



Director's Epistle



Arvind Nanda
 Founder Director & CEO



Gautam Suri
 Founder Director & CTO

We would like to thank all our Architects and Builders who were present at **Building Innovators** seminar on 6th June 2014 at INDIAN HABITAT CENTER, Delhi for being part of the Building Innovators forum.

Interarch's Building Innovators aims to bring together the best minds in the country to commemorate modern Indian engineering and infrastructure development. Such initiative gives us a platform to meet and discuss the new developments in the industry.

Thanks & Regards,
 Arvind Nanda & Gautam Suri
 Founder Directors - Interarch Building Products

Interarch's Innovation in Steel: Cable Stayed Structural Steel Solutions

Cable Stayed Structural Steel Solutions

Cable supported structures have inspired and fascinated people for many decades. Today's cables structures are recognized as unique and innovative structural solutions, which create new and dramatic forms while enclosing large spaces and providing new design opportunities.

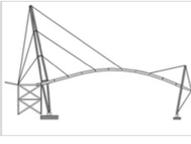
Prior to the 1950s, Steel cables were used primarily for long-span bridge structures, not buildings. In the 1950s appreciable advancements were achieved in the understanding and analysis of cable roof structures, culminating in significant building structures like the Olympic Roof project designed for the 1972 Olympics in Munich, Germany. Today, cables structures are recognized as unique and innovative structural solutions that create new and dramatic forms, while efficiently enclosing large volume spaces and providing new opportunities for transparency and natural light.



There are several types of cable-supported structures, but they can generally be sorted into two categories.

- Cable-suspended structures
- Cable-stayed structures.

In cable-suspended structures, the draped cables are the main supporting elements of the structure, and their curvature is a major factor in the load carrying capacity of the system.



In cable-stayed structures, cables stabilize vertical or sloped compression members (usually called masts or pylons) and serve as tension-only members.

Various cable configurations can be incorporated into cable-stayed structure layouts. The axial compressive members (masts/pylons) that support the cables can be designed as solid elements or open elements that are designed like tied-column elements.

The properties of steel used for cables is typically much stronger than the steel used in rods, allowing cable assemblies to have a tensile strength approximately 4-6 times greater than steel rods. Cables usually have yield strengths of approximately 240-270 ksi.

Cables are elastic, yet they exhibit a nonlinear behavior when loaded. The degree of nonlinearity varies with the cable structure as well as how the cables are loaded.

It is also important to note that significant elongation of the cables and deformation of the supported structure must be taken into account in the design of cable-stayed roofs. A nonlinear analysis should be performed if it is determined that the magnitude of cable displacements is such that the equilibrium equations for the structure should be based on the geometry of the displaced structure.

Hollow Sections in IGI-T3

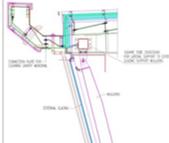
Hollow Sections in IGI-T3 Spotlight

IGI AIRPORT TERMINAL-3: The Indira Gandhi International Airport Terminal-3 was unarguably one of Interarch's challenging projects in many aspects, some of which include development of non-standard solutions and the detailing complexity involved. To quote an example, the figure below shows the sectional details of the support system provided for the external glazing panels using hollow sections. Interarch has effectively utilized the structural advantages of Hollow Sections for the external facade glazing support at the IGI Airport Terminal-3.

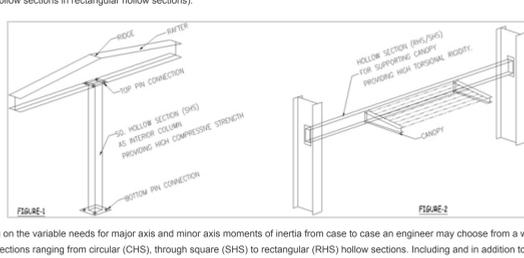


The Advantages

There are certain areas of application where hollow sections, also referred structurally as 'closed sections', clearly score over the 'open sections' like I-sections, H-sections and L-sections. The open sections do not have similar properties (e.g. moment of inertia & effective shear area) along all the axes of bending as a result of their distribution of material around the section's centroidal axis. When laterally braced along minor axis, open sections can provide excellent resistance to bending moments along the major axis.



However, when members are subjected to axial compression and laterally unrestrained in all directions, the hollow sections offer a higher capacity compared to any open section of same weight, owing to their more uniform distribution of material around the centroidal axis and, therefore, reducing the difference between major and minor axis moments of inertia (zero in case of circular hollow sections and highest amongst hollow sections in rectangular hollow sections).



Depending on the variable needs for major axis and minor axis moments of inertia from a case an engineer may choose from a wide range of hollow sections ranging from circular (CHS), through square (SHS) to rectangular (RHS) hollow sections. Including and in addition to the above, hollow sections carry a hoard of benefits which may be listed and summarized as follows:

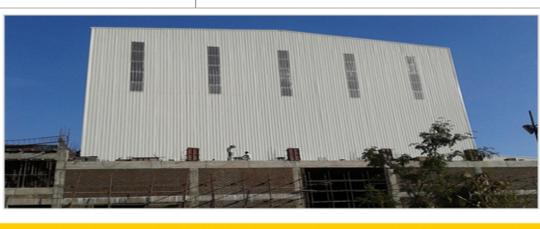
- Higher minor axis moment of inertia provides better compressive strength. Figure-1 below shows one example application where this property of hollow sections is beneficial.
- Higher torsional rigidity compared to open sections. Figure-2 above depicts one example application of hollow sections supporting a canopy and subjected to torsion
- Higher strength to weight ratio minimizes material usage and thereby cost.
- Aesthetically pleasing.
- Available in very high tensile strengths of up to 690 Mpa.
- A uniform prismatic shape and smooth surface finish minimizes corrosion and dust accumulation.
- Attract lesser wind forces in exposed/open structures due to lesser drag coefficient resulting from an aerodynamically more streamlined shape compared to open sections.



Project Spotlight - Mahle Engine Components India Private Limited

Interarch executed 22,000 SQM jobs for Mahle in sector 1 & sector 3 in pithampur region. This foundry building having 4 areas connected each other with high bay-Low bay & internal partition considered.

Name of Project	M/s. Mahle Engine Components India Pvt. Ltd., Pithampur
Building Utility	Foundry Block & Auxiliary Block Unit
Building Area	3600 SQM
Width	Area 1 : 30 M C/C (Clear Span Building)
Length	Area 1 : 13 M C/C
Height	Area 1 : 25 M



Value addition to the PEB Industry- Interarch's 30 years of Leadership

Interarch has grown from a startup to a 600 Crore turnover company, being debt free and financially very strong. Interarch's own a 25% market share in PEB when compared to other players in the market. Being an Indian, homegrown, Home grown company, today Interarch is capable of competing with any international industry player, and holds a significant part of market share in India for metal building systems.



Interarch has been the first mover in India, right from metal ceilings, to blinds, metal roofing to pre-engineered buildings. Interarch has a manufacturing capacity of more than 120000 MT per annum of steel building structures and over 40,000 MT per annum for its Tracdek Roof & Wall systems. Interarch has three manufacturing facilities located at Rudrapur and Kichha in Uttarakhand, and Sipreembadur in Tamil Nadu. Interarch has a pan India network of regional offices in all major cities with its central marketing operations handled from New Delhi.



Certified Builder Program: Tips for Maintaining Buildings during Monsoon

- The building gutters should be cleaned, and ensure there is no dirt build up or leaves in the gutter.
- Ensure there is no blockage near the end of the water drain pipe
- In case of any leakage from the roof, kindly ensure temporary closure to be given immediately.



RAIN/HUMIDITY

- In areas with high levels of rainfall and preferably before every monsoon make sure all gutters and down pipes are free of blockages from debris and leaves
- During humid months, moisture build up near the roofing and cladding sheets should be avoided

Customer Testimonial

STONEAGE
 BUILDERS & DEVELOPERS PVT. LTD.

To Whomsoever It Concerns

Letter of Appreciation

This is to appreciate Interarch for the exceptional project work for a Warehouse of Stoneage Builders And Developers Private Limited, (Bilwastadi) (Chase, Meerut). Interarch has achieved the excellence in its innovative design, engineering, timely and delivery & quality execution of the project.

We appreciate their team effort & Coordination. We are profoundly pleased with the overall project management and execution Capabilities of Interarch.

We wish to continue our Partnership with Interarch for our Future Projects & Also with a prosperous Future for INTERARCH.

Thanking You
 Very truly yours,
 (Signature)
 Date: 05/06/2014

Awards

Interarch for the 5 consecutively year has received zero accident awards from Tata Motors and this year Tata Motors has facilitated the team with the 5 year zero accident at site award.



Interarch's and Tata Motors association dates back to the 1990's, when Interarch started working with the company for roofing projects for their Pune facilities. Since then, over the last two decades, Interarch has been actively involved in completion of pre-engineered structures for 4 manufacturing units for Tata Motors across various locations in the country.



New Project Wins

- Biopac India Corporation Limited, Gujarat
- A & D International Private Limited, Rajasthan
- Systematic Conserve Limited, Tamil Nadu
- MAT Brakes India Private Limited, Haryana
- Tata Motors Limited, Uttarakhand



Projects Completed

- Shiva Auto Sales, Uttar Pradesh
- APL APOLLO Tubes Limited, Uttar Pradesh
- Mascot Speed India Pvt. Ltd, Uttar Pradesh
- Diversitech General Engineering
- SM Auto Engineering Private Limited



Press Coverage

- Construction Mirror
- Construction World
- Construction Opportunities



Events at Interarch

Interarch conducted its Closed group seminar on 6th June 2014 at IHC, Delhi and invited top builders and architects of the city.



Interarch conducted its closing ceremony of the first phase of the EHS (Environment, Health & Safety) campaign at 3 sites including

- SMS Siemag, Orissa in April 2014,
- Tata Motors, Pantnagar in April 2014
- Yamaha, Chennai in March 2014.



