

fabric architecture

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Temperatures in Dubai sometimes exceed 45° C (113° F). PVDF-coated PVC fabric provides shade while resisting wear from the sun.



Under the sun

Fabric shades preserve the glittering openness of a beach in Dubai

In the past couple decades, Dubai, the second largest of the seven United Arab Emirates (UAE), has experienced considerable commercial growth. Grand resorts have been built along the vast Persian Gulf beaches, and the once dominant desert has been pressed back and buildings and roadways constructed.

The UAE sits atop the world's third largest supply of oil, and Dubai is the UAE's commercial capital, a hub for Arabic and Western business interaction in the region. Dubai's thriving tourist industry has come with this success in business, and a blend of flourishing souks (traditional markets) and hyper-modernized malls set against the beaches have made it a favorite Middle Eastern destination.

For a series of commercial structures along the Jumeirah Beach Hotel, one of Dubai's most attractive locations, Birdair Inc., Amherst, N.Y., fabricated a variety of shading panels. The weather throughout Dubai is hot, and the Gulf winds provide only minimal relief. Between October and April, the temperature holds around 25° C (77° F); but in the summer months temperatures can exceed 45° C (113° F).





Aluminum fastening equipment and welded rings provide clean, efficient tensioning points for the panels.

Since the sun and expanse are what draw many tourists here, attractions such as the Jumeirah Beach Hotel seek minimal architectural encroachment on the environment, despite the need to provide adequate shade protection. Fabric's architectural versatility in providing cooling shade while maintaining a light, dynamic look has been a welcome addition.

To provide the appropriate wear protection from the excessive heat, PVDF-coated PVC fabric was selected.

Birdair fabricated 12 shading units, with most incorporating more than one panel. They provide both window

and walkway shading, creating a light-rich but protected gathering place for diners, shoppers and those looking to take a break from the heat. Cantilevered end-canopies join the structures to the hotel façade, creating eyebrow-shaped canopies over the balconies of some hotel units.

The panels vary in size from 37.2 sq. m to 139.4 sq. m (400 sq. ft. to 1,500 sq. ft.), and the total area of fabrication is 1,858 sq. m (20,000 sq. ft.).

Huntington Design Associates, Oakland, Calif., provided technical support in choosing fastening methods for the panels. The methods for tensioning varies according to the size of the panels and the visual effect intended unit by unit. For some, catenary cables are shackled to rings which have been welded to the support masts; aluminum attachment hardware is frequently used; and for the sundeck, with its conical fabric cover, tensioning is achieved by adjusting bolts that have been tapped through the pipe sleeves over the ends of the horizontal struts.

The result is a visually clean, effective series of shades. The supports and cables have been minimized. Most importantly, the project preserves the glittering openness of the Gulf shoreline and provides a subtle architectural influence, which is the sort of thing that helps bring visitors back.—CK

Project Data

Client: Jumeirah Beach Hotel

Architect: W.S. Atkins

Canopy Engineering: Huntington Design Associates

Fabricator: Birdair Inc.

Fabric: PVDF-coated PVC from Ferrari



A threaded adjusting device elongates the catenary cables and provides tension for the canopy.