



2005 International Achievement Awards

Structures



Tension structures, under 930 sq. m

Award of Excellence

Mesa Arts Center, Fabric Trees

Mesa, Arizona

Taiyo Birdair Corp., Amherst, N.Y., United States

FTL Design Engineering Studio, New York, N.Y., United States

Resembling both trees and sails, these 23m high tensile membrane canopy structures provide shading for the new Mesa Arts Center's design concept called Shadow Walk. These "tree canopies" are two sets of virtually identical structures each with four intermingling sail-like strips, totaling 693 sq. m of Teflon PTFE fiberglass membrane. The intent was to build a public space where varying patterns of sun and shade, created by the rows of trees throwing shadows of different qualities and quantities on the ground, would result in a pleasing outdoor environment any time of the year. Besides providing shading for Shadow Walk, the floating tensile membrane "tree canopies" also act as a way-finding landscape element tying together the building complex into one cohesively-designed center. The network of cables and struts for the fabric "tree sails" consists of outriggers pinned to the masts, flying struts, and an array of cables supporting the floating outriggers and the ends of the pinned outriggers.

Design: FTL Design Engineering Studio

Architect: DWL, BOORA Architects

Engineer: FTL Design Engineering Studio/Taiyo Birdair Corp.

Fabricator: Taiyo Birdair Corp.

Fabric: Sheerfill V by Saint-Gobain



Outstanding Achievement Award

Aqua Apartments

Gold Coast, Australia

Architectural Sails, Ashmore City, Australia

This structure comprises a series of curved, angled columns in a staggered layout on the front of this high-rise apartment building on the waterfront at Marine Parade, Southport. This structure achieved the necessary separation and definition the apartment building's developers required for the five strata titled restaurant tenancies on the podium level of the building while retaining an open plan area. The client did not want a "forest" of huge straight structural columns, so a series of curved "hollow" columns were designed to provide a more open feeling. While completely covering the area and providing natural light, the cones positioned on the varying widths of the tenancy lines achieved the striking separation definition without a hard division. These five steel funnel arrangements incorporate the tensioning and draining systems for the structure and are clad with aluminum cones designed to be removed for cleaning access.

Design: Architectural Sails/ Greg Barnes Design Group

Architect: Greg Barnes Design Group

Engineer: Bligh Tanner

Fabricator: Architectural Sails

Fabric: 1002 T2 by Ferrari Textiles



Outstanding Achievement Award

Bourbon Street Terrace

Saint-Adèle, Quebec, Canada

Sollertia Inc., Montreal, Quebec, Canada

This spiral shaped textile structure opens over the terrace between the club buildings and gives way to a vast green space. It is 10.67m across and reaches 8m up to the sky. Its proportions blend in naturally with the surroundings: the Bourbon Street Bar façade, vegetation and the mountains in the background. The spiral shaped textile structure breathes life into the terrace. From a distance, it catches the eye and announces a good time on the horizon. Although it is stationary, the structure seems to move upwards, and it is always unique in appearance. A white canvas was chosen to contrast with the dark colored steel structure and to allow for a variety of lighting options. Thus, the textile spiral takes on the colors of each event celebrated on the terrace.

Design: Sollertia Inc.

Engineer: Stuctoarte Inc., Simon Rhéaume Consultants Inc.

Fabricator: Sollertia Inc.

Fabric: Précontraint 502S by Ferrari Textiles

