

Carrasco International Airport Roof

Montevideo, Uruguay

Owner

Puerta del Sur S.A.

Client/Architect

Rafael Viñoly Architects PC

Completion Date

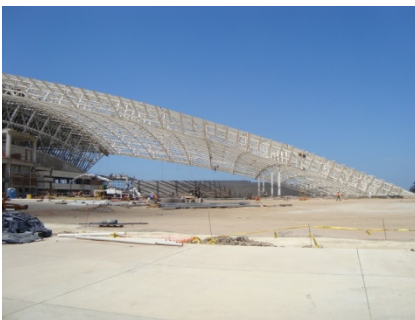
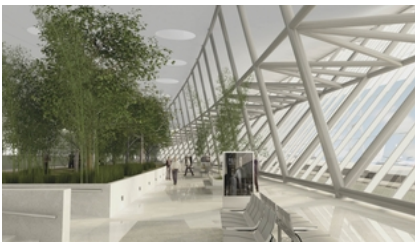
2009

Construction Cost

\$132.5 million

Total Area

344,000 gsf



The Carrasco International Airport in Uruguay, the largest airport in the country, is expected to serve up to 2.8 million passengers by 2010. The new 344,000-square-foot, three-story terminal is a dramatic and welcoming space for the passengers and visitors. The terminal aims to modernize and expand the passenger and cargo handling capacity of the existing facilities to promote tourism and commercial growth in the surrounding region.

Thornton Tomasetti was responsible for the structural design of the terminal's 1,000-foot-long curved steel roof structure. The curved roof maintains a low profile on the landscape, helping its structure integrate into the surrounding. The unique roof extends beyond the building on all four sides. The curved roof has an irregular plan profile with the width varying from 415 feet to 165 feet. In addition, the steel-truss roof has an irregular vertical profile with its two ends supported on grade and the height of the roof varies from 85 feet to 120 feet. The cantilevered roof facilitates the strategic use of daylighting for the terminal building by creating shading for the interior space.

The 60-foot-high fully glazed curtain wall system extending from the base to the roof wraps around the terminal building, creating transparency. In response to the challenge of providing draining for the large roof area, two gutters, one at each cantilevered edge, was provided for the entire length of the roof to capture rainwater run-off for the huge roof area.