

BIM FOR TOWER DESIGN

bocad Tower

bocad Tower includes a large library of specific rule-based tools for modelling power transmission, substation and telecommunication angular, tubular and monopole towers. It has a unique ability for efficient 3D modelling of complicated structures like cross-arms, hip bracings and is outstanding to produce accurate deliverables as per the tower industry requirements in a short time frame. It prevents rework, optimizes the quantity of raw materials and speeds up mass production. It is recognised as the worldwide reference for 3D Tower detailing.



Modules:

- Steel module
- Automatic steel connections
- Stairs & railings
- Concrete designer
- Lattice tower automatism
- Automatic marking
- Automatic drawing generation
- Automatic BOM
- Bar and plate nesting

You expect...

- Availability of all order data
- Continuous data flow for manufacturing process
- Adaption to plant planning systems and planning software
- Clash detection
- Accurate and complete manufacturing documents
- Support of work preparation
- Processing of large scale projects
- Automated workflow and minimization of mistakes
- Solutions for complex 3D challenges
- Easy definition of profiles
- Shared project processing

Operations:

The overall project organization is pre-defined as the following:

- The basic body: peak, cage, cross arms, body structure,
- Stud body extension, leg extension for the different heights and stub.
- Transversal and longitudinal faces, plans, hips, etc.
- Ladders and platforms

Pre-set tower grid geometries are available.

Star, double star legs. Butt or lapped joints.

Angle creation according to minimum, maximum or normal bolt gages as well as shear distances read automatically from user definable tables.

L/R 4mm and 5mm redundant design check.

Selection of automatic panels, users only need to specify the profile sizes according to the design.

Target market:

- Lattice mast and tower builders
- Engineering offices for structural steel
- Design offices for structural steel
- Steel construction companies with and without NC production
- Plant manufacturer

Features:

- Inbuilt Tower automatic connections taking into account Tower standard rules
- Panels libraries that can be customized to suit by the client to suit their requirement
- Bolts gages, shear edge and distances control table per angle profile size and bolt diameters.
- Collision and minimum distances checks for profiles and bolts.
- Automatic piece marking sorting by legs, diagonals, redundants.
- Automatic fabrication deliverables specific to Tower structures (ie. taking into account length and representation before and after bending).
- Tower quantity multiplier features for the prototype and mass production

For hip bracing and cross-arm, opened/closed flanges and cold/hot bent plates and angles are created according to the bending slope and bending allowance added automatically. Bending allowance calculates the length before and after bend and considers which holes to be done after bending. Standard connections are created automatically by specifying the bolt diameter and quantity per diagonal. Only if there is not enough space for the bolts, a gusset with the smallest rectangular size will be created.

Tower 3D-model can be considered as the prototype. Problems will be automatically highlighted.

In the case of clashing, functions to cut (CT), back cut (BC), cut flange (CF), cut oblique (CO), grinding heel are at your disposal.

Additional accessories such as step-bolts, U-bolts, pack washers, anti-climbing devices, etc. are available.