

# OKASOLAR – Reference

## ES I Madrid I Deutsche Schule



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**Project:**  
Deutsche Schule

**Location:**  
Madrid/ES

**Product:**  
OKASOLAR S

**Project Volume:**  
53 m<sup>2</sup>

**Architects:**  
Grüntuch Ernst Architekten,  
Berlin/DE

**Completion:**  
2015

### **Learning under the Spanish Sun - The newly constructed Deutsche Schule in Madrid offers top learning conditions despite high temperatures and strong sun irradiation**

The “Deutsche Schule Madrid” was founded 120 years ago and is one of the oldest German schools in a foreign country. In the meantime, the number of children has reached 1,800 which translates into a need for more room and a modern school building. The competition for the new construction in the northern part of the city

called Montecarmelo was won by the Berlin architectural office Grüntuch Ernst with an extraordinary adaption of mediterranean patio architecture. Seven uneven pentagons and one hexagon are grouped in a patchwork formation to unite in a complete ensemble. The three main buildings – kindergarten, elementary school and secondary school – each enclose an introverted patio. The three building structures are connected by two roofed atriums, the assembly hall and the cafeteria with the sports hall completing the ensemble. A vivid interplay of light and

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shadow results from the lattice in front of the façades and around the atriums as well as the perforated roofs of the court yards. In southern countries, the balance between sufficient incidental daylight and protection from overheating presents a big challenge – especially with overhead glazing. In order to direct as much daylight into the interior of the cafeteria and the sports hall as possible while softening the vertical irradiation of the sun, the architects chose OKASOLAR S from OKALUX for the

roof windows. This functional glass was scientifically developed by light planners to optimize incidental light and shading. Fixed louvres in the cavity offer more than effective sun protection. They direct the daylight selectively thus ensuring protection from direct solar irradiation while diffusely dispersing light into the interior. This enables the pupils in Madrid to linger in the cafeteria and sports hall and profit from the agreeable daylight atmosphere without being exposed to heat and glare.

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