Beauty in Steel Buildings

The Architectural Awards of Excellence were established by the American Institute of Steel Construction in 1960 to recognize and honor outstanding architectural design in structural steel and to encourage further exploration of the many aesthetic possibilities that are inherent with steel construction. This year a distinguished jury selected from nearly a hundred entries nine buildings representing the best architectural expression in structural steel.

In the opinion of the AISC Committee on Awards, each building represents design to the highest standards. All Awards are equal in stature. Therefore, the thirteen Award-winning architects are listed alphabetically on the following pages with pictures of the buildings for which they received commendation.

The jury was particularly looking for the utilization of structural steel for its maximum architectural potential, and the jurors chose these buildings as outstanding examples of aesthetic leadership and direction. The architects used standard framing methods in many cases, but they used them superlatively. The successful use of steel requires a stringent attention to detail and orderliness in design. That this quality is not a restriction is demonstrated by the Award winners.

The Institute is most gratified by the enthusiastic response to the Architectural Awards of Excellence and plans a continuing program.
JURY OF AWARDS

DANIEL A. HOPPER, AIA
Irvington, New Jersey

HARLAN E. McCLURE, FAIA
Dean, School of Architecture
Clemson College, Clemson, South Carolina

JOHN B. SKILLING, PARTNER
Worthington, Skilling, Helle & Jackson, Consulting Engineers
Seattle, Washington

RICHARD SNIBBE, AIA
New York City, New York

HAROLD SPITZNAGEL, FAIA
Sioux Falls, South Dakota
This multi-purpose, low-budget building was designed for simplicity and strength. The jury appreciated these qualities and the care taken to keep the building mass low so it did not become too assurative. The jury called the arena an “aesthetically simple and bold statement. The expression of the trusses in the roof construction is a clear statement of the structural steel.”

The steel truss roof structure is expressed by using the roof depth as a bold cantilever above a narrow, continuous strip of ribbed windows. Sun control is thus provided, and the roof appears to float. Inside, the spectators have an unobstructed view of the arena, which can be easily converted for ice skating, basketball, boxing, exhibits or conventions.

The facility was economically constructed by sinking the main arena, locker, storage and equipment areas and mechanical facilities below ground. Thus it was possible to maintain a simple rectangular form with a low profile above ground.

Emphasis was placed on designing a highly utilitarian structure featuring economy of cost and at the same time creating a building that would attract public interest and be a source of pride to the county and the community.
American Cyanamid Company, Office Headquarters
Wayne Township, New Jersey
Owner: American Cyanamid Company
Structural Engineer: Severud-Elstad-Krueger Associates
General Contractor: Frank Briscoe Company
Steel Fabricator: Harris Structural Steel Co.
The exceptional elegance and fine relationship of the building to its site won jury acclaim. The members praised the design of the sweeping "S" that breaks up the tremendous length (935 feet) to create an interesting space form following the shore line.

The four-story headquarters building, providing office, cafeteria and parking space for 1,550 employees, is located on a woodland tract which overlooks a reservoir. A narrow ridge runs through the property, with the land sloping off sharply on both sides, posing a design challenge.

The company wanted maximum flexibility in office space arrangement, which was made possible by one large building planned with wide bays spanned with steel. Two wings extend from the east side of the building towards the reservoir. One is a rectangular executive wing, the other is the one-story cafeteria.

Careful attention to detail is evident throughout the design of the structure—from the harmonious grouping of components to the meticulous care with which the vents and air-conditioning apparatus are concealed. Tinted transparent windows above panels of ceramic enameled glass are framed with extruded aluminum, and spandrels have been developed with a fine sculptural feeling.
Architect-Engineer: Skidmore, Owings & Merrill, Chicago, Illinois

Solar Telescope, Kitt Peak, Arizona

Owner: Association of Universities for Research in Astronomy, Inc.

General Contractor: Western Knapp Engineering Company

Steel Fabricator: Allison Steel Company
A solar telescope is a very different instrument than a stellar telescope and requires a very special building. Construction differences are necessary because the sun is much brighter than the brightest star and an exceptionally long focal length is required to produce a large image of the sun.

For the 60-inch Kitt Peak installation, light from the sun is initially reflected by an 80-inch flat mirror located 100 feet above the earth's surface into an inclined shaft parallel to the earth's polar axis. The instrument is capable of steady concentration on a 500-mile portion of the sun – 93 million miles away.

The shaft has an approximate interior, circular dimension of 20 feet by 500 feet long. Approximately 200 feet is above ground and the remaining 300 feet is tunneled into the granite mountain.

The heliostat is supported on a 26-foot diameter tubular cylinder 100 feet above the mountain top. Surrounding this cylinder is a steel frame wind-shield which also acts as a support for the upper end of the inclined optical shaft. Steel construction was selected for the wind-shield and inclined optical shaft for economy, lightness, strength and speed of erection.

The jury was impressed not only with the exacting functional solution and sculptural qualities of the design, but with the logical and unaffected use of materials. The members also remarked how distinctive and dramatic this building was on its lonely site.
Joint Venture: Kistner, Wright & Wright; Edward H. Fickett, AIA; and S. B. Barnes & Associates, Los Angeles, California
Consolidated Marine, Inc., San Pedro, California
Owner: Los Angeles Harbor Department
General Contractor: Louis C. Dunn, Inc.
Steel Fabricator: American Bridge Division, U.S. Steel Corporation
"A fine solution to a problem in which aesthetics are unfortunately too often neglected," the jury said of these port facilities. The way the design met functional and utilitarian needs and also provided a pleasing artistic appearance showed unusual qualities of architectural excellence.

The two-level facility has mezzanine floors with vehicular access to the upper level via flying ramp bridges. The lower level is a typical transit shed layout with strategically located offices. Steel was selected for long spans and practical fabrication commensurate with weight and cost.

A hollow space between the upper floor level and the clear ceiling height in the warehouse area below was needed to receive horizontal chases for the usual piping, lighting, ductwork, etc. Specifically, since this facility has as its purpose the minimizing of cross-circulation of cargo and passenger traffic, an extension of this requirement included the routing of baggage handling beltways.
Architect: Norris M. Gaddis, Oakland, California
John C. Lovejoy, Associate Architect, Berkeley, California
Gibbon Cage for the Oakland Zoo
Owner: Oakland Zoo
Structural Engineer: Haluk Akol
General Contractor: Christensen and Lyons
Steel Fabricator: Eandi Metal Works, Inc.

The jury chose the Gibbon Cage because its design so well reflects the playful antics of its inhabitants. The great steel tree is an interesting solution to an unusual problem – the creation of a cage without bars permitting maximum freedom to the gibbons as well as a fine view for children and adults alike.

The cage, focal point of the zoo, is in the shape of a modified hyperbola of revolution. It is supported by a compression trunk of tubular steel and is formed of diagonal steel tension cables at the perimeter. The spiral ramp around the cage, supported by light steel frames, allows the visitor a view of the gibbons from a variety of levels as well as an excellent vista of the entire zoo.

Steel offered an economical and expressive means of meeting the zoo's basic requirements: lightness and freedom of form combined with great strength and ease of maintenance.
The two-story building, set between existing party walls, was considered to be a visual embodiment of the work of its members. "As a bold statement in steel," the jury said, "the front facade is particularly dramatic in capturing the spirit of the building's purpose." Its focal point is the solid portal frame painted a bright orange, the color usually associated with steel work under construction.

Window mullions are painted black, and windows set in stainless steel channels. The sign of iron work is an indicative element of the front facade. Exposed steel is used for the main stairway, which is suspended from the ceiling with bridge cable and adjustable fittings.
**Architect:** Stanley Engineering Company, Muscatine, Iowa  
**Marvin E. Werner,** Chief Architect

**Owner:** Hill Farm State Office  
**Structural Engineer:** D. A. Nesterenko, NSPE  
**General Contractor:** J. H. Fincoff & Son, Inc.  
**Steel Fabricator:** Worden-Allen Company

"This is visually a very strong building," the jury commented. "It looks like a heating plant, yet the designers obviously gave careful attention to aesthetics not usually associated with such structures. Good architecture for this type of structure should be encouraged, and we hope this building will influence future plant design."

The basic design requirements established by the State Architect and State Bureau of Engineering required aesthetic qualities to be coordinated with other buildings in the complex. The prominent features include the 250-ft chimney standing as a landmark in Madison, gracefully combined with the completely enclosed bunker tower with flat roof and cantilever fascia. The blue-green porcelain enamel metal panels provide striking contrast to the buff-tan masonry walls.

Steel was used architecturally and structurally throughout the project, including approximately 140 tons of structural steel for building and boiler framing, grating, stairs, checker-ed plate, ladders and handrails.
Architect: Breo Freeman, Pasadena, California

Press Box for the Rose Bowl, Pasadena, California

Owner: Pasadena Rose Bowl
Structural Engineer: S. B. Barnes & Associates
General Contractor: Ray Wilson Co.
Steel Fabricator: Apex Steel Corp., Ltd.

The Press Box was selected by the jury as a good demonstration of the simplicity of steel construction and its advantages of light-weight, durability and versatility for adding to existing structures. A difficult problem was solved logically and simply with the use of steel.

The new Press Box is 285 feet long and is located on the west side of the famous Rose Bowl. Bridges provide access to a free-standing 100-foot-high elevator tower outside the stadium. The three-story addition cantilevers six feet out from the top of the existing structure without sacrificing any space or obstructing any spectator’s view of the field.
Built for an active family, this house is designed around a two-story central court with children’s bedrooms and work space on the lower floor and living areas and parents’ bedroom on the upper floor. A deck surrounds it all and gives outdoor living space that capitalizes on a magnificent view.

The architect sought a solution in which privacy for the individuals could be attained while preserving a sense of unity and large unconfined spaces. He also succeeded in synthesizing steel and wood in a logical way to combine the best construction and living features of both.

The jury agreed that this is a very good house and especially praised the harmony of its steel frame with its natural surroundings. The members agreed that the building was arranged to make unusually good use of its site.