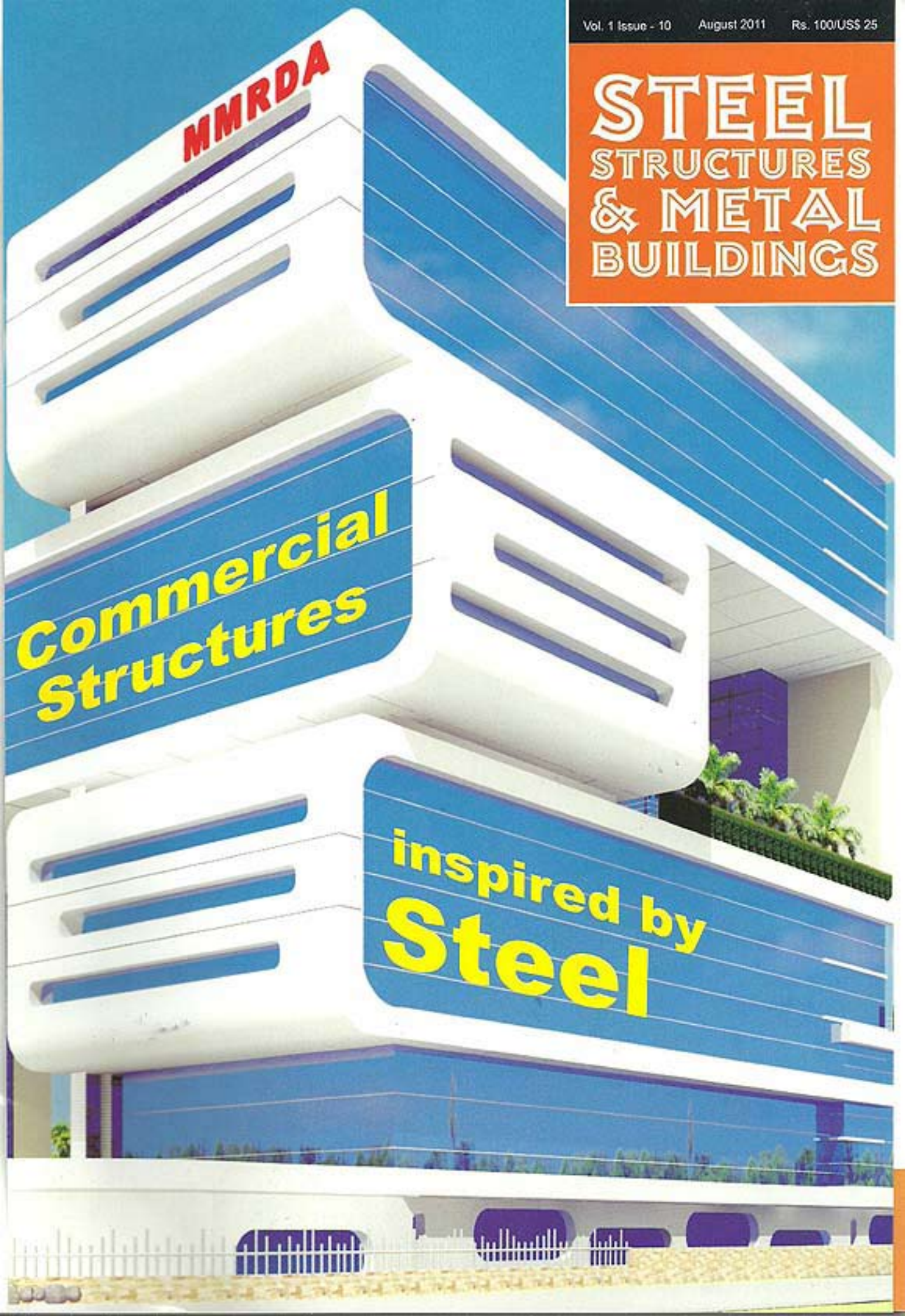


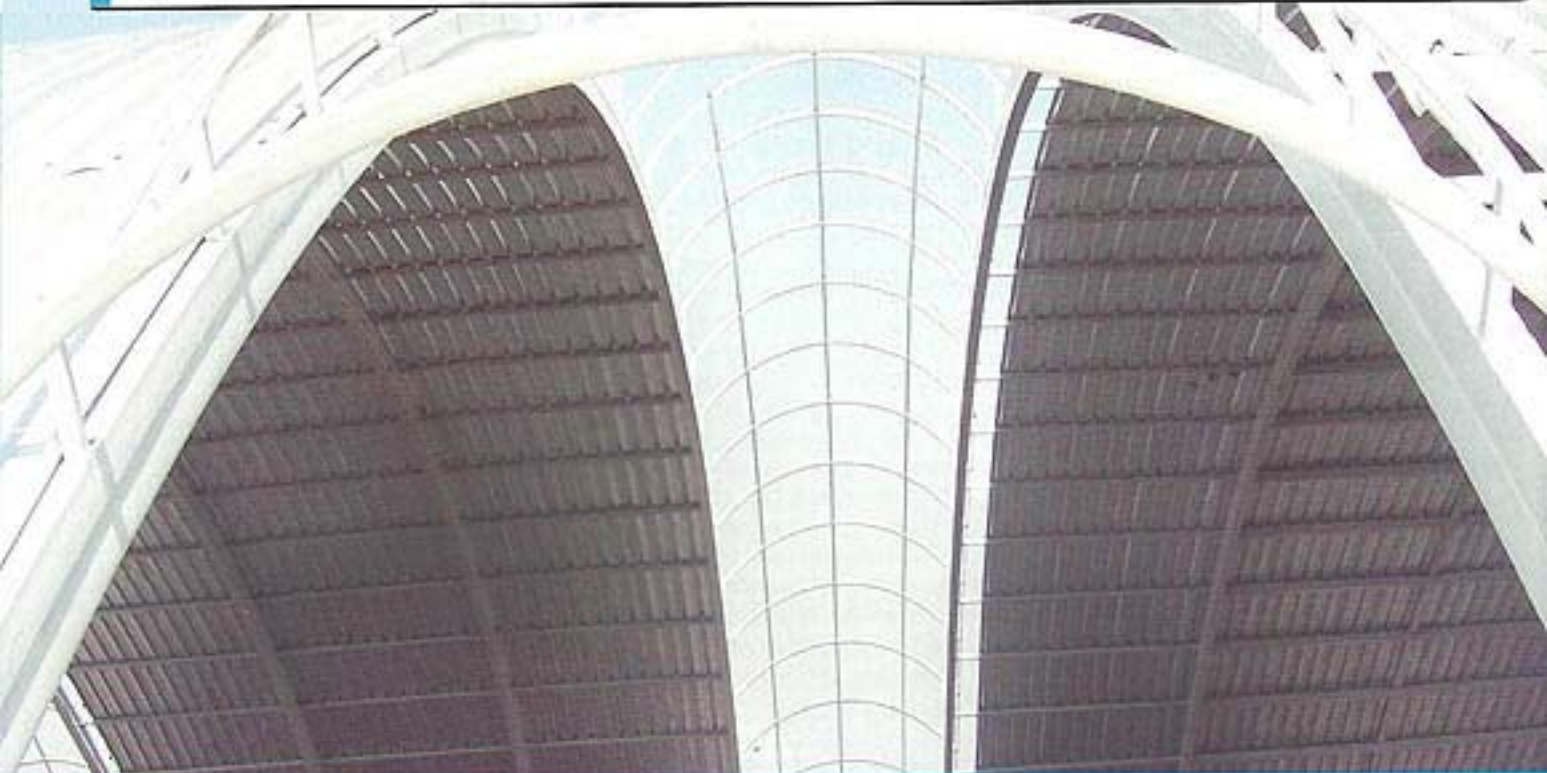
STEEL STRUCTURES & METAL BUILDINGS

MMRDA

**Commercial
Structures**

**inspired by
Steel**





Mega Mall, Surendranagar

unique structure with latest technology and modern amenities

Factoid

The building form is created by five building blocks connected with passages that provide visitors with open areas for interaction. The mall building has 180x93 inches large centralized atrium space that is hub of the building. The atrium also connects to various parts of building with each other, both horizontally and vertically.

Surendranagar, the districts headquarter in Ahmedabad, is also known as gateway to Saurashtra. Surendranagar stands second in growth of development in whole Gujarat state. Surendranagar is the city which is most powerful candidate with a strong opportunity of having Municipal Corporation. It is a mainly hub for cotton and ginning industries. At present, Surendranagar GIDC have many industrial production units of variety of field such as plastic, pharmaceuticals, engineering and textiles. It is also trade and processing center for agricultural products. There are number of educational institutes in Surendranagar. In the center of Surendranagar, there is this Mega Mall having an international call center and few customer help center of multinational companies inside the mall.

Need for the Mall

From the client's perspective, Mukesh Parikh, Director, Mega Developers was very definite that they wanted their shopping mall building to be considered in an elite category with modern facilities and also fulfill the commercial needs of the city. Surendranagar has many old and new shopping centers in the street pattern. The client wanted a shopping mall wherein people would find and purchase the goods. Since its completion, the Mega Mall has become an iconic project in the city. It has also become

a cultural hot spot where people of all ages and community come to interact. Another factor that the client catered to was the total cost of the project, which was to be kept to minimum with a focus on less maintenance expenditure. Mega Developers thoughtfully selected the plot for the mall in Surendranagar-Vadhrvan Road, as it is centrally located and is one of the prime locations of the city.

Design at a Glance

The site is polygonal in shape with road on one side. The ground floor has 57 feet wide main access from the main road and four accesses for the parking side. It also has parking facility in the rear portion. The junctions of passages are open on each floor which connects to the atrium and also provide continuous air circulation. The building form is created by five building blocks which are connected with passages that provide the visitors with open areas for interaction. The mall building has 180x93 inches large centralized atrium space that is the hub of the building. The atrium also connects to the various parts of the building with each other, both horizontally and vertically. Each shop in the mall either faces towards road side or towards the large atrium side. It is designed as a unique structure with latest technology and modern amenities. The building is an RCC frame structure which admeasures above 1, 00,000 sq. ft built-up area. The building is also equipped with high-tech elevators



including 2 passenger lifts. A capsule lift in the front side is covered with circular glazing.

Materials

The building is modern in all aspects, be it planning or use of modern materials. The use of combination of external finishes like reflective glass and aluminum composite panel enhances the massing of the building. The use of reflective glass gives the building a transparent quality, allowing views to and from the building. Internally, the use of durable maintenance free finishes, such as vitrified tiles and glass railings add to the beauty of the interior with a play of light. The multi-height atrium is covered with metal and polycarbonate vaulted dome which controls the sunlight and heat to be produced within the mall, thereby providing a comfort and pleasing environment to the visitors. The skylight over the multi height central atrium provides natural light throughout the day keeping the internal space bright and cheerful.

Specifications

Truss Member : 2 No TATA SHS 132x132x5.4
 Purlin : TATA SHS 50x50x2.9
 & RHS 122x61x3.6
 Total steel tonnage : 50 tonnes

Steel Structure

The final form of the vaulted roof on the atrium is created by intersecting the two vaults. The atrium vault is

connecting with the entrance vault at perpendicular to each other. The main truss members of the vault rest on the building grid which gives more uniqueness and stability to structure. The metal sheets are used as a main covering material on vaulted roof. At some intervals the polycarbonate sheet is provided in between the truss members. These polycarbonate sheets are resting on the curvature purlins which gives an elegant perspective view.

Uniqueness and Challenges

MAAN Projects & Construction Pvt Ltd (MPCPL) was responsible for the design and execution of the atrium roof. As an integral part of the project team, and following the vision of the client, MPCPL suggested to use the combination of bare galvalume sheet and polycarbonate sheet for an economical budget of the atrium roof structure. The uniqueness of this structure is that the atrium roof structure is pigeon less. There is absolutely no space between the trusses and the purlins. Since the trusses were made of TATA make having TATA SHS 2 No 132 x 132 x 4.5 mm sizes, there was no possibility of any bird sitting on the roof, and also the atrium area will be remained clean. The main challenge of this structure was to set out radial polycarbonate roof over main vault atrium roof. The artistically designed curves and corner of the structure exhibit a complex design delivered with utmost perfection. The span of the atrium roof from left to right is 28 meters, while the height stands at 5 meters.

Factoid

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Atrium Area
16,740 sq. ft.

Architect
Ar. Jignesh Patel
Gandhinagar

Atrium Roof Fabrication
MAAN Projects
& Construction Pvt. Ltd.

Structural Designer
(Atrium Roof)
Manish Prajapati, MPCPL

Steel Supplier
TATA Structura