

HSS: DESIGNS FOR THE 21st CENTURY



House on Mount Desert Island, Maine

HSS HELPS ARCHITECT TAKE FULL ADVANTAGE OF SPECTACULAR SITE



Inert Properties of Steel Help Create Allergy-Free Environment

When Architect Peter Forbes was given the commission to build a house on a wooded, five-acre lot on Maine's Mount Desert Island, he was charged with making it conform to three particular concerns of the owner.

First, he was asked to fully integrate the home with its beautiful natural surroundings and view of the distant mountains of Acadia National Park.

Second, he was to take full advantage of the passage of time, both daily and seasonally, to create an environment with constantly-changing light patterns and moods.

Finally, he needed to choose materials that would resist mold, dust and other allergenic materials, as the owner was acutely allergic to a large number of natural and man-made substances and can not be exposed to them for prolonged periods.



HSS Creates Grid of Eight-Foot Cubes

Forbes elected to use steel Hollow Structural Sections (HSS) to create an open framework of 8-inch square HSS—open to eliminate mold or accumulated dust, and steel because of its inert, non-allergenic qualities.

The interior of the house is divided into a grid of 8-foot cubes by the horizontal and vertical HSS beams. A main staircase is angled obliquely through the grid to the

second-level platform, from which a spiral staircase continues to the third-level platform. An elevator also connects the three levels.

Within this white-painted HSS framework, Forbes suspended the floors and rooms to create platforms floating in space. There are no interior walls so that air can be freely circulated and exchanged, a requirement dictated by the owner's allergies. The only vertical partitions—made of cedar and finished with a water-based stain—serve to separate the bathrooms and closets from the living area.

Despite the absence of partitions, the strong geometry of the HSS grid gives definition to the various living areas of the house. The exterior walls are formed entirely of glass and aluminum, affording a spectacular view of the forest environment that surrounds the structure.

HSS Framework Creates Changing Shadow Patterns

During daylight hours, the open interior is suffused with light to create a constantly-changing environment during the course of the day and from one season to the



next. The HSS framework contributes to this environment, casting its pattern and, in turn, reflecting the lattice of shadows cast by the window wall.

From the outdoors, the open, transparent structure dissolves into the landscape. As important as the house's transparency is the relationship in scale between its elements and the trees, rocks and land forms which comprise the natural environment in which it has been placed.

Working on the project with Peter Forbes & Associates were Zaldastani Associates, Structural Consultant, and Panitsas Associates, Inc., Mechanical Consultant. John Ruger Associates served as the General Contractor.

