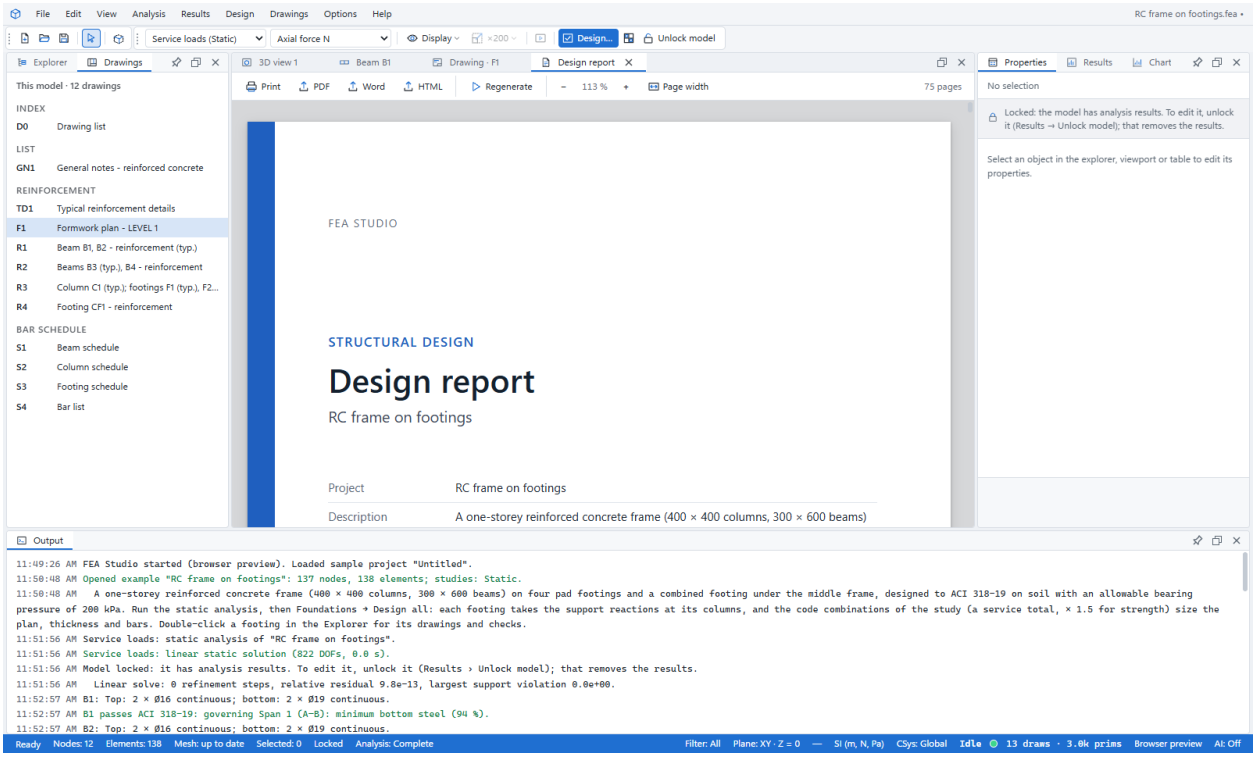
FEA STUDIO

User Manual

Part 5 of 5 · Reporting

Model, analysis and design reports; calculation sheets; printing and saving as PDF, Word and HTML; other outputs.



The manual set

Part 1 Modeling
Part 2 Analysis
Part 3 Design
Part 4 Drawings
Part 5 Reporting (this book)

Edition November 2026 · describes FEA Studio as built from the current source

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About this part

FEA Studio writes its reports as paginated, Word-like documents that you can read on screen, print, or save as PDF, Word or HTML. This part covers:

- the project reports (model, analysis and design);
- the calculation sheets of single members, footings and connections;
- the other outputs: images, CSV files and charts.

Project information

Reports take their project details from the project sheet. Click the project name at the top of the Explorer to see it in Properties.

Field	Where it appears
Name	Page header, report cover and subtitle
Description	Cover and title block, when filled in
Unit system	All values in the report, and the Units line on the cover

The file name, region, design codes, and created and modified dates are added automatically. Save the project before you make a report, so the file name appears instead of "Not saved".

Project reports

The three reports

Report	Available	Contents
Model report	When the model has geometry or an imported mesh	Project and design codes; geometry with isometric, plan and front views; structural grid; members, shells and solids; materials and sections; supports; load cases, loads and combinations; the mesh
Analysis report	After at least one analysis	Summary of studies; method and sign conventions; for each study: set-up, frequencies (modal), load cases and combinations, extreme values, member forces, support reactions, solver notes
Design report	After a static or nonlinear analysis	Summary with pass and fail counts; failing designs; design basis (codes, materials, load cases); one chapter per design type; step-by-step calculations of footings and connections

Making a report

1. Choose **File › Reports › Model report**, **Analysis report** or **Design report**. Or go to stage **8 Reports** in the Explorer and double-click the report you want (or right-click it › **Generate report**).
2. A progress card shows each stage, for example "Pictures of the model" and "Laying out pages". To take the pictures, the 3D view briefly switches to the light theme; your camera and theme are restored afterwards.
3. The report opens as a tab in the centre, next to the 3D view. Making the same report again reuses its tab.

The **Report...** button in the Design summary (Part 3) opens the Design report directly.

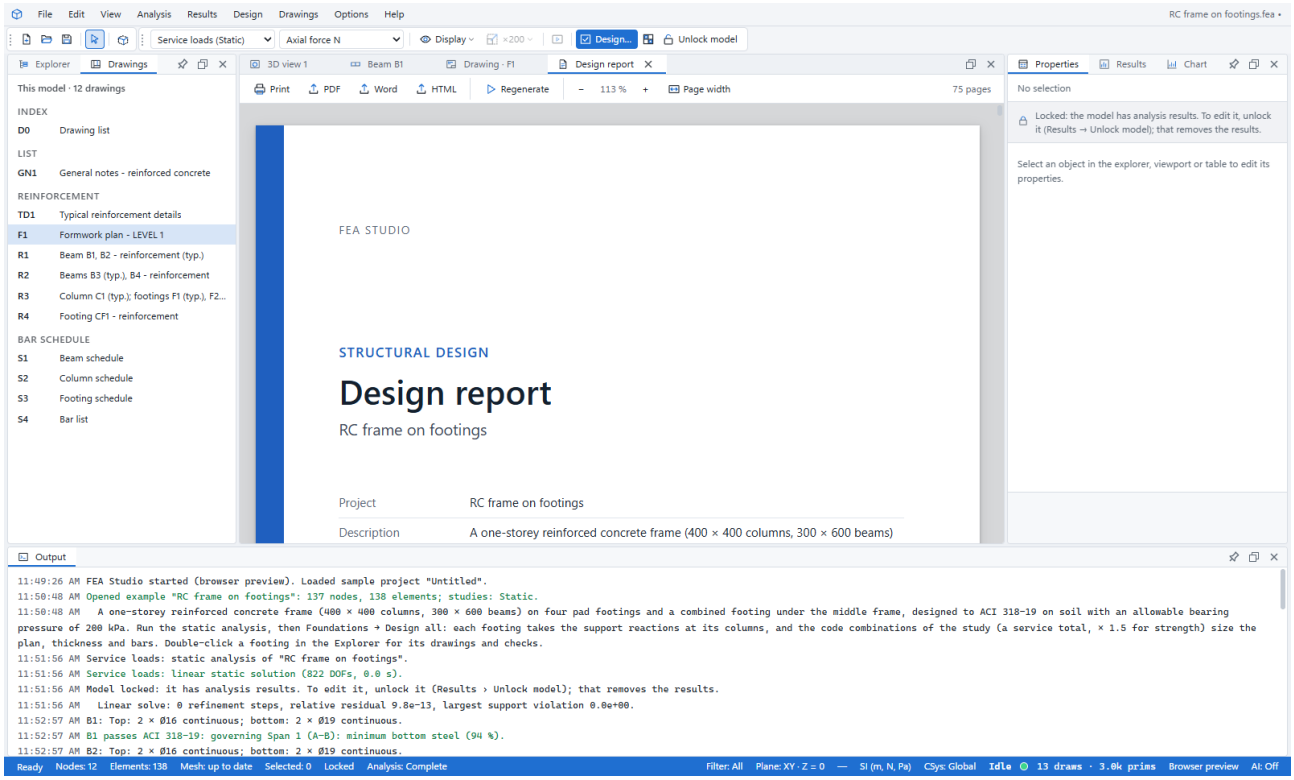


Figure 1. A Design report open in its tab: toolbar, cover page and page count

The report tab

Button	What it does
Print	Prints the report
PDF	Saves it as a PDF document
Word	Saves it as a Word document (.docx)
HTML	Saves it as a web page
Regenerate	Builds the report again from the current model and results
− · % · +	Zoom out, the zoom level, zoom in (50 % to 200 %)
Page width	Fits the page width to the window (the default)

The right end of the toolbar shows the number of pages. Click an entry in the contents to jump to that section.

> **Tip** After you change the model or the design, click **Regenerate**. A report shows the state at the moment it was made.

Page layout

Every report uses the same layout, on screen and in print, PDF and HTML:

- **Paper**: A4 portrait.
- **Header** on every page: FEA Studio, the project name and the report title.
- **Footer**: the date and time, the file name, and "Page X of Y".
- **Cover page**:
  - the report kind, for example "Structural design";
  - the title and project, and a table of project facts;
  - a picture of the model;
  - for the Design report, a verdict box: green when all designs pass, red with the number that fail;
  - a revision and sign-off table: Rev., Date, Description, Prepared, Checked, Approved.
- **Contents**, with page numbers.
- **Numbered sections** (1, 1.1, 1.1.1). Chapters start on a new page, and table headers repeat on every page.

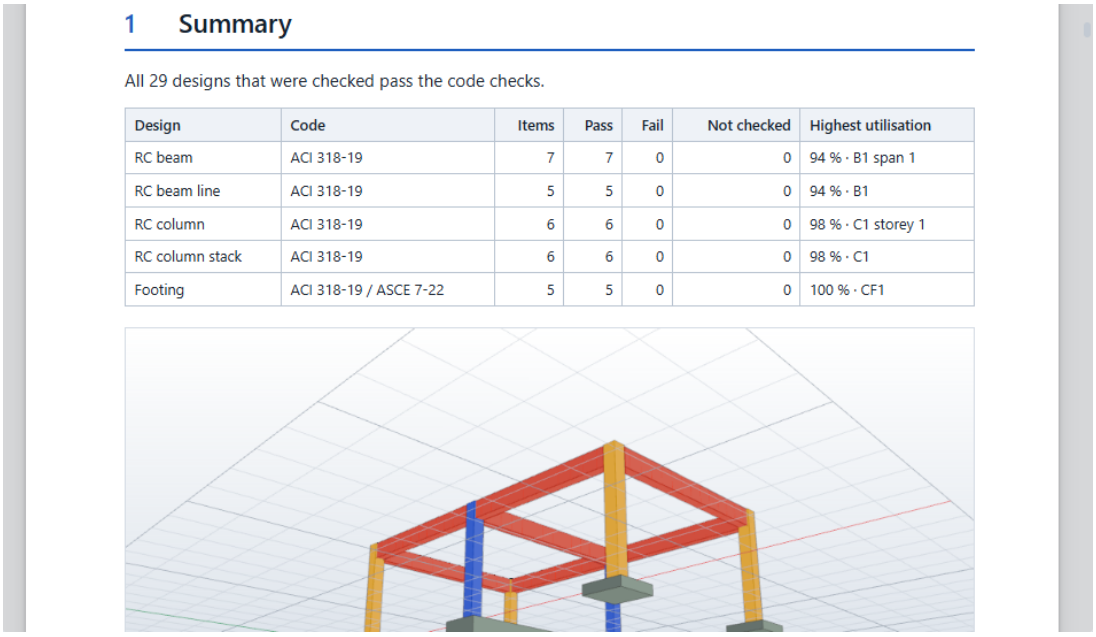
> **Note** The Prepared, Checked and Approved cells on the cover are left blank, ready for signatures. Reports have no company logo field; the logo and firm fields belong to the drawing title blocks (Part 4).

Design report in detail

The Design report starts with a summary table, one row per design type:

Column	Meaning
Design · Code	The design type and its code

Column	Meaning
Items · Pass · Fail · Not checked	Counts
Highest utilisation	The largest ratio and where it occurs



1 Summary

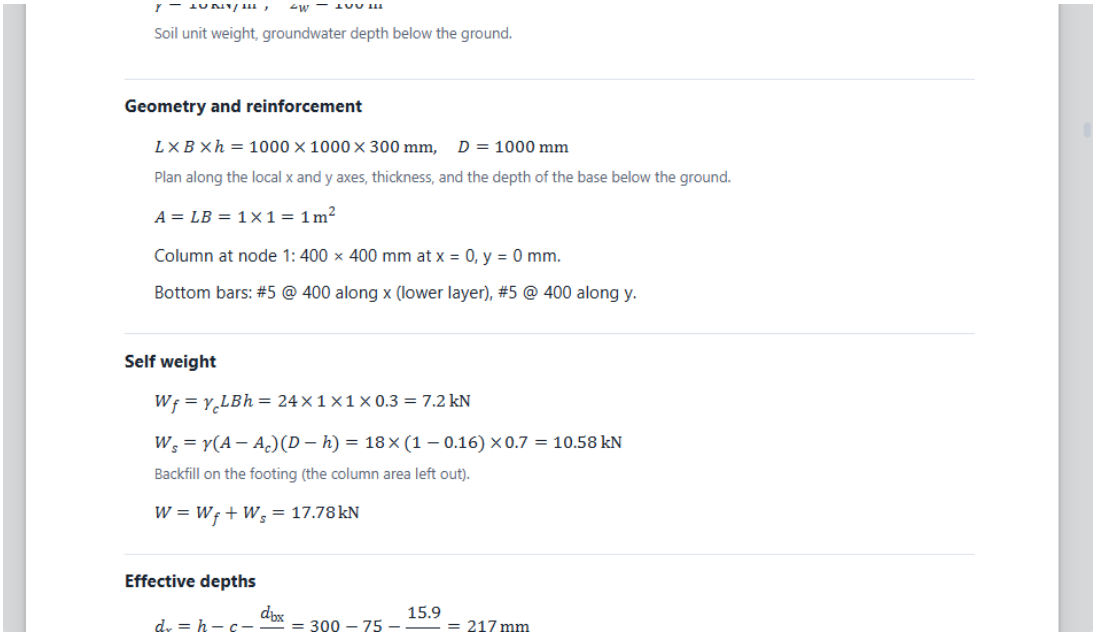
All 29 designs that were checked pass the code checks.

Design	Code	Items	Pass	Fail	Not checked	Highest utilisation
RC beam	ACI 318-19	7	7	0	0	94 % · B1 span 1
RC beam line	ACI 318-19	5	5	0	0	94 % · B1
RC column	ACI 318-19	6	6	0	0	98 % · C1 storey 1
RC column stack	ACI 318-19	6	6	0	0	98 % · C1
Footing	ACI 318-19 / ASCE 7-22	5	5	0	0	100 % · CF1

Figure 2. The summary of a Design report

Each design type then has its own chapter. A table lists every item with its name, scope, size, reinforcement, utilisation, governing check and status (OK, Fails, Not designed or Not checked). Failing rows come first, then the rest sorted by utilisation.

Footings and connections add **step-by-step calculations**. Each one shows the formula, the values put into it and the result, with OK or fail marks and notes.



Soil unit weight, groundwater depth below the ground.

Geometry and reinforcement

$L \times B \times h = 1000 \times 1000 \times 300\ \text{mm}, \quad D = 1000\ \text{mm}$

Plan along the local x and y axes, thickness, and the depth of the base below the ground.

$A = LB = 1 \times 1 = 1\ \text{m}^2$

Column at node 1: 400 × 400 mm at x = 0, y = 0 mm.

Bottom bars: #5 @ 400 along x (lower layer), #5 @ 400 along y.

Self weight

$W_f = \gamma_c LBh = 24 \times 1 \times 1 \times 0.3 = 7.2\ \text{kN}$

$W_s = \gamma(A - A_c)(D - h) = 18 \times (1 - 0.16) \times 0.7 = 10.58\ \text{kN}$

Backfill on the footing (the column area left out).

$W = W_f + W_s = 17.78\ \text{kN}$

Effective depths

$d_v = h - c - \frac{d_{bx}}{2} = 300 - 75 - \frac{15.9}{2} = 217\ \text{mm}$

Figure 3. A step-by-step footing calculation in the Design report

For the step-by-step calculations of concrete beams, columns, slabs, steel, composite members and walls, use their calculation sheets (next section), or the classic report with **Detailed calculations**.

Calculation sheets

Members

Every designed concrete beam line, column stack, slab, steel member, joist, composite member, wall pier, spandrel and shell has its own tab (Part 3). To open it, double-click the item in the Explorer, or tick **Calculation sheet** in its Properties.

The tab's toolbar has:

- **Detailed calculation**: shows every check step by step, with its equations. Print, PDF and Word include the calculation while it is shown. The setting is remembered.
- **Print**, **PDF** and **Word**.

The output is one document with a title block: the member name and the code standards.

Summary (Design › Concrete › Design, or Design › Foundations › Design) gives a table of all beam lines or all footings, with Print…, PDF… and Word….

Footings

- **Design › Foundations › Report › Calculation report** reports the selected footing. **Report of all footings** reports every footing. The **Generate report** button on a footing tab does the same.
- The report holds:
  - a summary and the design basis;
  - for each footing: its drawings (plan and section), load cases, combinations, reinforcement, moment and shear, code checks and the step-by-step calculation.

Connections

- **Design › Connections › Report › Generate report…** reports the selected connections, or all of them. You can also right-click a connection or the Connections folder › **Generate report**.
- The report holds:
  - a summary and the design basis: code, materials, load cases and analysis method;
  - for each connection: members and parts, load effects, CBFEM analysis results, plates, bolts and anchors, welds, concrete in bearing, buckling, component checks and detailing notes.

The classic Analysis report (File › Report)

File › Report (`Ctrl+P`) makes one combined document. It contains the model, a picture of the current 3D view, materials, sections, mesh, supports and loads, the results of each study, and a section from each design module.

1. Choose **File › Report** or press `Ctrl+P`.
2. The **Analysis report** dialog says how many sections and result sets the report covers.
3. Tick **Detailed calculations (the equations of every design check)** to include every design equation. This option appears when a design module has detail to add.
4. Click **PDF…** (the default), **Word…**, **Print…** or **Web page…**.

Saving and printing

Format	What you get	Notes
Print	The laid-out pages on the printer	Pages are A4 and carry their own margins, so the printer adds none
PDF	A PDF file	Desktop: a save dialog, then a progress card. Browser: the print dialog opens; choose "Save as PDF" or "Microsoft Print to PDF" as the printer.
Word (.docx)	An editable Word document	Real headings, a Word table of contents, header and footer with page numbers, repeating table headers, equations as Word equations, and pictures
HTML	A single web page	The same pages, viewable in any browser

Reports are named after the project file and the report, for example "Bridge - Design report.docx". Every save is logged in the Output panel.

> **Note** When you open a Word report for the first time, Word may ask to update the fields. Answer **Yes** to fill in the table of contents and page numbers.

In the desktop app, a bar appears after each save, titled **Saved** with the file name and folder:

- **Open folder** opens the folder in File Explorer with the file selected.
- **Open file** opens the file in its usual app.

Other outputs

Output	Command	Contents
Image of the 3D view	File › Export › **Viewport image (PNG)**	The active view as shown, in the current theme
Results as CSV	Results › Tools › **Export CSV**	The frame shown: node displacements, element stresses, beam end forces and support reactions
Results table	Results › Tools › **Results table**	Every result of the frame shown, sortable and filterable, saved as CSV
Mesh tables	File › Export › **Nodes (CSV)**, **Elements (CSV)**	Node and element lists
Charts	Chart › **CSV**, **SVG**, **Print**, **PDF**, **Word**	The chart and its data; printed charts are landscape
Drawing lists	Drawings › Export › **Save lists (CSV)…**	Bill of materials and bar bending schedule (Part 4)
Model exchange	File › Export	Abaqus, MIDAS, Nastran, VTK and IFC files (Part 1 and Part 2)

Which report to use

You need	Use
A record of the model for checking	Model report
Analysis results to submit or archive	Analysis report
The design of the whole structure with pass and fail counts	Design report
Full calculations of one member	Its calculation sheet with **Detailed calculation** on
Footing or connection calculations	Calculation report / Generate report in Foundations or Connections
One document with everything	File › Report (`Ctrl+P`) with **Detailed calculations**