Success is in the details.
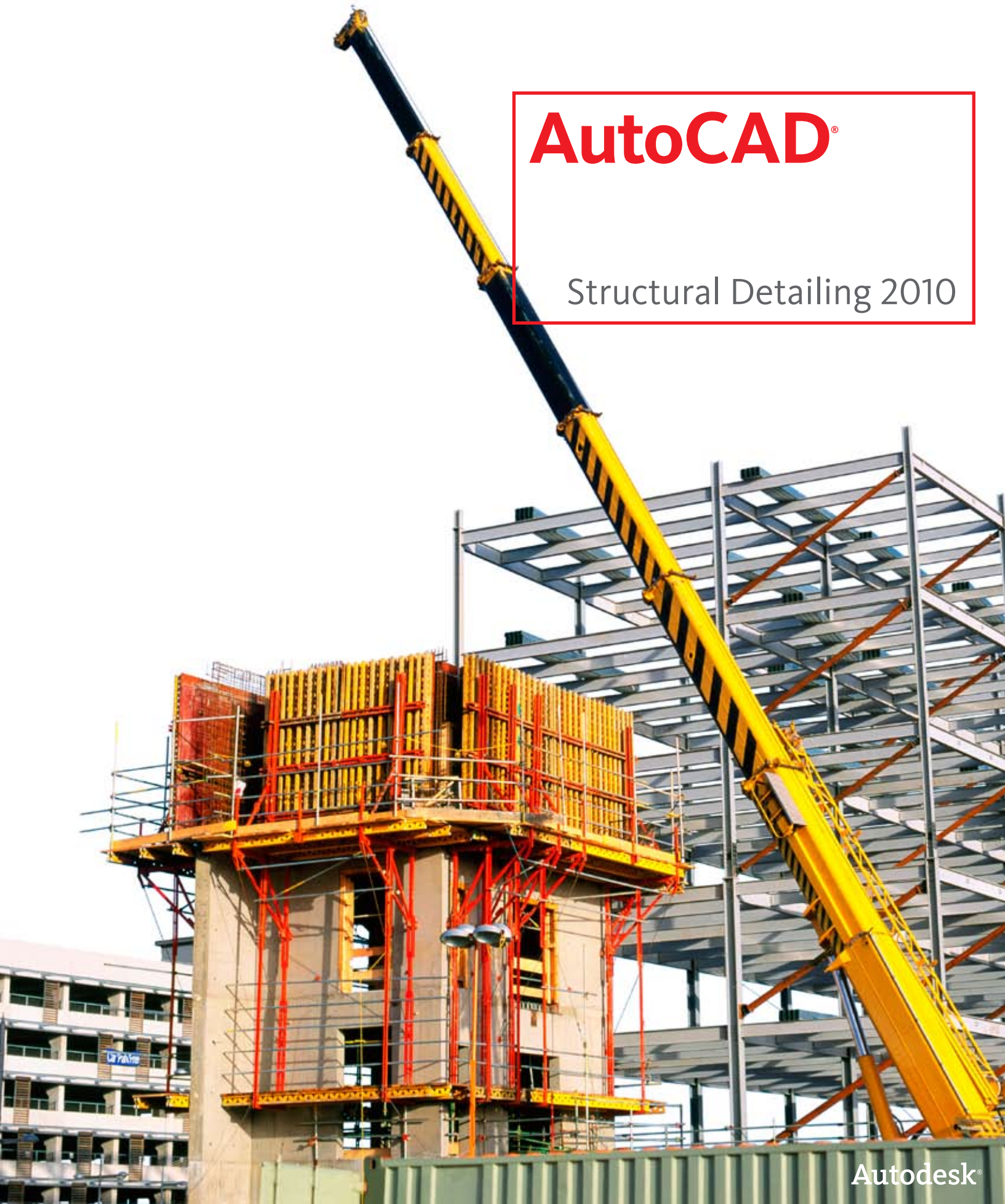
AutoCAD®
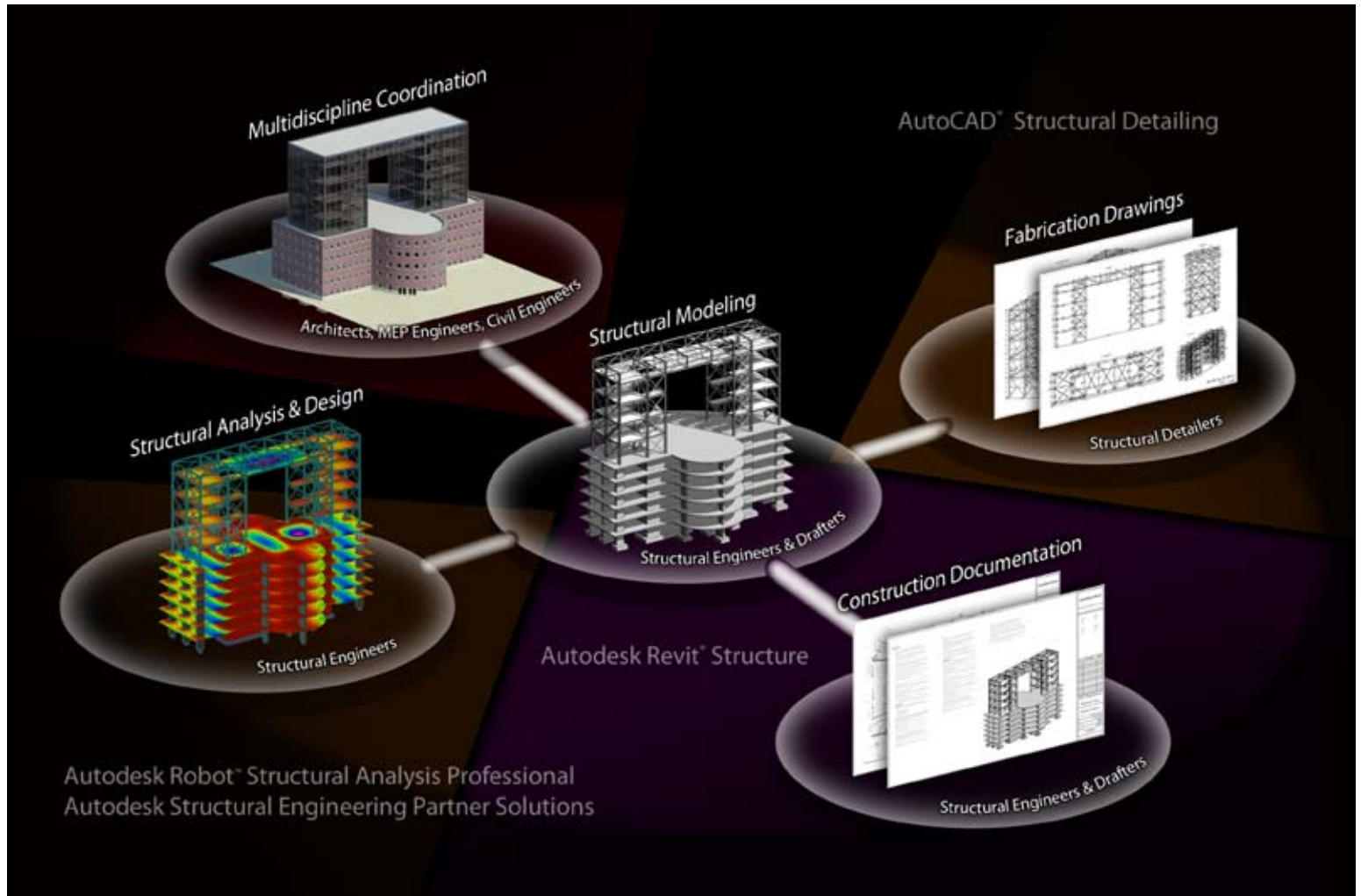
Structural Detailing 2010

Building Information Modeling for Structural Engineering

Integrated tools for modeling, coordination, analysis, design documentation, as well as shop drawings and fabrication.

Building information modeling (BIM) is an integrated process built on coordinated, reliable information about a project from design through construction and into operations. By adopting BIM, architects, engineers, contractors, and owners can more easily create coordinated, digital design information and documentation; use that information to visualize, simulate, and analyze performance, appearance, and cost; and reliably deliver the project faster, more economically, and with reduced environmental impact.

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 model from design through fabrication and construction.

Autodesk Revit Structure

Autodesk Revit Structure software integrates multimaterial physical and analytical models, providing concurrent structural modeling for more efficient, more up-to-date documentation, as well as tighter integration for analysis and design.

Autodesk Robot Structural Analysis Professional

Autodesk® Robot™ Structural Analysis Professional software is a collaborative, versatile, and fast structural analysis and design application that incorporates BIM, enabling engineers to readily analyze a wide variety of structures.

AutoCAD Structural Detailing

AutoCAD Structural Detailing software is a powerful solution for faster and efficient detailing and creation of fabrication shop drawings for reinforced concrete and steel structures.

Extend design to fabrication

AutoCAD® Structural Detailing software helps engineers, drafters, and detailers around the world to collaborate and deliver coordinated and comprehensive fabrication shop drawings.

> We have been using AutoCAD Structural Detailing software and its previous versions for our structural steel drawings since 2003. The bi-directional link with Autodesk Robot Structural Analysis Professional provides a flexible workflow that allows us to create fabrication and erection drawings directly from the analysis model or to analyze a model initially created in AutoCAD Structural Detailing.
>
> —Christophe Tremoulet
> Principal
> Ingetech, France

AutoCAD Structural Detailing, built on the familiar AutoCAD® platform, helps enhance productivity with more precise detailing and creation of fabrication shop drawings, and improves accuracy through material-specific bills of quantities and schedules. Engineers, drafters, and fabricators can automate concrete reinforcement definition and shop drawing creation for various types of structural concrete members. Steel detailing capabilities include the ability to model steel structures or import CIS/2 files, helping to enable faster and more efficient modeling of steel connections and shop drawings.
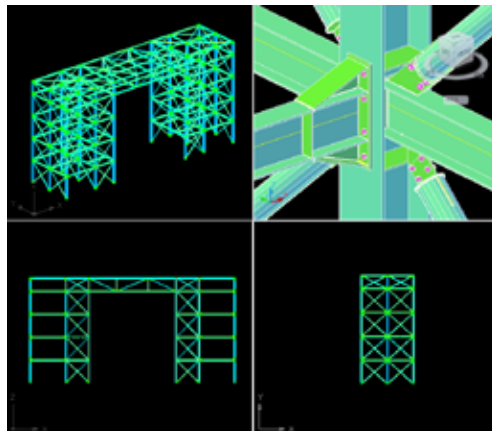
Collaboration with Autodesk Revit Structure

With direct links between AutoCAD Structural Detailing and Autodesk® Revit® Structure software, structural information within the building information model (BIM) can be extended from design directly to fabrication. Using Revit® Extensions for Autodesk Revit Structure software, an exclusive subscription benefit, subscribers can export concrete reinforcement data from Autodesk Revit Structure and generate 2D reinforcement drawings in AutoCAD Structural Detailing according to a selected national code. A structural steel model created in Autodesk Revit Structure can be exported to AutoCAD Structural Detailing via CIS/2 files to complete all of the steel connection modeling and detailing, and automatically create fabrication shop drawings.

Interoperability with Structural Analysis Software

AutoCAD Structural Detailing allows you to readily import structural steel models created in Autodesk® Robot™ Structural Analysis software or CIS/2 files for immediate 3D assembly and further detailing. The reinforcement detailing capabilities of AutoCAD Structural Detailing enables users to import reinforcement data from Autodesk Robot Structural Analysis for automatic generation of drawings.

Links to CNC Machines for Fabrication

AutoCAD Structural Detailing provides direct links to computer numeric controlled (CNC) fabrication machines through DSTV format, eliminating redundant data input for the fabrication of steel parts.

Country-Specific Detailing Templates

Creating shop drawing documentation strongly depends on regional codes and detailing methods characteristic for each country (especially for RC drawings). For that reason, AutoCAD Structural Detailing offers templates that comply with detailing practices, such as designations and hatching patterns, in a multitude of countries, ensuring automatic adherence to local detailing methods and appropriate elements or material schedules.

Regional Databases

AutoCAD Structural Detailing includes multiple databases from many countries around the world to help provide access to locally required elements (steel sections, materials, or rebar shapes).

Powerful and Comprehensive Steel Modeling and Detailing

AutoCAD Structural Detailing software enables the creation of precise structural steel models and shop drawings.

An integrated solution, the steel detailing capabilities of AutoCAD Structural Detailing software provide comprehensive and powerful drafting tools for commercial and industrial steel building projects.

Structure Definition
Create your model in a 3D environment from the provided database library or define your own steel shapes with AutoCAD Structural Detailing. Convert any line from AutoCAD® software into a viable steel section and precisely situate structural elements using the 3D work frame. Define structural parts and assign connections. Finally, convey and present realistic complexities of your design with a comprehensive 3D structural model.
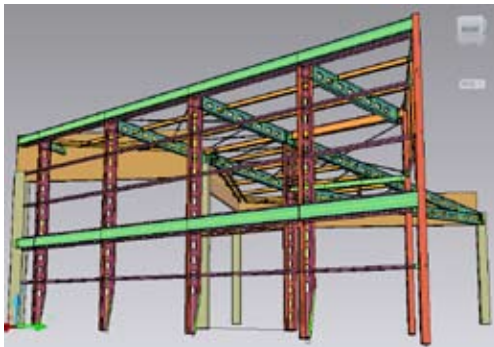
Intelligent Objects
Simplify your modeling processes using profiles, plates, and other objects. Virtually cut, lengthen, bend, split, and merge while updating material takeoffs.

Powerful Modeling and Connection Detailing Macros
AutoCAD Structural Detailing provides special tools and smart macros that enable speedy automation of time-consuming structural tasks, including connections, roof trusses, stairs, railings, ladders, and automatically spread elements, such as grates or purlins.
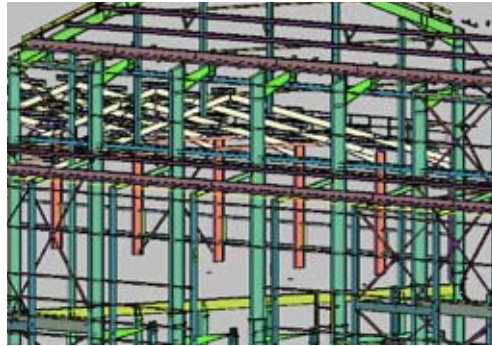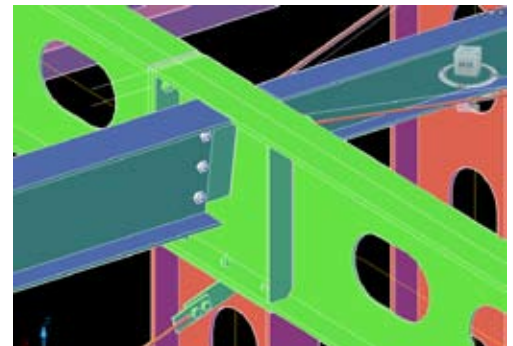

**Photo and model courtesy of Christophe Tremoulet, Ingetech.**

Customizable Detailing and Shop-Drawings Styles
Styles enable users to adjust the look of final shop drawings. It is possible to change many drawing elements, descriptions, symbols, dimensions, or tables. Create new styles or modify existing ones easily to make your drawings look the way you want.

Drawings and Material Takeoff Generation
Use your 3D structural model to automatically generate workshop drawings, schedules, and material takeoff data. Intuitively change your model, and leave time-consuming documentation updates to AutoCAD Structural Detailing.
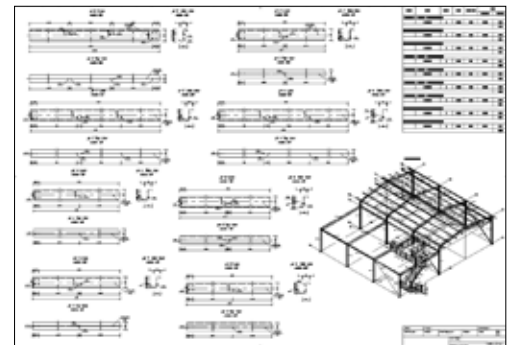
Fast and Efficient Reinforcement Detailing and Scheduling

Automate reinforcement definition and generate shop drawings for all types of structural concrete members.

AutoCAD Structural Detailing software offers reinforcement detailing capabilities and provides templates that comply with detailing practices in a number of countries, enabling better adherence to local detailing methods and appropriate bar schedules. Execute fast and efficient detailing and scheduling of concrete elements, including pad footings, staircases, beams, and columns, using intelligent tools and macros.

Rebar Definition
Use standard shape bars from a wide variety of country codes, or draw your own nonstandard bar shapes. Define longitudinal reinforcement and rebar in cross section, and enjoy automatic, appropriate distribution. Choose from a variety of reinforcement types, including straight bars, radial reinforcement, or wire fabric.
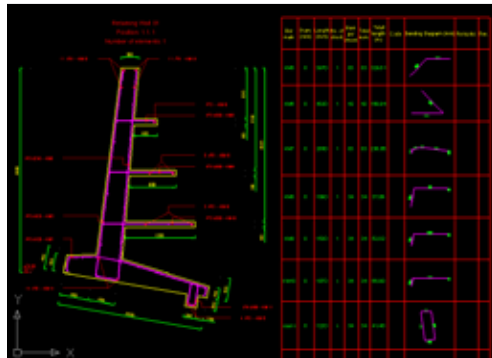

Intelligent Rebar Elements
Define reinforcement of structure members using objects and bars, with automatic accounting for covers and hooks.

Concrete Element and Rebar Definition Macros
Generate comprehensive concrete reinforcement drawings, together with rebar descriptions and material takeoffs, with AutoCAD Structural Detailing macros.

Drawing Preparation and Material Takeoffs Generation
Speed up preparation of your reinforcement drawings with tools to automate rebar definition. Automatically produce schedules within AutoCAD Structural Detailing, or export to Microsoft® Excel® software or Microsoft® Word software. Automatically update schedules to reflect changes in your drawings, as you make them.

Our engineering group uses Autocad Structural Detailing to produce reinforcement shop drawings specifically for concrete shear walls. In order to automate the distribution, tagging and scheduling necessary for our specific rebar drawings, we were able to develop custom tools based on existing macros. Beyond the productivity gains, AutoCAD Structural Detailing provides ease of use and programming capabilities for our engineering teams.

—Sébastien Scholl
   IT Project Manager
   Spie Fondations, France

AutoCAD Structural Detailing is an intuitive and user-friendly tool for creating shop drawings. One of its biggest advantages is the ability to customize styles according to our requirements, and its work environment gives us the flexibility we need on our projects.

—Adam Zieba
   Managing Director
   Bartels Poland

Learn More or Purchase
Access specialists worldwide who can provide product expertise, a deep understanding of your industry, and value that extends beyond your software purchase. To purchase AutoCAD Structural detailing software, contact an Autodesk Premier Solutions Provider or Autodesk Authorized Reseller. Locate a reseller near you at **www.autodesk.com/reseller.**

To learn more about Autodesk Structural Engineering Solutions, visit **www.autodesk.com/building**.

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