

Top 10 Reasons Autodesk Revit Structure software offers building information modeling (BIM) to structural engineering firms.

1. Structural Engineering Software for Building Information Modeling

Autodesk Revit Structure software integrates a multi-material physical and analytical model, providing concurrent structural modeling for efficient, accurate documentation, analysis, and design, giving you a competitive advantage. Autodesk Revit Structure automatically updates the physical model and the construction documents to reflect any design changes made during the analysis.

2. Bidirectional Associativity Between Model and Views

In Autodesk Revit Structure, every 2D and 3D view, every drawing sheet, every detail, and every schedule is a direct presentation of information from the same underlying building database. Anytime you make changes, the software propagates those changes throughout the model and updates every related plan, section, elevation, and schedule. This key feature of Autodesk Revit Structure makes all the difference in the system's ease of use and responsiveness, helping to greatly reduce coordination errors and improve overall documentation quality.

3. Construction Documents

Autodesk Revit Structure automates the repetitive, manual drafting tasks required in conventional CAD systems. Cut sections and elevations and call out detail views more quickly. Reference sections, elevations, and details automatically in accordance with the sheet's numbers. Bidirectional associativity means that any change in any view is propagated in every related view so drawings stay fully coordinated.

4. Structural Details

Create details from views of the 3D model with additional annotations or from scratch with Autodesk Revit Structure 2D drafting tools, or import them from conventional CAD files. To save time, import entire sheets of typical details in DWG format from previous projects. Dedicated drafting tools are available for structural modeling of steel and reinforced concrete details such as welding symbols, anchor bolts, rebar, and concrete area reinforcement.

5. Support for Multiple Data Formats

Autodesk Revit Structure imports, exports, and links your data with industry-leading formats, including DWG™, DXF™, DGN, IFC, and CIS/2, so you can more easily work with data from consultants, clients, or contractors.

Autodesk Revit Structure supports the traditional workflow where structural modeling starts with DWG files provided by the architect using AutoCAD® or AutoCAD® Architecture software. Also, Autodesk Revit Structure exports 3D models to AutoCAD Architecture where structural properties can be queried.

6. Bidirectional Links with Multiple Analysis Packages

The analytical model in Autodesk Revit Structure is bidirectionally linked with Autodesk® Robot™ Structural Analysis Professional software and Autodesk Robot Structural Analysis software. Bidirectional linking means that analysis results accurately and automatically update your model if any member size has changed. And parametric change technology coordinates those updates everywhere in your project views and construction drawings. Autodesk Revit Structure also links to third party structural analysis and design programs. Examples of structural analytical information that can be shared with structural analysis and design programs include release and boundary conditions, loads and load combinations, and material and section properties.

7. Multiple Materials Modeling

Autodesk Revit Structure includes building materials such as steel, cast-in-place concrete, precast concrete, masonry, and wood. Since the buildings you design are constructed of multiple building materials, Autodesk Revit Structure enables you to model your structure using the materials you need.

8. Parametric Structural Components

Autodesk Revit Structure offers a full set of structural design tools such as walls, joist systems, beams, trusses, open web joists, precast concrete elements, concrete rebars, steel connections, anchors, and metal deck details. Parametric definitions enable you to make quick revisions to any object type. When you create new objects, details, or symbols, Autodesk Revit Structure stores them in families that you can edit and reuse in other projects.

9. Multiuser Collaboration

Worksharing distributes the power of the parametric building modeling environment across the project team. Multiple users can share the same intelligent building information model and save their work to one central file. Worksharing provides a comprehensive range of collaboration modes: within a structural engineering firm; between engineers and drafters; and within an architectural engineering firm, between engineers and architects and drafters working with them.

10. Interoperability with Autodesk Revit® Architecture and Autodesk Revit® MEP Software

Structural engineers, MEP (mechanical, electrical, and plumbing) engineers, and architects can take advantage of the Revit building information modeling platform and work more efficiently on the same shared database. Perform interference checking between architectural, structural, and MEP elements. For even greater coordination, receive electronic notifications about the design changes made by other members of the design team.

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