

STRUCTURAL ENGINEERING DESIGN AND ANALYSIS



20 YEARS

OF EXCELLENCE



WHAT IS TEKLA STRUCTURES ?

Tekla Structures is a 3D building information modeling (BIM) software used in the building and construction industries for steel and concrete detailing.

A Versatile software used worldwide for every Structural Engineering application including Process Plant buildings, Power Plant & Utilities, Bulk Material Handling, Boilers, High Rise Buildings, Pre Engineered Buildings, Offshore Structures, Towers, Bridges as well as Miscellaneous Structures like Stairs, Handrails and parametric macros are there to satisfy user requirements as well as standards worldwide.

STEEL DETAILING & FABRICATION

- Create realistic bids and cost estimates
- Fast, intelligent modeling lets you examine several alternatives with accurate cost estimates.
- Model allows for better overall understanding of the project
- Produce high quality sales presentations
- Detail better and more efficiently
- Intuitive, powerful and flexible modeling allows you to detail live in 3D
- Automated clash checking exposes conflicts before it is too late
- Extensive range of connections available
- Unique model sharing allows you to put multiple detailers on a single job

AUTOMATE ROUTINE TASKS

- Automated connection design and detailing through customisable rules
- Accurate documentation and material reports extracted directly from model
- All drawings are associative with the model Manage changes efficiently and reliably
- Costly errors are minimized through superior change management and revision control
- All related components react to changes.
- Drawings and documentation automatically updated
- Integrate operations through the model
- Enhance workflow by providing data directly from the model.
- Collaborate with other disciplines at the jobsite

TEKLA STRUCTURES FOR ENGINEERING

Collaborate

Collaboration with different project teams, internal and external, is

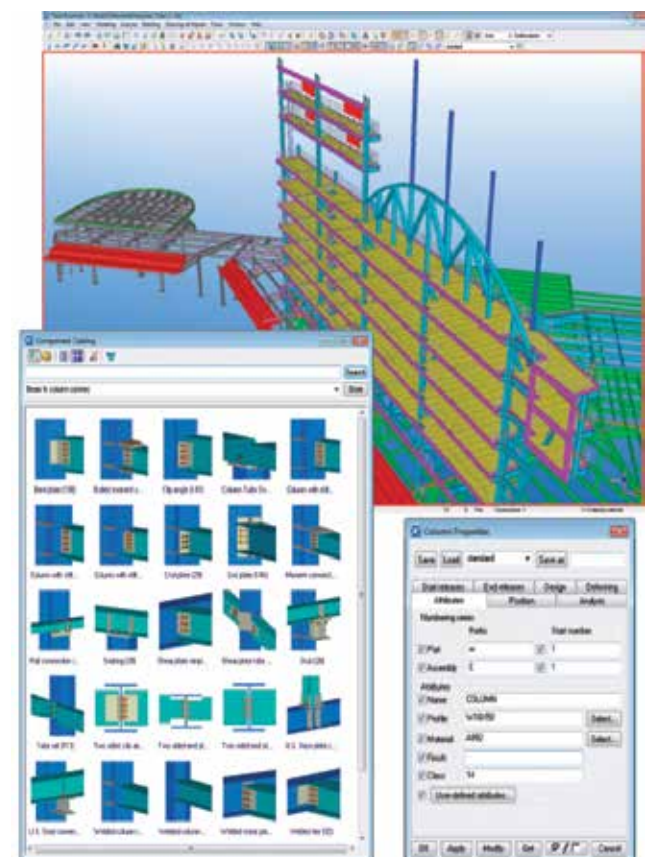
the bulk of what engineering work is today. Mastering the massive amount of information and changes is essential for quality projects.

- Communicate your conceptual design alternatives with ease and accuracy
- Use the information rich model and its impressive visualization tools to support your presentations
- Work simultaneously on the same model with others regardless of location
- Enter information only once and share it in its most up-to-date form throughout the process
- Use industry-standard formats, such as IFC, CIS/2, SDNF, DGN and DWG
- Monitor progress of the project with all project team members through built-in 4D tools

DESIGN

Understanding the building and its design options is what quality design is all about. This involves visualizing the projects and having the right tools to change ideas into practice.

- Focus on essential design decisions by freeing up time using





automated routine tasks, extremely powerful modeling, and an integrated, faster workflow

- Design in real-time 3D with an accurate, fully object-based model and utilize the model or parts of it in your preferred A&D solution. Once analyzed, update the model with the resulting data – no more duplicate modeling!
- Whenever you need to make changes, do them in the model – all related output reacts to the changes automatically
- Use automated clash checks to expose conflicts before they become a problem

DELIVER

The final deliverable, in the form of either reports or drawings, is a means to communicate the design. Quality output in plans, elevations, details, and reports is required for an error free project.

IMPROVE YOUR PERFORMANCE TODAY AND GET READY FOR TOMORROW!

- Greater modeling speed allows more alternative solutions to be explored and lets you compete for more complex and prestigious contracts.
- Powerful visualization and accurate cost estimates help you win more projects.
- An integrated, more efficient overall process reduces project cycle time.
- Less design errors and request for further information reduce costs.

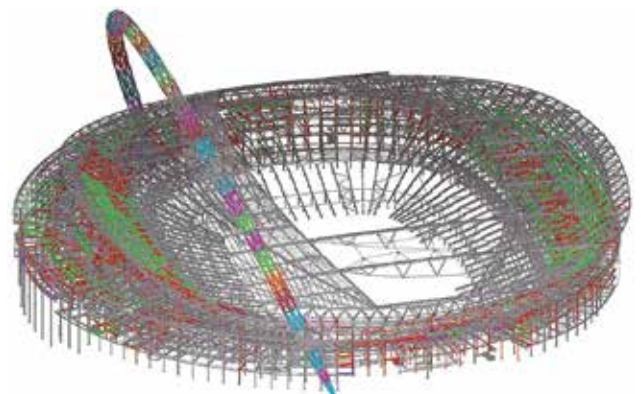
- Better quality of work builds up your reputation.
- Increased efficiency lets you cultivate new business opportunities.

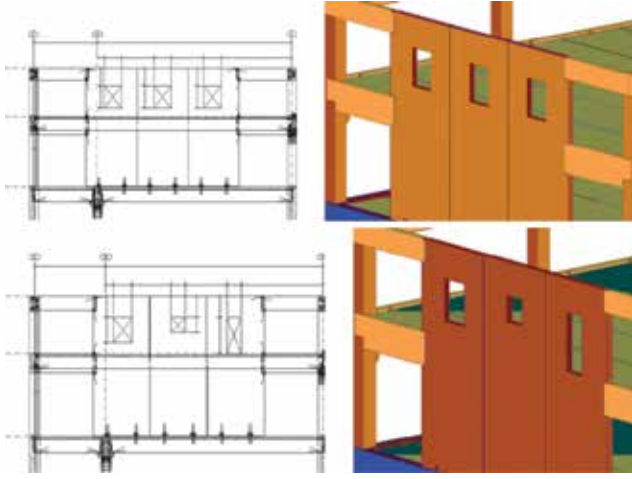
IMPROVE THE WORKFLOW FROM SALES TO ERECTION

- Consistent utilization of information –input only once
- Information is accumulative and accessible by everyone
- All changes are reflected in the output
- Multi-user capabilities enable fluent collaboration with other parties
- Production management and manufacturing data [NC] directly from the model
- Fully integrated drawing production
- Open and customizable solution supports production needs:

IMPROVE QUALITY AND MAXIMIZE PRODUCTIVITY

- All structural design work is mastered within one model
- Reduced costs due to avoidance of detailing errors – intelligent





object-based parametric modeling

- Unlimited options for viewing the design in real-time, regardless of the size or complexity of the project
- More efficient overall process reduces project lead time and improves the cycle time
- Capitalize on your increased efficiency to cultivate new business Opportunities
- To ensure the success of a building project, there are two critical objectives to meet: understanding owner expectations and interpreting the design intent. Sophisticated reporting tools allow rapidly quantifying the scope of materials provided by the design information.

USE THE MODEL TO:

- Associate lead times, delivery dates, methods and materials with elements in the model
- Determine project budgets, general schedules and availability, as well as delivery and constructability constraints
- Develop design alternatives, qualifying the variety of proposal options that may suit your best practice and deliver maximum value to the project
- Mitigate the risk involved in the early stages of a project
- Communicate efficiently with project participants to help understand design intent and ultimately to meet the owner's expectations

USE THE STRUCTURAL MODEL PROVIDED BY ENGINEERS AND FABRICATORS TO ITS FULL POTENTIAL:

- Model the whole process from preconstruction to construction planning and site management: plan and schedule the structures, quantities, costs and resources
- Automate data import from models, spreadsheets, schedules, web pages, company databases
- Update and monitor impacts as changes occur in your projects
- Visualize the building in its as-built condition, locate the task in the building, and show the team an exact way to proceed.

BENEFITS OF LEARNING TEKLA STRUCTURES

- Faster learning curve using the most popular and demanding software.

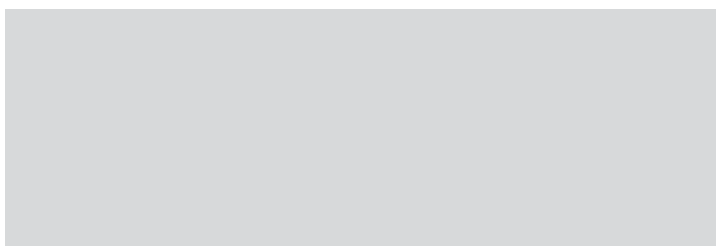
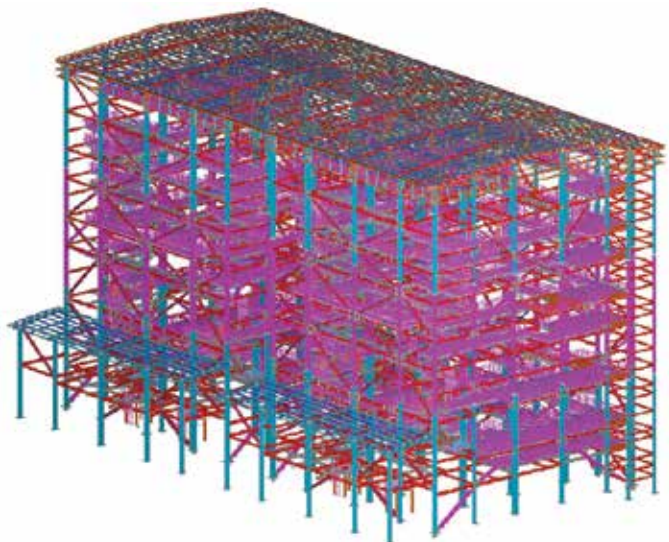
- Contemporary way of working - giving you & your company a definite competitive engineering edge.
- Enjoy the benefit of real-time 3D modelling (2D Drawings becomes a by-product of 3D model) .
- Design a variety of structures using steel, concrete or other materials.
- Intelligent model creation of any size or complexity with ease and precision.
- Link with third party application, automatic generation of drawings, reports or other output from the single 3D model.
- Revisions are much easier because the drawings and reports are fully integrated into the model[Change Management].
- Leading 4D tool to manage and track project status.

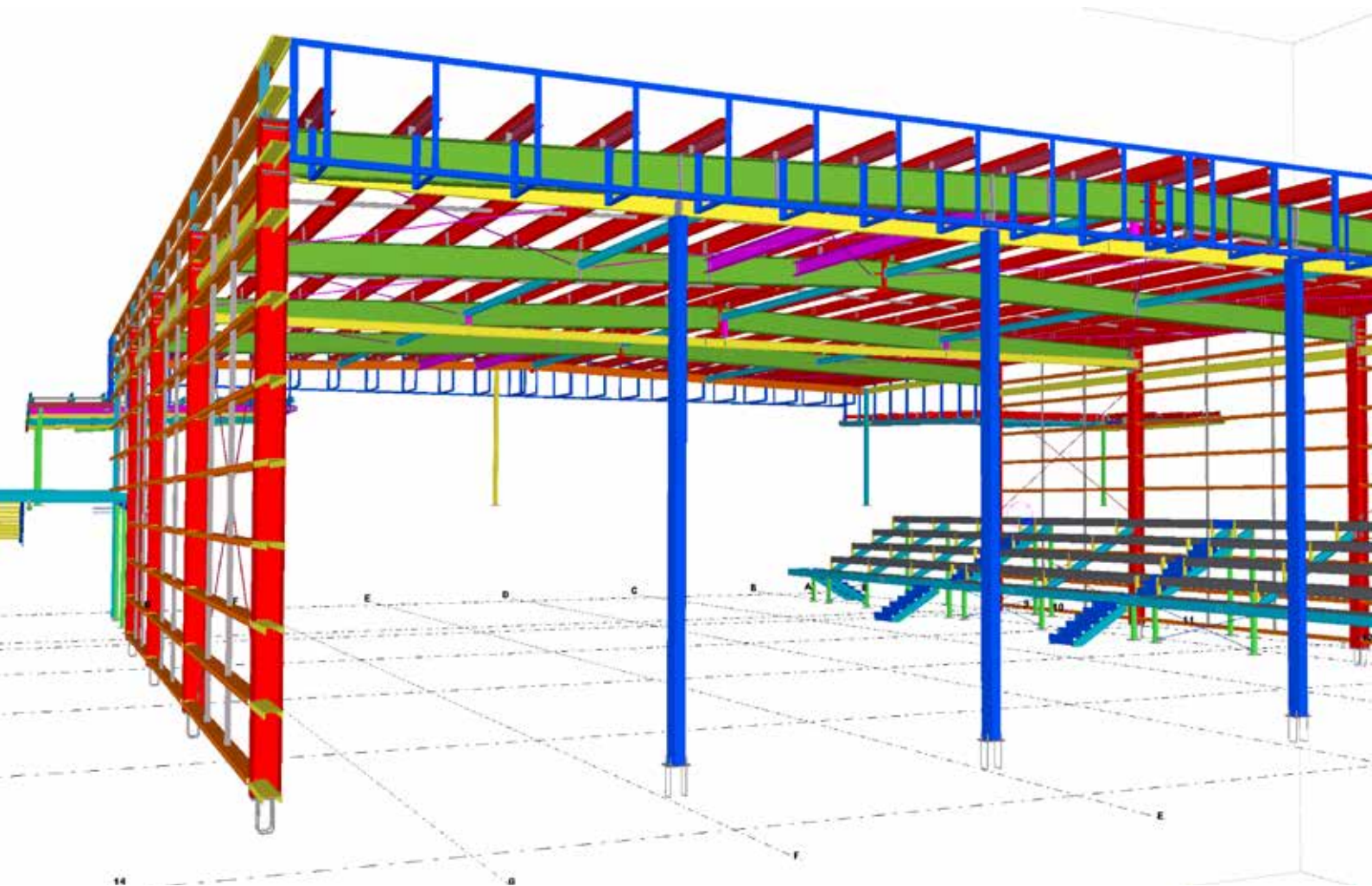
A TRAINING COURSE TO SUIT YOUR NEEDS

You and Your entire team can now enjoy the advantage of real-time 3D modeling. Tekla Structures lets you model a variety of structures using steel, concrete or other materials. You can create an intelligent model of any size or complexity with ease and precision.

ONSITE TRAINING

If you have a team of employees who need the same training and can get trained together, a onsite training enables you to keep travel to a minimum. Customized to your requirements, a onsite training is a targeted, flexible, efficient, and cost-effective approach to team training that can take place at your location. Onsite Training maximize the learning experience and suit the specific needs of implementation teams, or other technology groups.





WHO USES TEKLA STRUCTURES/BIM

- Structural Engineers
- Engineering consultants / Designers
- Architects & Designers
- Steel / Concrete Detailing Companies
- Structural Steel Fabricators
- Project owner, Contractors & Erectors
- EPC Companies

ELIGIBILITY

- Fresh / Experienced Diploma Holders / Graduates in Civil / Mechanical engineering.
- Working Executives: Engineers with above qualification, working with similar industries with knowledge of steel detailing preferred.
- ITI draughtsman with detail engineering experience.
- Corporates: Corporates using Tekla structures for their engineering Projects.

COURSE DETAILS

Name	: Tekla Structures
Duration	: 1 Month
Class Timings	: 5 to 7 Hours in a week
Admissions	: Online
Certification	: Trimble India Pvt Ltd

CAREERS IN BUILDING INFORMATION MODELING (BIM)

PROJECT MANAGER:

BIM is an advanced technology and not all corporations have it yet. A project manager not only has to oversee projects, but will also have to lead his or her company into full acceptance of the efficient and effective BIM programs

STRUCTURAL DESIGN ENGINEER:

A design manager's position is similar to that of the Project Manager, but has more supervisory responsibility. Prospects in this field, especially for those who hold a degree in Civil/Mechanical Engineering with BIM knowledge, are growing faster than the average career field.

TRAINING MATERIALS AND 4 MONTHS EDUCATION VERSION
TEKLA SOFTWARE WILL BE PROVIDED AFTER THIS COURSE

TEKLA STRUCTURES

INTRODUCTION (BASIC MODELING TOOLS & COMMANDS)

- About Tekla and Introduction to Tekla Structure Software
- Creating new model-Intro about menu / Screen layout
- Entering project properties
- Open model / Save As / Save
- Create 3D view & view display properties
- Place Grids & Grid properties and Work Area
- Create plan and elevation views
- Input Points & Point creation commands
- Input steel Members-Beam / Column / Twin Profiles / Plates

CREATE BASIC FRAME MODEL-1

- Creating new model as per sample drawing
- Creating single line grids and clip planes
- Inquire object / Assembly command
- Check Dimension – Measuring Tools

SYSTEM COMPONENTS AND APPLYING MACROS

- Introduction to Component Catalog
- Basic common Component properties
- Create component default views
- Input base plate components / Anchor Bolt
- Bracing components
- Inquiry Assembly, Parts, bolts, welds
- Misc. Components-Stiffeners / lifting lug / Hole generation / seating / Simple stairs/ Handrails etc.

CREATE MODEL-2 INTERACTIVELY

- Detailing commands- Fitting /Line Cut/ Polygon Cut/ Part cut
- Adding welds and weld properties
- Placing bolts and bolt properties- slotted holes/ circular bolt group/ Edit bolt parts/ Inquire bolt parts

CREATING CUSTOM COMPONENTS

- Introduction to custom components
- Types- Details/ connections/ Seam/ Part
- Create base plate custom components
- Create end plate custom components
- Concepts of numbering and Numbering settings
- Creation of various reports and Select filters and view filters
- Add purlins using parametric profiles
- Set slope work plane
- Add pipe bracings and connections
- Define numbering series
- Applying Numbering Series-Full/ Modified
- Checking numbering using various reports
- Run numbering, Clash & Model Check
- Integration between model and drawing
- Types of drawings and Drawing list
- Creating GA drawings
- Creating Anchor bolt plans
- Three levels of drawing editing properties
- Creating assembly drawings and properties
- Creating single part drawings and properties
- Creating multi drawing and Updating / Revising Drawings

CREATE MODEL-Miscellaneous

- Modeling of Pre Engineered Buildings
- Modeling of offshore structures – Jackets and Decks

NOTE : 4 MONTHS TEKLA SOFTWARE (EDUCATION VERSION) WILL BE PROVIDED AFTER THIS TRAINING PROGRAM



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