

Autodesk® Revit® 2016

# Features and benefits

## Overview

Built for Building Information Modeling (BIM), Autodesk® Revit® software combines features for architectural design, MEP and structural engineering, and construction, in a single, comprehensive application. The 2016 release continues to support user productivity with improved Revit software performance and usability enhancements. New features include MEP fabrication detailing within Revit, improved structural reinforcement detailing, and improved workflows specific to steel connection design and detailing.

## Core features and benefits

### Improved Revit project performance

Work more efficiently with improved model performance enabled by new features and settings in Revit.

- **Navigation during Redraw** Navigate models more smoothly and continuously without having to wait for the software to finish drawing elements at each step when you pan, zoom, and orbit around a view. The Navigation during Redraw feature speeds navigation by interrupting the display of model elements as you move through the model.
- **Calculation setting options** Work more efficiently, with improved model performance in large projects enabled by new settings in the Calculations drop-down.
  - The 'Performance' setting suppresses the processing of system-level calculations with most duct and pipe systems.
  - The "Volume Only" setting improves Revit performance while working with large Fire Protection, Vent, and Other classification system types by turning off calculation of the Volume parameter.
- **Loadable family instancing** Revit takes better advantage of video hardware to provide faster updates to views that contain multiple instances of families.
- **Linked file performance** Revit models with links display faster, with geometric display calculation working only on links that appear within the crop region.

### Automatically linked views in PDF exports

Help improve communication by more easily navigating PDFs exported from Revit. Share your designs as electronic PDF files with automatically linked views and sheets. Each view tag in the PDF file is a hyperlink.

### Work in perspective views

Improve productivity with the new capability to make adjustments in perspective views. You no longer always have to change views to make quick changes with new tools and capabilities available in perspective views including:

- Editing tools—Move, Align, Pin, and Unpin.
- Reset Target tool—Restores the position of the camera target to the center of the field of view.
- Toggle between the perspective and parallel representations of the 3D view.

### Improved IFC file usability

Use existing geometry in a linked IFC model as a reference for dimensions, alignment, snapping, and hosting of some face-based families in a Revit model. When you link an IFC file, its elements are assigned to a default phase.

With the new IFC Links and Rooms feature, when creating rooms in the host model you can use many IFC-based elements to define room boundaries. When you link an IFC file to the Revit project you can add rooms using the IFC model elements. This improved IFC linking capability further integrates open standards into Revit.

## Other key features and benefits

### Reveal Constraints Mode

Better understand the reasons behind your Revit model's behavior using Reveal Constraints mode to see all dimension and alignment constraints in a view.

### MEP Fabrication Detailing

MEP contractors and detailers can create fabrication-ready models inside Revit using content from the Autodesk® Fabrication products (Autodesk® Fabrication CADmep™, Autodesk® Fabrication ESTmep™, and Autodesk® Fabrication CAMduct™) for a more coordinated model. Fabrication components provide detailed connection definitions, more granular control on fitting definitions, and standardized segment lengths, leading to more accurate lengths, quantities, and coordination. Model and coordinate MEP LOD 400 components within the Revit environment.

### Improved integration between Revit and Structural Analysis software

Improve data integrity within BIM workflows and help guarantee more consistent parameters by assigning parameters representing expected characteristics to structural framing and structural column families.

The Projected Load parameter for area loads enables the definition of a projected loads value, improving your ability to manipulate and explore the analytical model within Revit to help solve round-tripping issues between Revit and structural analysis software.

### Improved Reinforcement Detailing

Model 3D concrete reinforcement in an advanced Building Information Modeling (BIM) environment. Create detailed and more accurate reinforcement designs. Produce reinforcement shop drawing documentation with rebar schedules.

Improvements in Revit 2016:

- Enhancements to the Rebar Constraints manager including the ability to zoom and pan while in the dialog, graphical selection of constraint targets, constraints to sloped faces, and the ability to offset covers from elements.
- Definition of shapes for Path Reinforcement for increased 3D rebar modeling versatility.
- Rebar placement precision: place rebar parallel to a host face using the Shift key during placement.
- New Rebar length rounding options support country specific standards.
- Additional rebar scheduling parameters improve rebar documentation and support better productivity for rebar detailing.
- Experience faster open and update of rebar views.

### Accuracy for Design Intent Model Definition

Better connect design to detailing with more accurately defined design models in Revit. Interoperability between Autodesk® Advance Steel steel detailing software and Revit benefits from completeness of information for structural objects properties and characteristics.

### Linking with steel detailing

Use a detailed Revit model to generate documents for fabrication. Interoperability between Revit and Autodesk® Advance Steel helps provide a more seamless BIM workflow from steel design to fabrication.

### Member Forces for Connection Design

Better communicate design loads to a steel connection designer or fabricator with a new set of internal force parameters for the ends of framing and column elements. These internal forces can be listed in schedules and used in annotation tags as well as be used by third-party software for steel connection design and code check verification. This new feature supports workflows specific to Connection Design and Detailing.