SCIA ENGINEER 20.0

NEW FEATURES

SCIA Engineer 20 brings a comprehensive collection of improvements that will help you design concrete and steel structures even faster and more effortlessly than before. These new capabilities will help you save the valuable time and produce a safe, reliable and economical design with a minimum of manual effort. Multi-story buildings, steel halls, prestressed structures, special types of constructions - **possibilities are endless ... and simply achieved.**

Safe and economical design

Deliver safe and economical design in a short time with minimum of effort, regardless of the material used. Automatic calculation of effective widths for concrete ribs, optimised reinforcement design satisfying all code checks with simultaneous high utilisation ratio, clear, comprehensive and scalable documentation for steel members, etc. – all these features help you impress your clients by a reliable, economical and clearly presented design.

Fast analysis of prestressed concrete

The 64-bit architecture of SCIA Engineer 20 helps you face boldly all challenges associated with the design of prestressed concrete. The analysis of prestressed as well as post-tensioned structures, accompanied with a comprehensive collection of Eurocode checks allows you to handle effectively even large and complex projects.

Effective BIM for reinforced concrete

Experience complete freedom in choosing the best workflow for your BIM projects. With SCIA Engineer 20, you may start with the reinforcement design in your favourite CAD application (Revit or Tekla Structures), check and optimise the reinforcement in SCIA Engineer and then produce the final drawings back in your CAD software.

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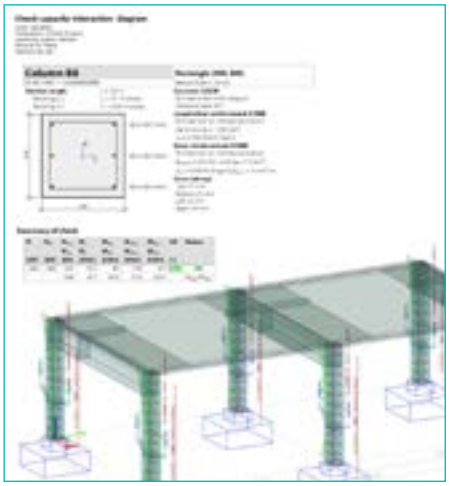
Concrete design

Economical design of reinforcement in concrete beams using code-checks

A new approach to the design of reinforcement in concrete beams and columns with a rectangular cross-section results in a cost-effective design.

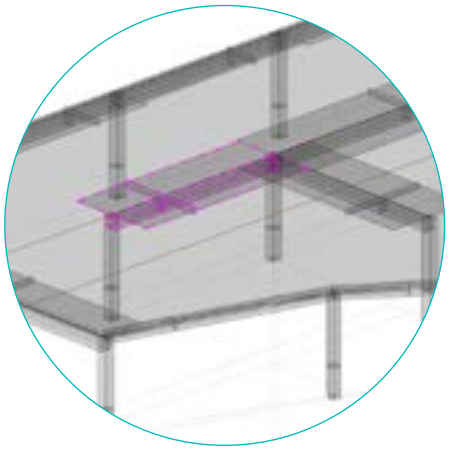
- Code checks are used to design the reinforcement.
- Designed reinforcement meets all the code defined requirements.
- Designed reinforcement features high utilisation ratio, ensuring no waste of material.



Bill of reinforcement

The new bill of reinforcement helps you keep track of the amount and price of materials used in the project.

- Bill of reinforcement with all important quantities for concrete and reinforcement.
- Three levels of detail, from concise overview to detailed list.
- Price calculated based on the settings in the material library.



Automatic calculation of effective widths for concrete ribs

The effective width for ribs is now determined automatically, which means you do not need to lose your time with its manual calculation.

- Automatic determination of the effective with for straight concrete ribs.
- Calculation based on formulas from EN 1992.

Display of reinforcement directions for concrete slabs and walls

The new clear graphical presentation of reinforcement directions allows you to quickly review and check the design.

- Reinforcement directions printed for every slab and wall.
- Easy review of the design.
- Clear idea of the final reinforcement scheme.

New reinforcement layout for T and L shaped ribs

New practical reinforcement templates for concrete ribs.

- Reinforcement placed only to the web of the T and L shaped rib.
- Flanges may thus be reinforced using the same scheme as the slab itself.

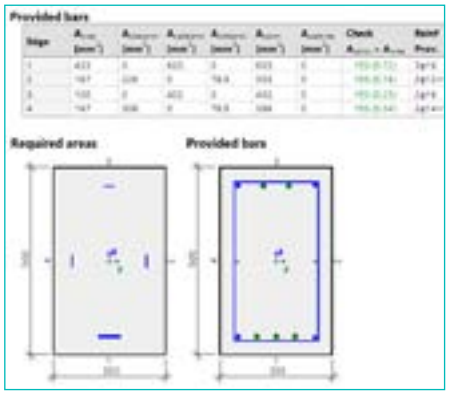
Reduction of shear force above the support

Newly implemented reduction of shear force above supports simplifies the checks.

- Optional reduction of shear force above supports.
- No need to check VRd,s.
- Compliant with the requirements of EN 1992 clause 6.2.1(8).

New distribution of bars along the edge of the cross-section

- New algorithm for distribution of reinforcement bars along cross-section edges.
- Corner bars allocated according to templates of provided reinforcement.
- Clear and unambiguous positioning of bars, especially for T and L shaped cross-sections.



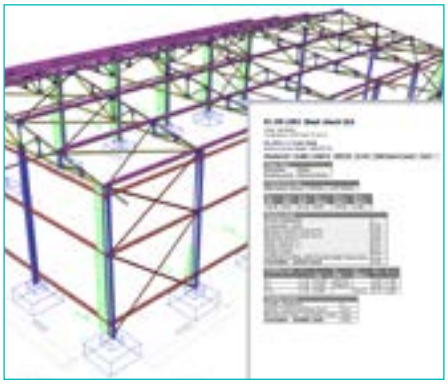
NEW FEATURES

Steel design

A4 summary of steel code checks

Using this new type of report, you can clearly proof the safety and economy of your design.

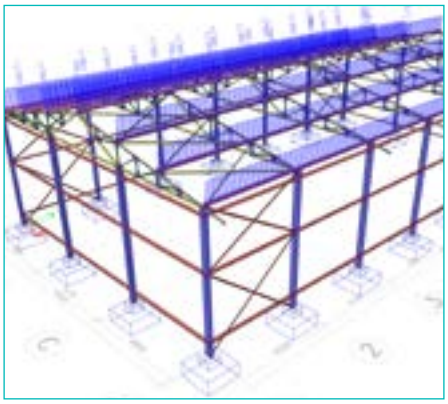
- All the key results in a few simple tables.
- Results of all ULS code checks summarised on less than an A4 page.
- Practical when you need to proof the safety of the design without going into details.
- Option to include all the intermediate steps and applied code articles into the report is still available.



Clear visualisation of SLS limits

This new option provides a clear insight into the check of deflections.

- All the limits used in the checks can be displayed.
- Better control over the report.

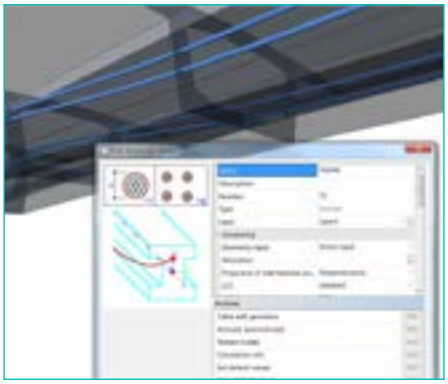


Prestressed concrete

64-bit analysis of prestressed structures

With this new solution you can effectively analyse even large and complex structures made of prestressed concrete.

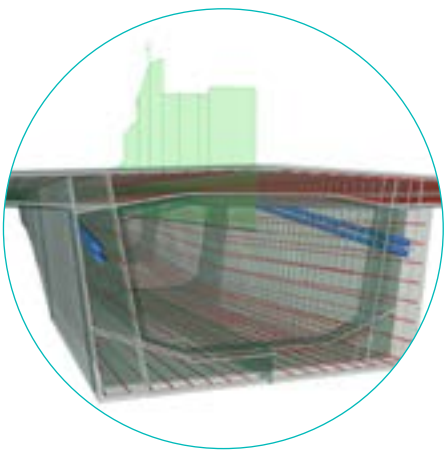
- Faster analysis and evaluation of results for prestressed as well as post-tensioned members.
- 64-bit environment, which can handle more data than the old 32-bit version, allows you to model accurately even large and complex projects.



64-bit code-checks of post-tensioned members

With streamlined code checks for prestressed structures you achieve a safe and economical design, fast.

- Combination of post-tensioned tendons, longitudinal and shear reinforcement.
- Ultimate limit state checks:
  - capacity N+M
  - shear and torsion V+T
  - interaction N+M+V+T
- Serviceability limit state checks:
  - crack width
  - stress limitation – concrete + reinforcement
  - stress limitation – tendons
- Single-click overall check covering all checks
- Clear list of warnings helps handle properly all important aspects of the design.



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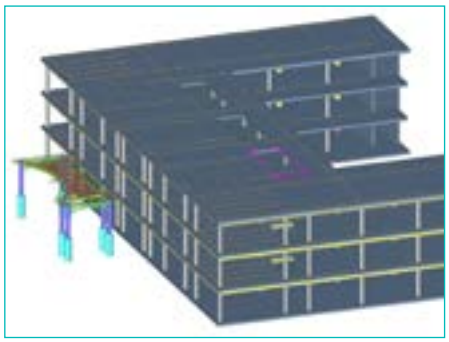
BIM

Reinforcement roundtrip with Revit

The extended Revit link covers the complete design cycle of reinforced concrete members without the need for manual re-entering of reinforcement data.

- Transfer of initially designed reinforcement from Revit to SCIA Engineer.
- Code checks and optimisation of the reinforcement in SCIA Engineer.
- Final detailing and production of drawings in Revit.

The updated link also imports openings from Revit in SCIA Engineers as load panels, allowing to simulate easily loads acting on windows, doors, etc.

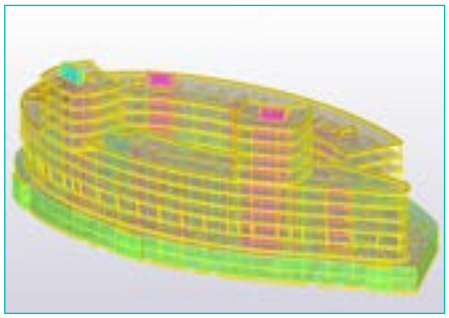


Reinforcement roundtrip with Tekla Structures

Engineers designing concrete structures will benefit from new automatic transfer of reinforcement data between Tekla Structures and SCIA Engineer. No need for manual re-entering of data.

- Transfer of initially designed reinforcement in beams and columns from Tekla Structures to SCIA Engineer.
- Code checks and optimisation of the reinforcement in SCIA Engineer.
- Final detailing and production of drawings in Tekla Structures.

The updated link also allows for import and export of paired steel cross-sections.



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