

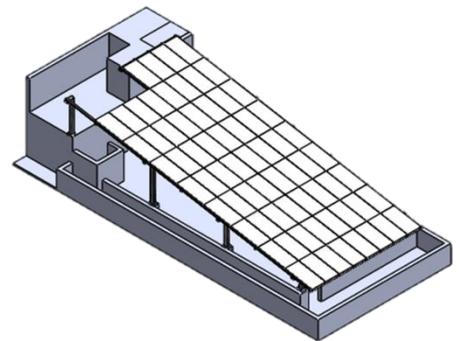
Services

- Steel Structure Design
- Finite Element Analysis
- Steel Estimation
- Steel Detailing
- 3D Model Review
- Walkthroughs

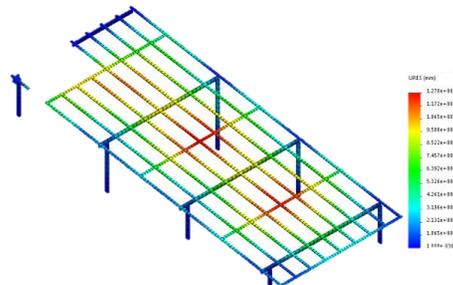
Steel Engineering is the art and science of bringing together the concept of the owners, vision of the architect and the workability of steel to produce a design that, while adhering to the standards of construction, provides a straight forward method of fabrication and erection of the envisaged structure.

Steel Structure Design

The engineering starts with the receipt of the concept design. The concept is expanded upon with the study into the functionality of the structure. Here several studies are conducted of the likes of geographical survey, wind load analysis, and internal and structural load estimation. The results of these studies form the basis of defining the structure design and construction. Various guidelines for construction of structures with regard to the area's soil composition, seismic activity, wind conditions, etc. are followed to ensure that appropriate systems to cater for any emergency situations are incorporated. The structural layout is then prepared.



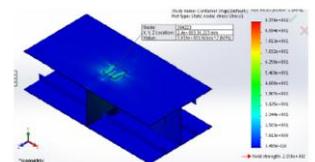
Concept design for roof mounted solar panel



Load distribution via FEA

Preparation of structural layout involves the analysis of load distribution due to factors like seismic loads, wind loads, structural loads and the loads due to the occupants and items inside the building. Finite Element Analysis (FEA) conducted ensures the suitability of the structural members and the connections between them.

The result of this is the generation of layout of the structure, floor plans, member specification and sizing and design of typical and atypical connections. Bracket sizing, bolt sizing, welding schedule and the preliminary estimation of the quantity of construction material are also part of the output. Drawings for integration to foundation, integration of safety mechanisms, if any, are also provided.



Stress at Girdler - 60 MPa (Von Mises)
Allowable Bending stress limit - 157 MPa
Structure is safe for the given design load.

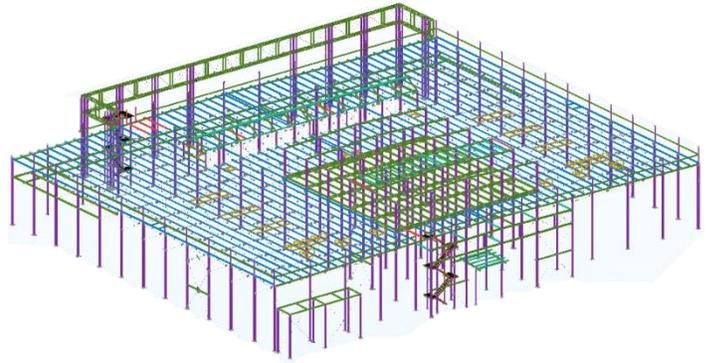
Point stress analysis

Contact Us

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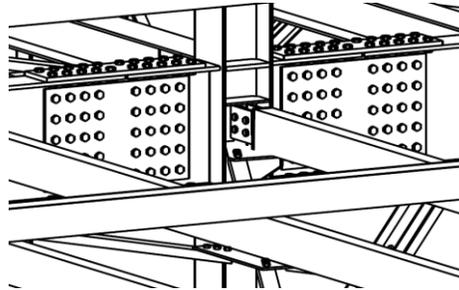
Steel Detailing

Once the Steel Design is ready, then the next phase of design commences. This phase involves the detailed engineering of the entire structure involving every small component of the design to provide the construction ready drawings.



Sport Hall and Gymnasium Detailing

This is done by use of a 3D modeling software like TEKLA Structures to ensure the easy and fast generation of the drawings. Taking the results of the structural design, a project is first created in the software to which the material and construction standards are assigned.



Connection Design

The work is then taken up by the modelers who capture the each and every small aspect of the structure and ensure that the connections are fully completed. Extra care is applied during the design of connection and concrete interfaces. The draftsmen then generate the required drawings for fabrication, assembly and erection from the same. This process also generates the bill of materials (BOQ) and material report in a compiled as well as segregated format (along with the assembly drawings) for the procurement and construction teams respectively.

3D Model Review and Walkthrough

The advantages of working in a 3D environment are aplenty. This includes the ability to visualize the entire model first hand and ensure that nothing is out of place. This model helps the client review the work, as and when required, from a location of their choosing. Even the end users are able to review this model and suggest areas of improvement.

Taking an extra step towards client satisfaction, Conceptia also generates a walkthrough of the complete structure. This is a showcase of how the entire structure would look like from the point of view of a person moving through the building.

About Conceptia, India



Conceptia is an ISO 9001 certified Indian engineering company that is working to bring world class technologies, proven expertise and innovative solutions required by the Indian industry for development of maritime and industrial assets in India.

Conceptia's expertise in providing services for the shipbuilding industry, whose highly precise and time-bound construction practices demand the high level of accuracy and proactive approach, gives Conceptia a distinct advantage of being highly professional, supremely precise and extremely capable of undertaking structural steel designs of any magnitude.

For further Information

To know more about us

<http://www.conceptia.in>