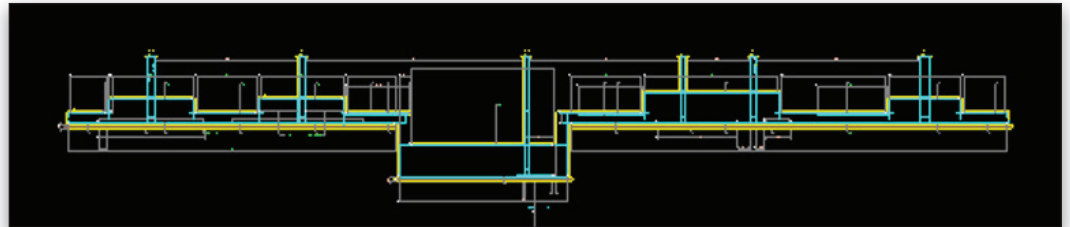
- Consideration of static and dynamic forces from the analysis model
- Use load combinations defined in the analysis model or use templates within RCDC FE
- Define cross combinations for irregular buildings

Deliverables

- Produce drawings in DXF format
- Produce general arrangement drawings, in-plan detailing and cross

Interoperability

- Import STAAD.Pro models with geometry and analysis results
- Produce reinforcement designs for structural objects to complement the analysis performed in STAAD.Pro



Cross section through a raft/mat foundation