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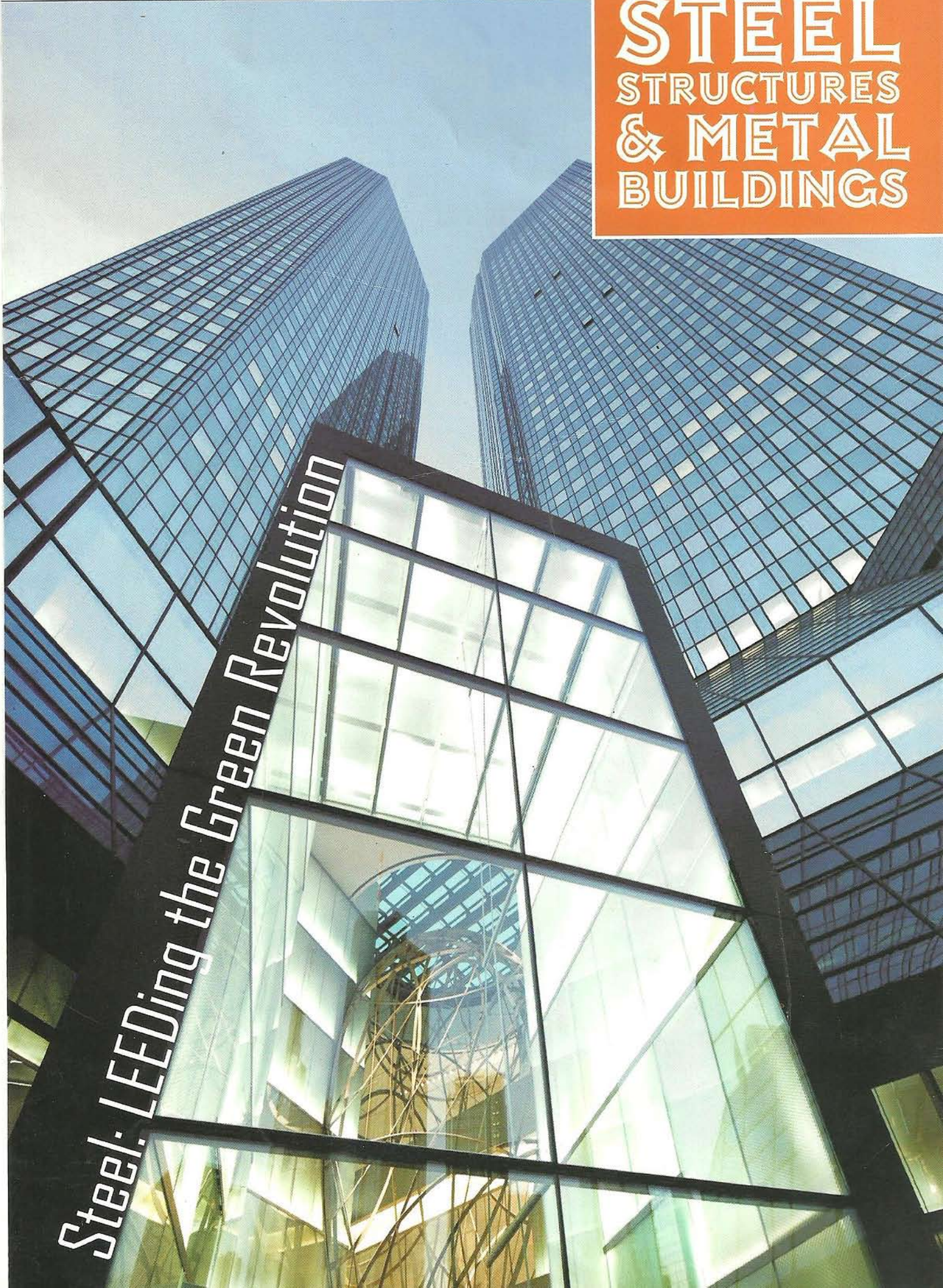
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# STEEL STRUCTURES & METAL BUILDINGS

*Steel: LEEDing the Green Revolution*





# Aum Corner, Gandhidham

using Tata Structura's light hollow steel to provide aesthetics

In recent history Gandhidham is a fast developing city in Gujarat state. It is a well structured city with numerous commercial complexes. One such complex is the Aum Corner situated in Gandhidham, Bhuj (Gujarat) at prime market location. During the year 2007, when Bhuj-Gandhidham and Kutch area of Gujarat were under high development post earthquake shadow, it was a big challenge to give roof solution to the commercial complex as an addend. The main challenge was to give an aesthetic look with required structural steel frame with decorative structural roof cover. It needs to be economical, withstand all type of weather near seashore, high wind velocity & earthquake declared zone ensuring proper economic structural design and structure.

MAAN Projects was entrusted upon the responsibility to give creative solution and value for money for such part-round circle roof cover. The Aum Corner uses metal roofing covered with polycarbonate sheets. The aesthetically designed curves of the roof and the overall shape have been crafted to perfection using Tata Structura sections. As a whole, the structure has achieved its objective of architectural magnificence, commanding a sense of wonder.

## Structural Aspects

A modern structural look has been given to the roof, instead of the patent old style. The entire steel structure is light weight, without compromising on the structural sturdiness not withstanding. The

part of the round circle design with high aesthetic look has been provided. Optimum care had to be taken as on one part it was the structural load and safety, and the other part was to make the structure which should not look like any industrial heavy structure, but, at the same time matching and synergic with commercial complex. The main part was to erect and link the arch structural trusses with central vertical structure roof and to set it on specific selected pole members.

## Challenges Faced

The biggest challenge was to create a structural roof that is leak proof, has water slope, erection within stipulated time frame and budget. The steel fabricators were needed to work on the given time frame, taking into consideration other agencies working in and around the building complex at the same time. The entire project team had to see to it that the workers movement, material movement and the floor activities did not hamper the work, and at the same time perfect structure making, erection and roofing sheet fixing work should be continued in a proper manner without any clashes. Everybody from the customer end, other agencies and the team members cooperated and coordinated in such a manner that it became a successful.

## Primary/Secondary Frames

The primary frame consists of TATA RHS/SHS closed tabular section for truss and purlin. The secondary frame was made to adjust FRP sheet

fixing with steel/aluminum extruded profile. MAAN Projects used TATA Steel RHS and SHS closed box sections for structure and special alloy/temper clamping profile for fixing of sheets considering weather, atmosphere and long term withstand, considering the future maintenance issues should be very minimal. Looking at the images one can see how structural trusses, joinary sections, purlin and pole members are linked to each other with proper resting and anchoring on civil block of the complex.

## Specifications

*Truss member:*

4 No TATA SHS 72x72x3.2 & 50x50x2.9

*Purlin:* RHS 60x40x2.9

*Column:* 300 mm dia NB & 125 mm dia NB

*Total Steel Tonnage:* 20 tonnes

## Salient Features

- Aesthetic look of structure
- Roofing material selection & color combination, merging of structure with building for workable roof cover
- To make such a part circle type roof design with proper slope & special cut design sheets was a great achievement

## Structural Uniqueness

Closed tabular section of TATA RHS & SHS with proper bending, joining and anchoring with civil structure of building, water drainage system and the slope.