

Autodesk® Robot™ Structural Analysis Professional 2010
Autodesk® Robot™ Structural Analysis 2010

Questions and Answers

Autodesk® Robot™ Structural Analysis Professional 2010 software and Autodesk® Robot™ Structural Analysis 2010 software offer collaborative, versatile, and faster analysis solutions for structural engineering.

Autodesk Robot Structural Analysis Professional 2010 and Autodesk Robot Structural Analysis 2010 extend building information modeling (BIM) for structural engineering with advanced structural analysis capabilities for buildings and bridges, and civil and specialty structures. Calculate your complex models with exceptionally powerful finite element auto-meshing, nonlinear algorithms, and a comprehensive library of country-specific design codes. Deliver results in minutes, not hours. Autodesk Robot Structural Analysis Professional software offers a more seamless workflow and interoperability with other Autodesk structural engineering products using an open API (application programming interface). Autodesk Robot Structural Analysis Professional is faster, collaborative, and versatile to help you compete and win in the global economy.

The Autodesk logo is positioned vertically on the right side of the page. It consists of the word "Autodesk" in a blue, sans-serif font, with a registered trademark symbol (®) at the top right of the letter 'k'.

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1. General Product Information

1.1 What is building information modeling, and how does it apply to Autodesk Robot Structural Analysis Professional 2010?

Building information modeling (BIM) is an integrated workflow that allows architects, engineers, and builders to explore a project digitally before it's built. Coordinated, consistent information is used throughout the process to:

- *Design* innovative projects
- *Accurately visualize* physical appearance
- *Simulate* real-world performance

BIM for structural engineers follows this same methodology for the entire structural engineering process, focusing on a digital model that can be used for coordination with architects; mechanical, electrical, and plumbing engineers; and civil engineers that is integrated with analysis, design, and construction documentation, and extending that digital information from design through fabrication and construction.

Autodesk Robot Structural Analysis Professional software helps to support the BIM workflow for structural engineering. It offers analysis and simulation capabilities to help better predict structural performance and optimize materials of structural systems, enabling better internal coordination between engineers and drafters with a link to Autodesk® Revit® Structure 2010 software as well as between engineers and detailers with a link to AutoCAD® Structural Detailing 2010 software.

For more information about building information modeling and the Autodesk strategy for the application of information technology to the building industry, see the white papers and other information available at www.autodesk.com/bim.

1.2 What is Autodesk Robot Structural Analysis Professional 2010?

Autodesk Robot Structural Analysis Professional 2010 is a collaborative, versatile, and faster software application that can help you compete and win in the global economy. As both a stand-alone application and a key component for BIM, Autodesk Robot Structural Analysis Professional provides a solution for tackling a wide range of structural analysis and design concerns, from simple to advanced, in one single common environment and includes a comprehensive collection of design codes and languages, helping you to achieve results in minutes, not hours. Seamless, collaborative workflow and interoperability with bidirectional links to Autodesk® companion products, including Autodesk Revit Structure software, together with an open application programming interface (API) provide a scalable, country-specific analysis solution for many different types of structures

1.3 What is Autodesk Robot Structural Analysis 2010?

Autodesk Robot Structural Analysis 2010 software is another version of the same product with a limited number of finite elements (7,000) and nodes (7,000) and no access to some of the advanced analysis capabilities such as harmonic, transient, and footfall analysis, to name a few. Autodesk Robot Structural Analysis Professional 2010 includes all functionality and has unlimited number of finite elements and nodes.

1.4 How is Autodesk Robot Structural Analysis Professional 2010 different from Robot Millennium v21?

Robot Millennium v21 was the structural analysis and design software acquired from Robobat. In addition to Autodesk licensing and look and feel, Autodesk Robot Structural Analysis Professional 2010 improves advanced analysis and includes new design codes. Both Autodesk Robot Structural Analysis Professional 2010 and Autodesk Robot Structural Analysis 2010 have enhanced interoperability with Autodesk Revit Structure 2010 as well as AutoCAD Structural Detailing 2010. Both products also include Autodesk® Concrete Building Structures 2010 software, formerly known as Robobat CBS Pro software, as well as the Robot™ Expert tools.

1.5 Who benefits from Autodesk Robot Structural Analysis Professional?

All types of engineers involved in the analysis and design of building, civil, and other related structures benefit from Autodesk Robot Structural Analysis Professional software.

1.6 What is Autodesk Concrete Building Structures 2010?

This software was formally known as Robobat CBS Pro software. Autodesk Concrete Building Structures 2010 is an easy-to-use yet powerful software tool for the modeling, analysis, and cost estimation of reinforced concrete structures. Engineers can more quickly build up a structural model using “components” such as beams, columns, walls, floors, and openings.

2. Technology

2.1 What are the primary features of Autodesk Robot Structural Analysis Professional 2010?

The most important features include the following:

- Seamless bidirectional links with Autodesk Revit Structure 2010 software
- Integral part of structural ecosystem for analysis, design, documentation, and fabrication
- Advanced auto-meshing and modeling capabilities
- Localized for global markets
- Countrified for numerous markets
- Wide range of analysis capabilities
- Integrated design solution for reinforced concrete, steel, and wood
- State-of-the-art analysis solvers
- Extensive output of analysis results
- Open and flexible API

2.2 What types of structures can be analyzed and designed in Autodesk Robot Structural Analysis Professional 2010?

Autodesk Robot Structural Analysis Professional 2010 software can be used to help analyze and design buildings and bridges, and civil, industrial, offshore, and other specialty structures.

2.3 What types of structural materials can be analyzed and designed in Autodesk Robot Structural Analysis Professional 2010?

Structural materials that can be analyzed and designed in Autodesk Robot Structural Analysis Professional 2010 include reinforced concrete, steel, aluminum, and wood.

2.4 What building codes, material design codes, and functionality are available in Autodesk Robot Structural Analysis Professional 2010 that is *not* available in Autodesk Robot Structural Analysis 2010?

	Autodesk Robot Structural Analysis 2010	Autodesk Robot Structural Analysis Professional 2010
Structure types		
2D and 3D bars	X	X
Plates	X	X
Shells	X	X
Stress plane	X	X
Deformation plane	X	X
Axisymmetric	X	X
Volumetric		X
Number of elements		
Bar elements	3,000	unlimited
Nodes	7,000	unlimited
Panels	7,000	unlimited
Finite elements	7,000	unlimited
Analysis		
Static Linear	X	X
Tension Compression only elements	X	X
Dynamic—Modal	X	X
Dynamic—Spectral	X	X
Dynamic—Seismic	X	X
Buckling	X	X
Harmonic		X
Transient		X
Nonlinear transient		X
Pushover		X
Elastoplastic		X
Footfall		X
Frequency response function		X
Cable elements		X
Advanced diagrams		X

Steel, concrete, and timber codes, as well as connections are available for both Autodesk Robot Structural Analysis 2010 and Autodesk Structural Analysis Professional 2010.

3. Installation, Configuration, and Licensing

3.1 What should I do if I need help installing the FLEXlm® license server or getting my single-user copy authorized?

As with all other products, you should contact your reseller first for help with installation and licensing issues. Resellers can then escalate problems that cannot be easily resolved to Autodesk Client Services. Autodesk® Subscription customers can email Autodesk directly with installation support questions.

4. Compatibility and Interoperability

4.1 How does Autodesk Robot Structural Analysis Professional 2010 integrate with Autodesk Revit Structure 2010?

These two software applications integrate through the Autodesk® Revit® Extensions for Autodesk® Revit® Structure 2010 software. This integration allows dynamic bidirectional transfer of structural data, including sections, loads, supports, as well as materials and code design information. This aids in maintaining the integrity of the models.

4.2 How do Autodesk Robot Structural Analysis 2010 and Autodesk Robot Structural Analysis Professional 2010 integrate with AutoCAD Structural Detailing 2010?

Structural elements that have been designed in Autodesk Robot Structural Analysis 2010 software and Autodesk Robot Structural Analysis Professional 2010 software, such as reinforced concrete beams and columns, can be directly exported to AutoCAD® Structural Detailing 2010 software for the creation of shop drawings. This integration allows structural engineers to extend their design data for fabrication.

4.3 What is the API for Autodesk Robot Structural Analysis 2010 and Autodesk Robot Structural Analysis Professional 2010, and what is the benefit of using the API?

The API (application programming interface) helps enable users to develop applications that can integrate directly with Autodesk Robot Structural Analysis 2010 and Autodesk Robot Structural Analysis Professional 2010. For example, customers can write postprocessors that take results directly from Autodesk Robot Structural Analysis or in-house analysis and design applications that use Autodesk Robot Structural Analysis as an analysis engine.

5. Consulting, Training and Support

5.1 What are my options for training?

Check with your local Autodesk Authorized Reseller for a schedule of software training classes. To locate a reseller, visit www.autodesk.com/reseller.

Attend hands-on, instructor-led classes at an Autodesk Authorized Training Center (ATC®). Increase your competitive edge with proven training from over 2,000 ATC sites in more than 90 countries. For more information about Autodesk Authorized Training Centers, visit the online ATC locator at www.autodesk.com/atc. Whether you are a novice or advanced user, Autodesk offers a robust portfolio of learning tools to help you perform ahead of the curve. Get hands-on experience with job-related exercises based on industry scenarios from Autodesk Official Training Courseware, books, e-books, e-learning, and training videos. To find out more, visit www.autodesk.com/aotc and www.autodesk.com/learningtools.

Autodesk certifications help you validate your skills and knowledge, and can accelerate your professional development, improve your productivity, and enhance credibility in your field. Receive immediate diagnostic feedback to assess your strengths and identify areas for improvement. For more information, visit www.autodesk.com/certification. Note that certification is only available for select products in certain areas.

Training courses are also offered through Autodesk Consulting and include Autodesk Virtual Classroom Training (online, instructor-led), custom training to match your organization's specific needs, and Autodesk Classroom Training. To obtain more information about Autodesk's training services, visit www.autodesk.com/training.

6. Subscription

6.1 What benefits do an Autodesk Robot Structural Analysis or an Autodesk Robot Structural Analysis Professional software subscription offer?

Get the benefits of increased productivity, predictable budgeting, and flexible license management with Autodesk Subscription. You get any new upgrades of your Autodesk software and any incremental product enhancements, if these are released during your Subscription term. A range of community resources, including web support direct from Autodesk product support specialists and self-paced training to extend your skills, make Autodesk Subscription the best way to optimize your investment in Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional software.

The annual fee includes:

- Autodesk Subscription offers a way to make your Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional software costs predictable. Whether you opt for a one-year subscription or a multiyear contract, the costs are known for the entire term of your contract.
- Product enhancements may include extensions, bonus packs, or other rich content for Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional—exclusive to Autodesk Subscription customers. Only Autodesk Subscription customers can access these new product downloads that add new functionality and features to your Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional software. Easily adaptable into your current workflows, apply them immediately to your new projects to help you stay competitive.
- Autodesk Subscription helps make managing software licensing hassle-free and flexible. You have added flexibility to allow your employees to use their Autodesk

Robot Structural Analysis and Autodesk Robot Structural Analysis Professional software—in the office or at home.

- Get what you need to stay productive with Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional software. With web support you get direct, one-to-one communication with Autodesk product support specialists for answers to your installation, configuration, and troubleshooting questions. And you do not need to keep track of support records and email trails, because we will do it for you!
- Get your team up to speed quickly with access to a complete library of interactive training tools and high-quality, self-paced e-Learning lessons that allow users to increase their productivity and master new skills. E-Learning lessons give you a quick and easy way to learn about the features and functionality of Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional software. These short lessons are available on demand and complement more in-depth training provided through [Autodesk Authorized Training Centers](#) or Autodesk Authorized Resellers.

To learn more, take the Autodesk Subscription tour at www.autodesk.com/subscription.

6.2 What product downloads are available for Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional for Autodesk Subscription customers?

For the latest product downloads, please visit www.autodesk.com/subscriptionlogin.

Downloads may include the latest release of the software, extensions, bonus packs, or other rich content for Autodesk Robot Structural Analysis and Autodesk Robot Structural Analysis Professional—exclusive to Subscription customers and can be downloaded from the Subscription Center www.autodesk.com/subscriptionlogin.

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