

# PANEL TESTING

In the manufacturing process, close attention is paid to every detail and only the finest quality materials are used. The waterproof adhesive has the highest ICBO approved rating and is carefully vacuum-sealed using the latest technology. Dimensional inspections are performed in the shop to insure that length, width, squareness, and thickness are within specified tolerances. Further shop testing is done to make sure that the finish meets applicable standards.

## Fire Testing

Strict fire testing of the Oceansafe Insulated Panel was performed in accordance with UL standards. In the UL Test 1715, otherwise referred to as a "room burn test", the metal skins performed extremely well to the intense heat conditions and the fire-retardant expanded polystyrene foam core didn't contribute to the spread of the fire. Additional fire tests administered to the panel include ASTM 1929, which tests how the panel responds to flash and spontaneous ignition. ASTM-119, a one hour burn test on load bearing and non-load bearing walls, and ASTM-E84-95, which determines surface burning characteristics. In all these tests, the panels well exceeded industry standards.

## Humidity Transmission Information

Humidity is one of the most destructive elements of nature. In regards to construction materials. Aluminum or steel laminated to both sides of the panel provides an impermeable barrier against the transmission of water vapor. The coefficient of permeability for the Oceansafe panel is 00, compared to a 2.4 coefficient for brick. The rating is determined by the quantity of water vapor that can penetrate the material in 1 hour/sq.ft. x 1 Hg. Mercury. The smaller the rating, the more impermeable the surface.

## Acoustic Information

The expanded polystyrene foam core of the Oceansafe panel has been tested in accordance with ASTM E90-6 1T. The transmission of sound for EPS was an STC of 51. A brick wall has an STC of 34 and block and STC of 38 according to ASTM E90-61T data. The higher the STC rating, the better the capability of the construction material to block sound transmissions through the walls of a home. Oceansafe Housing Systems recommends that the interior walls be constructed of steel studs with a drywall exterior finish. This method of construction has a STC of 36, similar to that of brick.

## Tests Prove SIPs Tops in Thermal Performance

Compared to a building envelope constructed of conventional wood frame 2" x 6", the use of SIPs can result in a shell that has more than a 58% better thermal performance overall, according to recent test performed by the University of Tennessee and the U.S. Department of Energy's Oak Ridge National Laboratory. The study tested and compared 18 wall systems - calculating standard R-values - but also calculating how well heat flows through various wall materials (structure and insulation) and how well the walls connect to the other walls, flooring, roof, doors, and windows - called "whole-wall R-values." The new study weighed the performance of the entire building envelope or shell, comparing whole-wall R-value performance for concrete, wood, metal. The outcome showed SIPs to be one of the tightest building envelopes in construction.

## Window and Door Standards

The window and door standards of Oceansafe Systems also satisfy high industry standards for thermal performance according to ANSI/AAMA specifications for Florida and Texas.

The Oceansafe panel also has Florida Product Approval for walls (FL1383), roofs (FL1387) and Miami Dade (FL1420)