ProStructures™

Model steel and concrete, detail with precision

ProStructures gives structural engineers, designers, detailers, and fabricators the power to efficiently model, detail, and fabricate both reinforced concrete and steel structures. Combining the strengths of ProConcrete™ and ProSteel™, it delivers an intuitive 3D modeling environment where you can create even the most complex structural designs with accuracy. ProStructures helps you reduce documentation time, eliminate errors, and accelerate workflows across buildings, plants, civil, and bridge projects. With its parametric modeling capabilities, you can quickly generate placement drawings, fabrication details, bar bending schedules, bills of materials (BOMs), and reports that automatically update with model changes—improving both productivity and profitability.

### Create accurate models with powerful parametric concrete and steel modeling

ProStructures provides advanced parametric modeling tools for reinforced concrete and structural steel. You can easily model standard industry elements such as beams, columns, slabs, walls, and foundations, as well as complex geometries including curves, slopes, or non-orthogonal shapes. For concrete, reinforcement is automatically associated with the host element and updates with changes. For steel, parametric connections, templates, and assembly behaviors simplify the creation of intricate structures. With these flexible modeling capabilities, you can produce high-quality structural models faster and more accurately.

### Communicate design with high-quality documentation

Drawings, fabrication details, and BOMs are directly derived from the 3D model to ensure fidelity and consistency. For reinforced concrete, bar-bending schedules and material takeoffs can be quickly generated and customized to meet any standard. For steel, general arrangement drawings, fabrication details, numerical control (NC) data, and BOMs can be produced automatically using customizable rules and styles. Since all documentation is linked to the 3D model, any change is reflected across every output—drastically reducing errors and rework while ensuring clear communication among stakeholders.

Reuse structural data with interoperability

ProStructures enables efficient collaboration and information exchange across disciplines and software platforms. Reinforced concrete and steel models can be shared with architects, plant and process engineers, HVAC, and services teams. You can easily incorporate reference models from solutions like OpenBuildings® Designer, OpenBridge Modeler®, or MicroStation®, and collaborate with third-party applications such as Autodesk Revit and Tekla Structures using industry standards like IFC. Fabrication data can be delivered digitally to manufacturers and erectors, streamlining handoffs, minimizing duplication, and enabling a fully digital workflow from design through construction.
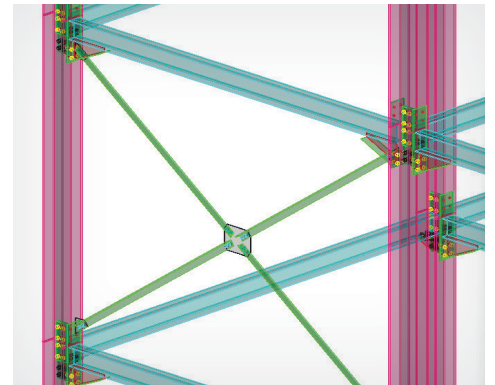
ProSteel tools enable the use and modification of the delivered steel shapes and connection nodes, as well as the creation of custom shapes and connection nodes.
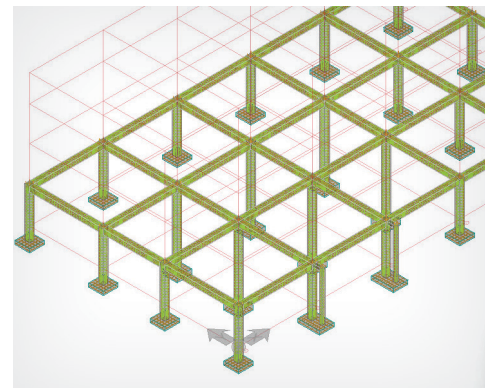
ProConcrete drawing tools help generate rebar set drawings with automatic annotations and quickly add concrete and rebar quantity tables.

System requirements

ProStructures At-a-glance

Parametric steel and concrete modeling

- Model reinforced concrete and structural steel objects with parametric intelligence
- Support for multiple national and international codes
- Standard and customizable objects such as beams, columns, slabs, walls, foundations, stair towers, handrails, ladders, bracing, portal frames, platforms, and walkways
- Apply reinforcement with face-based modeling that adapts automatically to concrete shape changes
- Modify steel and concrete with drill holes, bolts, notches, polycuts, diagonal cuts, and reinforcement adjustments
- User reinforcement capabilities support rebar of any shape or complexity
- Templates and styles capture standards for reuse and consistency across projects

Documentation

- Quickly extract fabrication, erection, placing, and general arrangement drawings
- Drawings automatically update with model changes
- User-defined detail styles and preferences
- Generate bar bending schedules, parts lists, and BOMs in single or batch processes
- Create NC data for steel fabrication and digital deliverables for rebar placement

Interoperability

- Share structural data across the design and fabrication chain
- Exchange information with disciplines such as architectural, plant, process, HVAC, and services
- Reference models from OpenBuildings Designer, OpenBridge Modeler, and MicroStation
- Output to industry formats, including IFC, ISM, iModels, 3D PDF, SDNF, and CIS/2
- Integrates with Bentley solutions (STAAD®, RAM®) and third-party software, ERP systems, and CNC machines

Integrate modeling and documentation work

- Support for ProjectWise® Managed Workspaces
- Share models directly from your desktop as iModels or 3D PDFs
- Review project details and monitor performance with real-time visibility
- Access personalized learning, communities, and project resources
- Coordinate work effectively with connected teams to accelerate project delivery