

250 sun shades for pilgrims in Medina

Exterior Heavy

Project. Each year, millions of pilgrims flock to the mosque in Medina al-Munawwarah. In recent years, the traditional time of pilgrimage has been in the cooler fall and winter months. This time frame is changing gradually, however. According to the lunar calendar, the time of pilgrimage is returning to the extremely hot summer months, making a sunshade absolutely essential.

Concept/Design. As general contractor, the Saudi Binladin Group contracted the architectonic planning of this project to SL-Rasch GmbH in Leinfelden-Echterdingen (Germany). It was clear from the beginning that only PTFE fabric would be able to meet the exceptional situational demands. Other materials would not provide full protection from the aggressive UV radiation or satisfy the stringent standards required by the customer. In addition to UV-stability, the material had to have an extremely high tensile strength owing to wind load, maximum flexibility, colorfastness, fire resistance, as well as effective shading and appropriate light transmission. The extra tough PTFE fabric developed by Sefar especially for this huge project

could not remain pure white owing to the intensity of the light since the strong transmission would have blinded people beneath the sunshade. For this reason, the customer chose a sand-colored fabric. In addition, oriental patterns made from blue PTFE-ribbons should be applied to the underside of the umbrella. With careful adjustment of the weaving machine, the consistent quality of the giant fabric surface was also guaranteed.

Construction. Since September 2010, a total of 250 umbrellas, each one with a surface area of 25.5 x 25.5 m (when open) and 15 meters high, have been installed in the area surrounding the mosque in Medina al-Munawwarah. These umbrellas work together to form a shaded area of 143'000 m² – greater than the floor area of the mosque itself. When closed, each umbrella – including its working parts – is encased in a narrow, elegant column. The opening and closing procedure only takes three minutes. The outcome of this combination: by shading with PTFE fabric, the ambient temperature is reduced by at least 8 °C.

Project / Location: Sun shades at the Medina Haram Piazza, Saudi Arabia

Architect: SL-Rasch GmbH, Leinfelden-Echterdingen, Germany, www.sl-rasch.de

Assembly / Implementation: Taiyo Kogyo Corporation, Japan, www.taiyokogyo.com

Umbrella construction: Liebherr, Germany, www.liebherr.com

General contractor: SBG – Saudi Binladin Group, Saudi Arabia, www.sbg.com.sa

Fabric: SEFAR® Architecture PTFE Fabric

Photos: Sefar Architecture



Architecture
Interior / Exterior

S E F A R
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Sefar AG
Architecture
Hinterbissastrasse 12
9410 Heiden
Switzerland

Phone +41 71 898 51 04
Fax +41 71 898 58 71
info@sefararchitecture.com
www.sefar.com
www.tenarafabric.com