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How to ensure successful precast detailing

- every time

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How to succeed in precast detailing - every time!

Detailing is often seen as simply creating drawings for production. However, with the right tools, detailing becomes a tightly linked part of the process. You, as a detailer, can eliminate expensive errors, while keeping your focus on the fluent drawing delivery. What's more, at the same time, you can produce accurate information, **which can benefit the entire workflow for better profitability.**

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Detailing can affect the entire workflow

Detailing is a crucial part of the precast process, which can have a huge impact on costs. Typically, design and detailing only account for roughly 3-5% of the total project cost, and yet they have the power to influence more than 90% of costs. A little extra effort in the design and detailing phases can significantly reduce costs throughout the rest of the project.

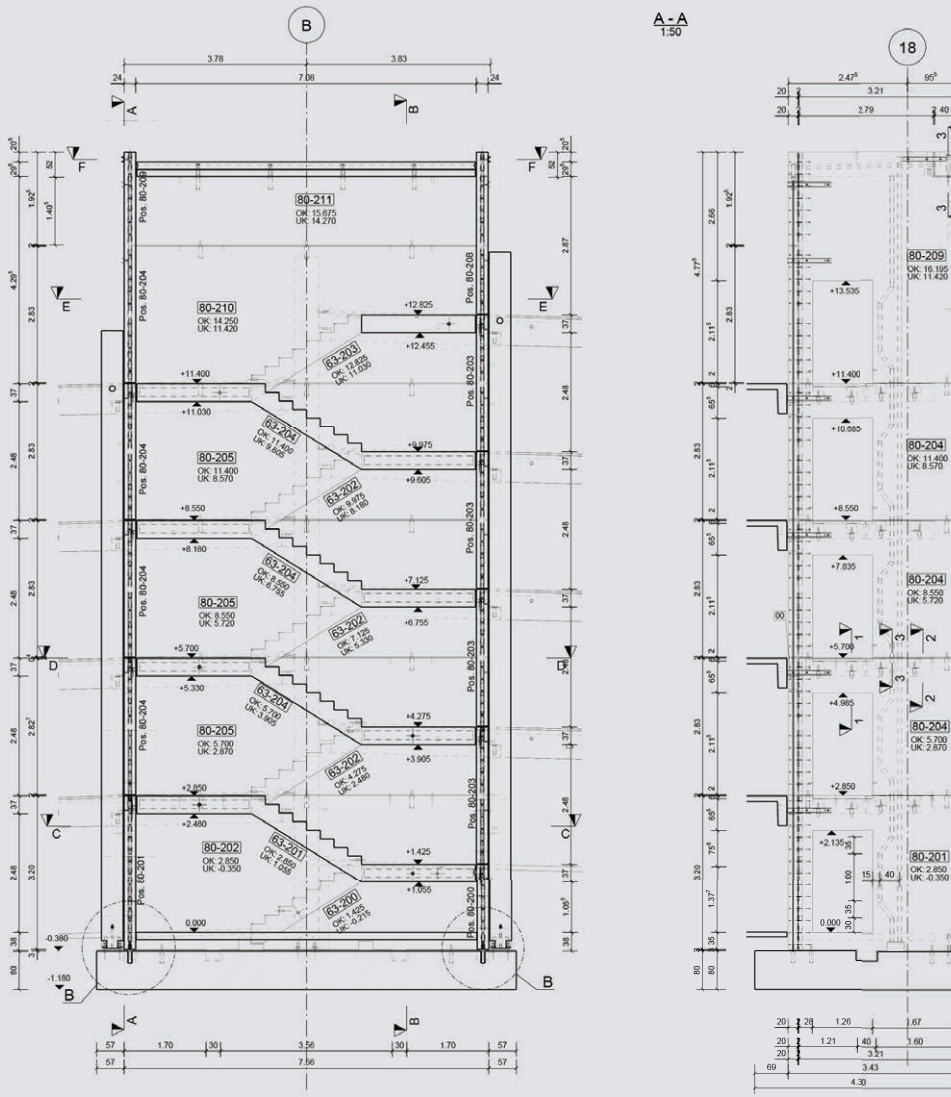
With the BIM process, your company can minimize errors, create valuable information that improves the entire project workflow from beginning to end, and deliver all types of precast projects on schedule and on budget.

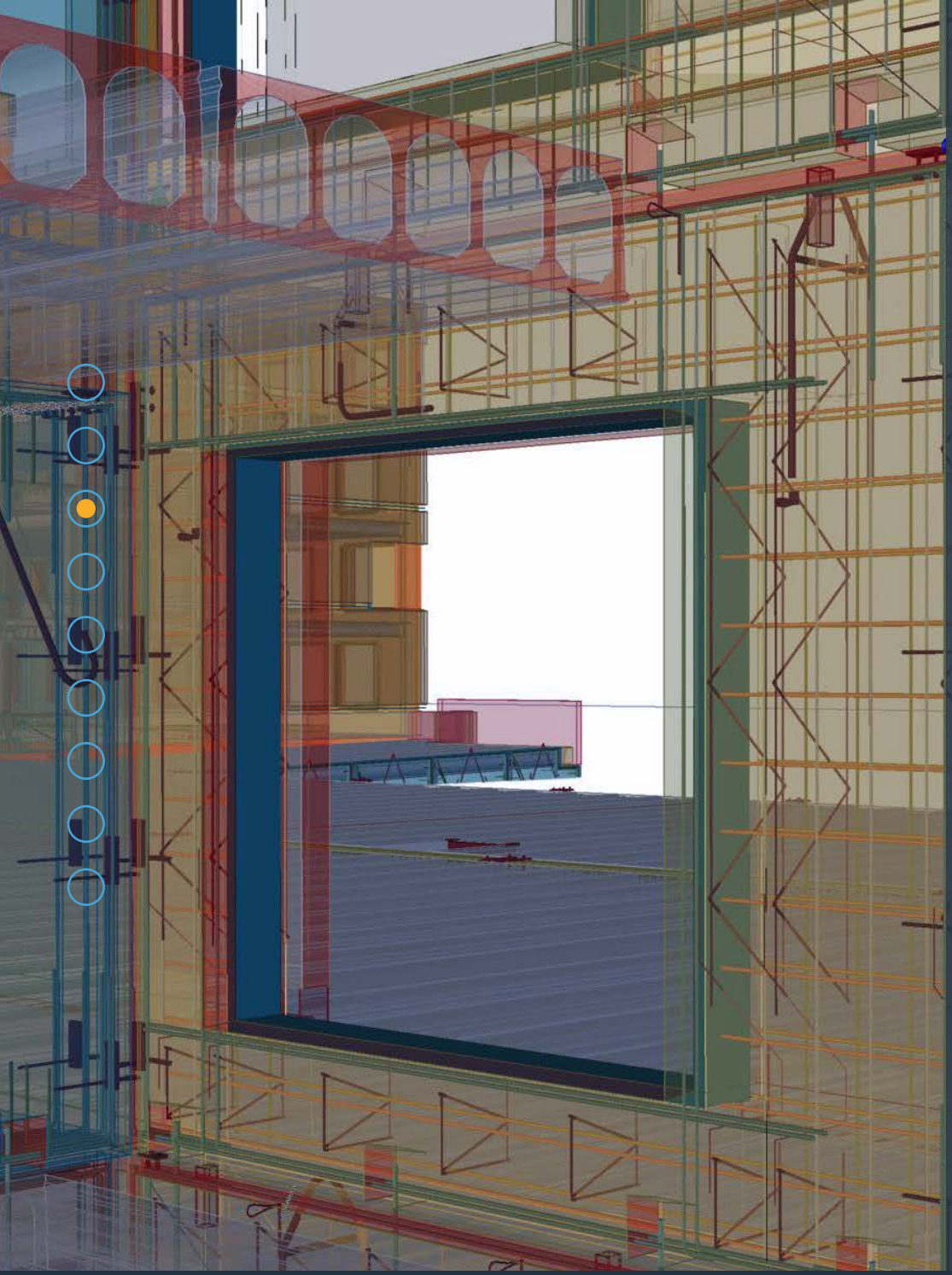
BIM for precast detailers

Getting a head start with early phase modeling

After successfully tendering and winning the project, the actual project execution begins. Regardless of whether your company created the model in the bid phase or at the beginning of the project execution, you as a detailer will get a clear understanding of how the structure should be detailed and can hit the ground running.

Automated drawings are a well-known benefit of a model-based information management process. **The true value of BIM for precast**, however, comes from the i**nformation that is easy to manage and revise**. For example, you'll only need to make changes once, in a single place, for all information to be up to date. This means no more sleepless nights worrying you forgot to make all the changes in all the right places.





The freedom to detail any structure

BIM provides effective constructible modeling and detailing for any precast project. Your company can detail small and simple projects or complex masterpieces. With the right modeling tools, you have **the ability to detail any type of element**, from mass detailing for simple and standard elements all the way to most complicated bespoke elements. This gives your company **the freedom to successfully and productively complete projects of all kinds** without worrying that software constraints will slow down your processes.

Designed for detailing

With a BIM tool **purpose-built for prefabrication and detailers, detailing is at the core.** It should be easy and intuitive to navigate inside the model, even when working on large projects with a high level of development (LOD).

You as the detailer can also check interfaces with other models, such as MEP design in any part of the structure according to the schedule. What's more, you're also able to easily manage revisions at any time and anywhere while working in the same model, without the need to open other models and files. This makes it **simple and straightforward to locate potential constructibility** issues. You can also prevent clashes and systematically check other modeling and detailing issues to prevent them becoming major problems.

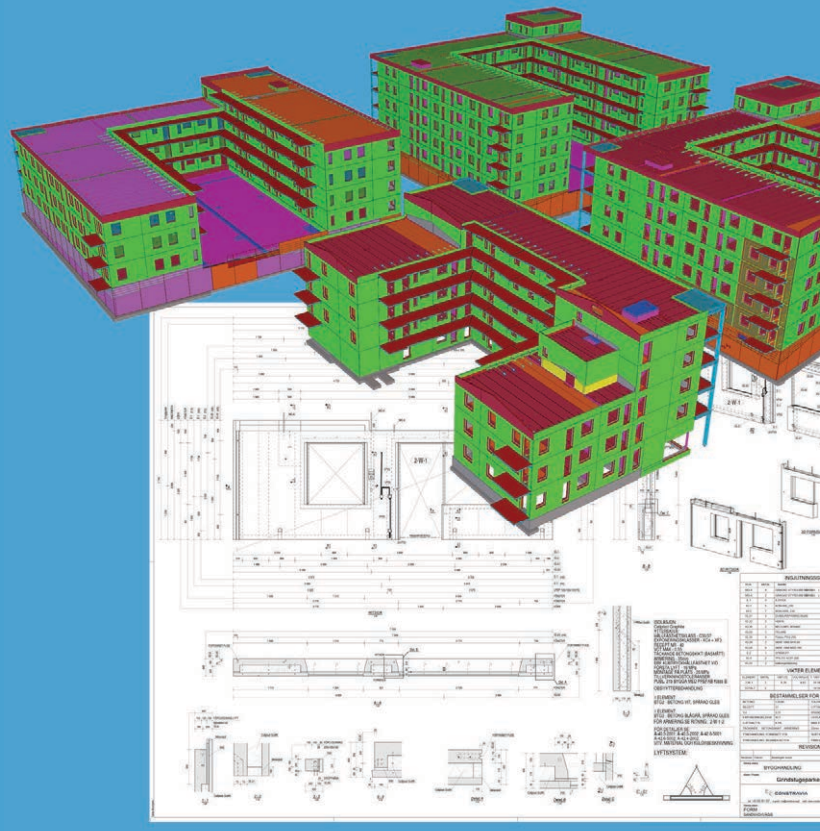
Components and connections galore

In a BIM tool that puts detailing front and center you will find **libraries containing a wide variety of detailing components and connections** built right in. However, every precast fabricator has its own standards and ways of doing things, and needs to be able to produce different products and elements. Thus, your BIM tool must be flexible and easy to customize, so that it can adjust to your company's unique standards and allow you to easily detail all types of precast elements.

The right tool will let you **add any data that your company processes require to model**. This helps standardize and streamline your detailing processes but also enable easier and more efficient reporting and information sharing.

Eliminate errors with automatic element comparison and drawing generation

After finalizing the detailing to the model, you're almost done. With the ability to see the design and detailing exactly as 1:1 to real-life structures, and by executing clash checking, you can rest assured knowing you've done everything possible to prevent errors.



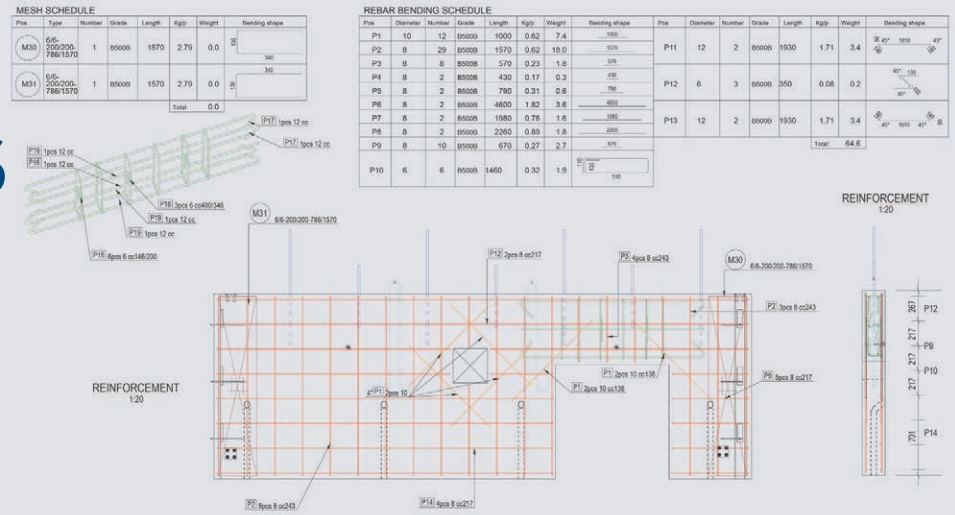
However, there's still one more easy step to take - you need to deliver those drawings. Your **purpose-built software will automate a large part of the drawing creation process**. For starters, it compares elements including all the details automatically and determines how many pieces need to be produced. It then creates drawings from those elements, automatically according to your company standards, including the necessary views, dimensions, annotations and tables, such as bills of materials and bar bending schedules. Nonetheless, it still gives you the ability to do any final touches to ensure the drawings are accustomed to your production needs.

Manage changes in one go

When the inevitable changes start rolling in, you, the detailer, need to ensure that everything is accurate and up to date. If you worked in 2D, it would mean modifying countless drawings for consistency. In a model-based workflow, however, the **information needed to produce the elements is already stored and revised in one place**—the model—so it will automatically update drawings.

Parametric modeling makes changes simple

A BIM tool should be intelligent enough to let the detailer automatically manage all information within the model and easily find and report relevant information. When you add embeds, connections, rebars and other accessories to the model, the tool should recognize element geometry and add details accordingly to the element.



Changes are simple thanks to parametric modeling. BIM software purpose-built for precast detailing can easily integrate parametric modeling, in which the components know, influence and react to each other. This is a great help when making necessary revisions to the model.

However, it is even more important to understand that the model and all the related documentation are linked, all the drawings and reports are automatically updated when the model is updated. This prevents errors in drawings, schedules, reports and Bills of Material, and eliminates conflicts between the model and drawings or additional documents. It also ensures that **errors have no way of getting into production undetected.**

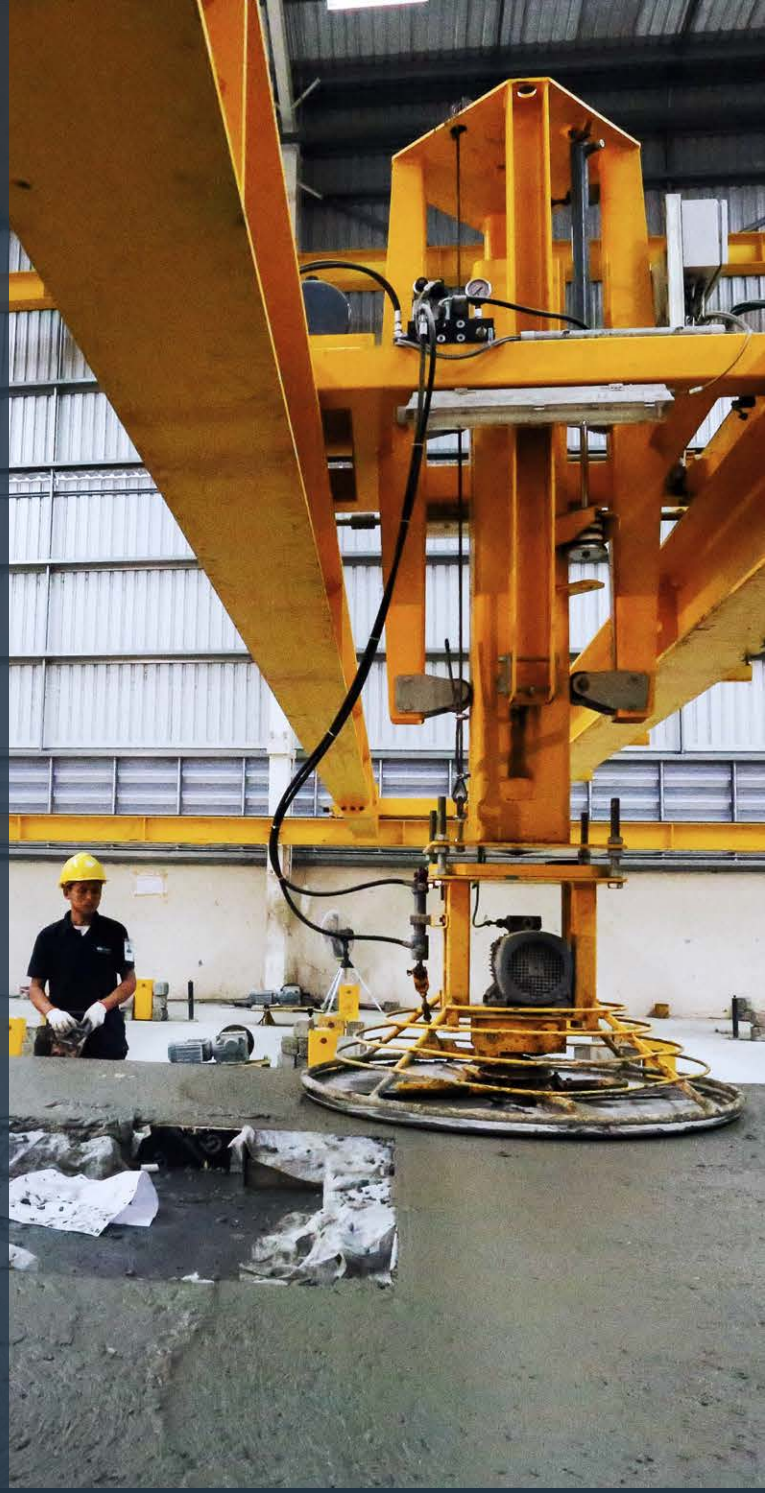
One tool, one workflow

When working in 2D, valuable information constantly gets lost in the process. This makes it more difficult to ensure data quality and mutual understanding, and hand over the right information down the line. Useful information quickly becomes obsolete instead of being harnessed for decision-making now and in the future.

A well-considered model-based information management process means **you can use the same tool for data management throughout the whole project**, which makes it even easier to pass information on to other stakeholders.

No software is an island

Although you should only need a single tool for modeling, your BIM tool for precast detailing usually isn't the only software used in the process. Thus, it's important to ensure your software isn't closed. **An open concept BIM tool will enable working together** with other project participants and the other tools your company uses, such as your ERP, MES or production planning system. **Interoperability between tools** lets information—and revisions—flow freely, allowing the data created with your BIM tool to be easily exported wherever necessary.



Optimization beyond detailing

BIM processes offer powerful tools for precast process planning as well as project progress follow-up. Beyond detailing, model can be used to define and follow important project phases such as the erection sequence, production and logistics. Once construction has begun, the availability of **real-time progress information can reduce misunderstanding, waiting time and delays**. Your company can plan loading and element placement based on parameters such as weight and erection sequence to ensure quick and efficient installation. And when it's time to do post-calculations, it's easy to spot any differences.

What you need from your BIM tool for precast detailing

All in all, your model-based information management process should **do more than simply produce drawings**. It needs to function as the single source for project information, adapt to your company's needs and standards, update automatically according to changes, work well with both production management and design software, and be flexible enough to accommodate real-life situations and structures. It must give you **the freedom to work efficiently with any size projects and any element types**. Without this, projects can suffer from time-consuming, expensive errors and gaps in information flow.

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Deliver with confidence

Make sure your BIM tool can do far more than produce drawings. With the right tools, you have everything you need to **deliver your detailing work with confidence** to benefit the entire project.

Learn more in our short video
Precast concrete: 3D modeling and detailing with Tekla Structures.

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