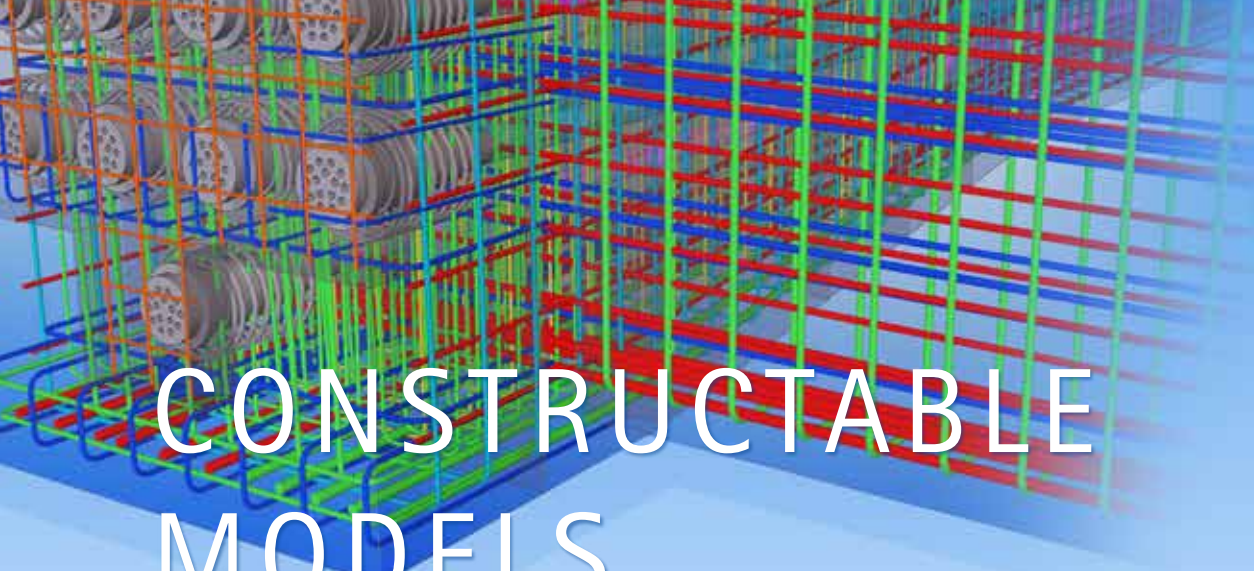
TEKLA®
A TRIMBLE COMPANY

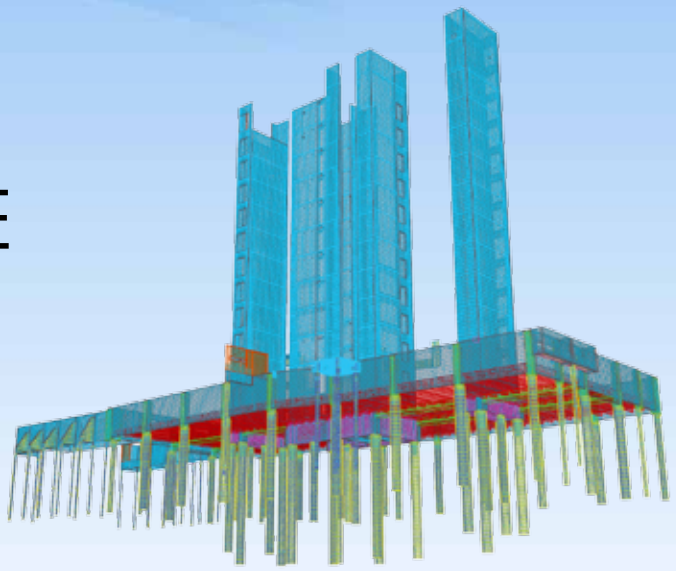
TEKLA SOFTWARE FOR

CAST IN PLACE CONCRETE

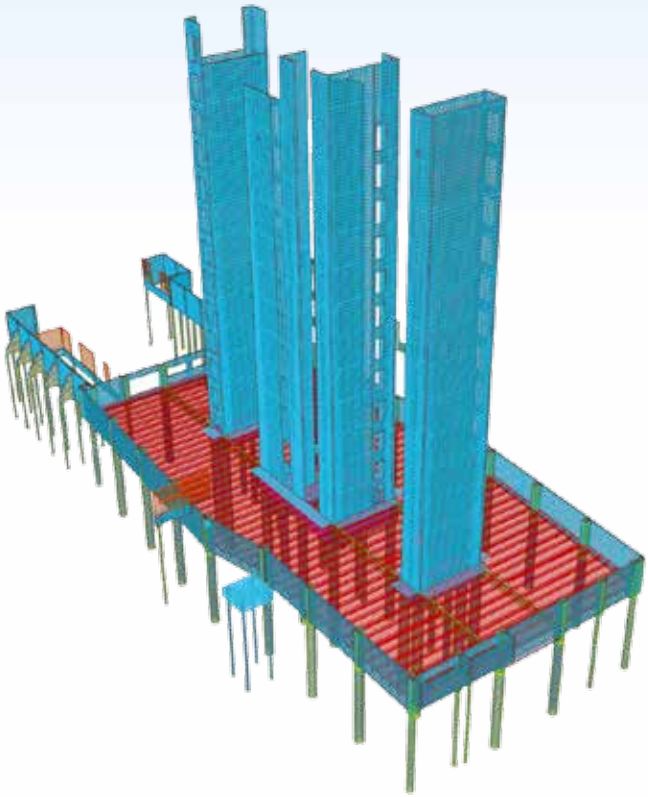


CONSTRUCTABLE MODELS

FOR CAST IN PLACE CONCRETE



> Building Information Modeling is becoming common place within the construction industry. Tekla Structures is a BIM solution that allows concrete contractors, engineers designing concrete structures and rebar detailers to benefit from being part of this process revolution.



> Tekla Structures provides a model based solution where all construction information and details are stored in a central 3D model. The details can include all concrete shapes and volumes, concrete mix information, rebar types and quantities and much more. Since the information is stored in a central 3D model it is readily accessible and tasks like Quantity Take Offs (QTO) and Estimation become very rapid and efficient. Any drawings, whether they are lift, rebar placement drawings or formwork, are all generated from within Tekla Structures using the 3D model. They can be fully annotated, dimensioned, contain rebar schedules and any data from the model. Data such as volumes of concrete by pour, rebar schedules, pour schedules and much more can be rapidly generated and viewed in a formatted report or even in MS Excel.

> BIM is all about collaboration and communication. Using industry standard formats Tekla Structures can display, manipulate and export models generated by many other BIM solutions. Combined with tools like site planning, scheduling, material tracking, the overarching visualization ability allows Tekla Structures to be used for project management.

EASY MODELING, EARLY BENEFITS

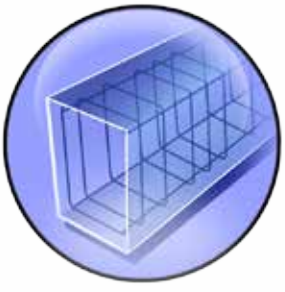
> Before the bid is won or during design, Tekla Structures' fast, intelligent modeling can improve productivity and efficiency. 3D views of the proposed construction and especially views of any constructability issues can be emphasized and finding these issues provide a clear competitive edge. Once the job is won, these powerful modeling tools combined with customizable libraries and automated routines enables the Concrete Contractor to rapidly and accurately model the structure to any level of detail.

RAPID AND ACCURATE MODELING

- Visualization capabilities create powerful sales presentations and can identify on constructability issues
- Automated features take care of routine work like drawing production
- Flexible libraries of reinforcements and embeds allow the instant application of accurate details
- Model and store company-specific details and drawing templates and reuse them on all projects

"If I get on the job site and start rolling along with 2D prints and hit conflicts on the job, I have to go through the RFI (request for information) process and that is a waiting game that costs a lot of frustration and money. With BIM modeling I can draw a model of the concrete ahead of time and put all the architectural and structural information in and I can see the clash points two or three months ahead of time and deal with them then."
– Aaron Stegmeier, ARS Concrete

TEKLA STRUCTURES CAN BE USED FOR EVERY STEP OF THE CONCRETE CONSTRUCTION WORKFLOW; FROM BIDDING TO ERECTION.



MODEL

> Quickly create accurate models of your job.

PLAN

> Use the 3D model to get organized, estimate and efficiently prepare to pour.

POUR

> Take the model on site to pour the concrete confident everything is covered.

ESTIMATES, QUANTITY TAKE OFFS AND DRAWINGS

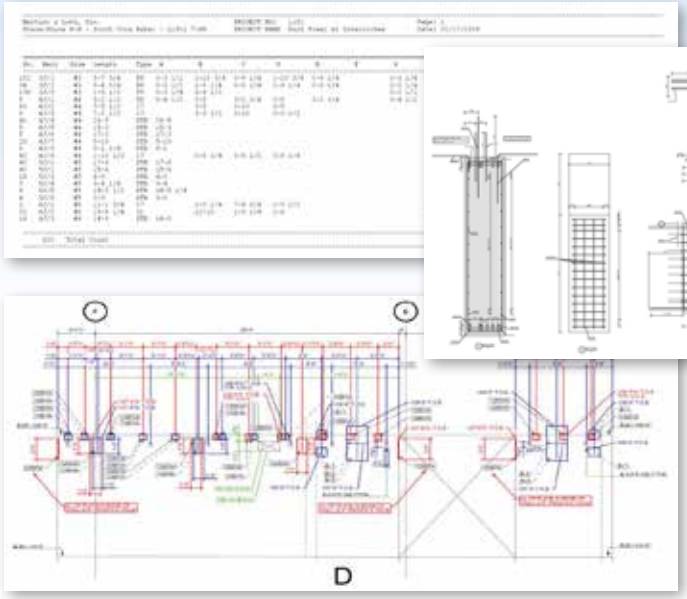
> Tekla Structures models are 3D databases. Not only are you storing the shape of the structure and all its parts, but each part can be associated with information such as mix ratios, pour dates, RFIs etc. Just like any other database, once a structure is modeled, queries can be run. During the sales phase, Tekla Structures can easily create several bid alternatives. Each alternative model can be queried for concrete volumes, weights, rebar quantities, rebar schedules etc and the information can be passed to estimating software or simply to MS Excel. Each alternative model would then generate separate accurate cost estimates and pricing, ultimately leading to an optimized solution.

> All needed drawings can be generated from the model. Formwork, lift, placement, rebar details all will adjust if changes are made in the model. This limits errors and simplifies any change order process.

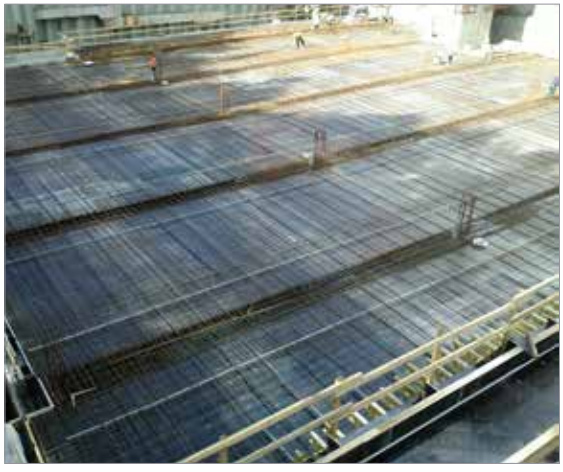
DATA INTEGRATION

- Consistent creation and use of information – input only once
- Information is accumulative and accessible by everyone
- All changes are reflected in the output eliminating duplication of the data and human error

"With BIM you can reduce the time and effort required to analyze multiple scenarios. Finding the best scenario is a critical component of improving work flows and productivity."
– Andy Lock, F.A. Wilhelm Construction Co



Tasks such as drawing creation, QTO and rebar bending schedules can be automated and extracted from the up-to-date model as often as needed..



Tietotie 11 construction site, Ramboll Finland Oy

"I threw that model together in about 4 hours the night before our meeting... We won the job."
– Brett Haley, Project Estimator
Miller, Long & Arnold

FORMWORK MODELING WITH DPR CONSTRUCTION

"With Tekla formwork modeling we were able to rapidly try out various formwork options enabling us to choose the arrangement that worked best with regards to cost and constructability. It also helped us reuse the same formwork material most efficiently in the next portion of our work.

Accurate quantities from the model helped in verification of estimated quantities and concrete pour optimization. One of the biggest time savers was 3D visualization of complicated areas instead of trying to visualize it from 2D plans. This ability saved on guesswork and rework.

One situation that comes to my mind is the complex areas around the beam column intersections where, with the help of 3D formwork model, we were able to figure how to build formwork. We were able to address constructability issues to the structural engineers and get a reply back even before the steel was erected. I have nothing but good things to say about the input and support from Tekla formwork modeling. "

- Karl Goeking, (Concrete Superintendent on UCSC, Digital Arts Facility)

MANAGE AND COMMUNICATE YOUR INFORMATION

> Tekla Structures can import spreadsheets of data and other 3D models. These could be used to manage change or apply an erection sequence to the structure. Additional information or attributes can be used to color specific parts of a model, to say highlight all the pieces that have open RFIs or the parts that will be poured in Pour 1. The Tekla Structures model enables this 3D visualization into construction status. Taking the model into the field is now possible through links with layout tools and Tablet PCs running field construction software.

> Construction teams are increasingly using BIM processes for coordination and collaboration. Tekla Structures enables this 3D construction communication, permitting models to be shared, issues to be communicated and money saved.

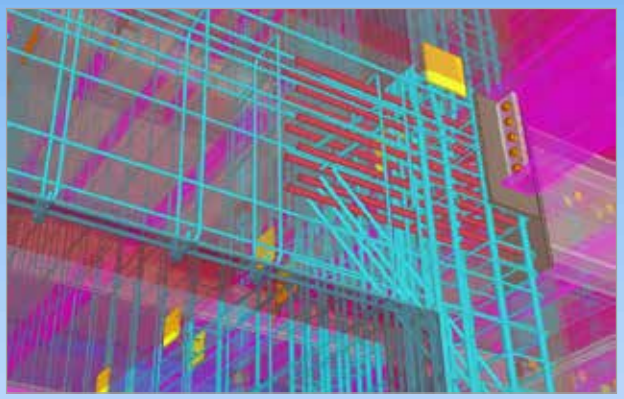
DATA

> Automated clash checking exposes conflicts

> Import models from other trades for coordination and communication

> More efficient overall process reduces project lead time and improves the cycle time

> Provide a means to monitor and manage during construction



Accurate simulation allows visualization for review of reinforcement and embeds helps plan through congestion issues and can be used in the field for placing.

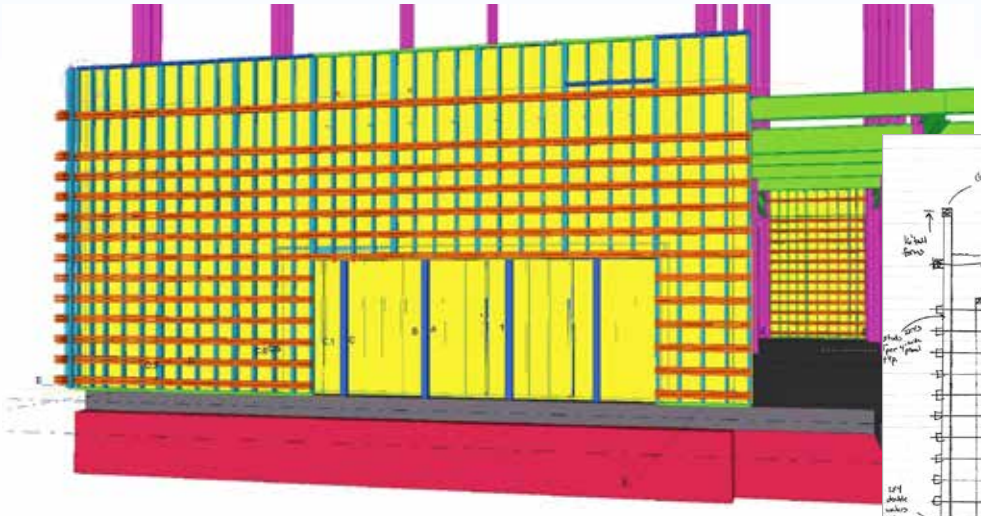
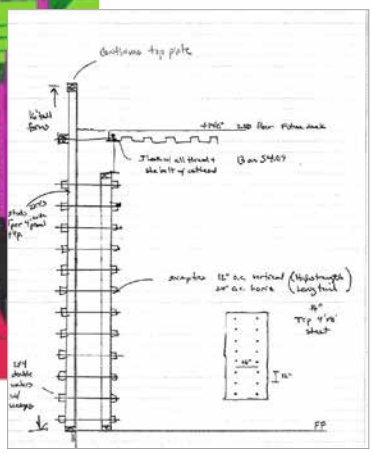


Image provided by DPR Construction

Libraries of embeds, rebar assemblies, formwork etc can turn company standards into intelligent components



TEKLA®
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OUR AMBITION IS TO MULTIPLY YOUR POTENTIAL TO THINK AND ACHIEVE BIG

> Tekla's goal is simple: multiply our customers' potential to think and achieve big. Tekla provides a BIM (Building Information Modeling) software environment that contractors, structural engineers and detailers and fabricators of all materials can share.

Tekla software creates, combines and distributes highly detailed, constructable 3D models. Information-rich models lead the way for production control and more collaborative and integrated project management and delivery. This translates into increased productivity and elimination of waste, thus making construction and buildings more sustainable and your ability to achieve big more realistic.

TEKLA

> We drive the evolution of digital information models to provide greater competitive advantage to the construction, infrastructure and energy industries. Established in 1966, Tekla has customers in over 100 countries, offices in over 20 countries, and a global partner network. Tekla Building & Construction is part of Trimble Buildings Group, a Trimble Navigation Ltd. segment focused on technology solutions that improve collaboration, efficiency and accuracy across the Design-Build-Operate (DBO) lifecycle of construction.

> tekla.com

TEKLA BIMSIGHT

> Tekla BIMsight is a free professional tool for construction project collaboration. Anyone can combine models, check for clashes and share information using the same easy-to-use 3D environment. With Tekla BIMsight project participants can identify and solve issues already in the design phase.

FREE DOWNLOAD AT
TEKLABIMSIGHT.COM

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