

## OKASOLAR / OKAGEL – Reference

### DE | Ludwigsburg | Government-owned Seminar for Didactics and Teacher Education



**Project:**  
Government-owned Seminar for  
Didactics and Teacher Education

**Location:**  
Ludwigsburg/ DE

**Products:**  
OKASOLARF | OKAGEL

**Project Volume:**  
109 m<sup>2</sup> | 11 m<sup>2</sup>

**Architects:**  
müller.architekten, Heilbronn/ DE

**Completion:**  
2015

Felix Goerer and his partner, August Haag, were very influential for the architecture of Ludwigsburg in the 1950s and 1960s. “Optical Transparency” was Felix Goerers’ fundamental architectural guiding principle. Two pavilion-like buildings of the tax authority complex completed in 1960 are exemplary for this: the tax authority school and the cafeteria. Following the relocation of the tax authority in 2001, a monument of post-war modernism looking for a new purpose, remained. The tax authority school and the cafeteria found theirs in the Government-owned Seminar for Didactics and Teacher Education. But before this could be realized, much extensive

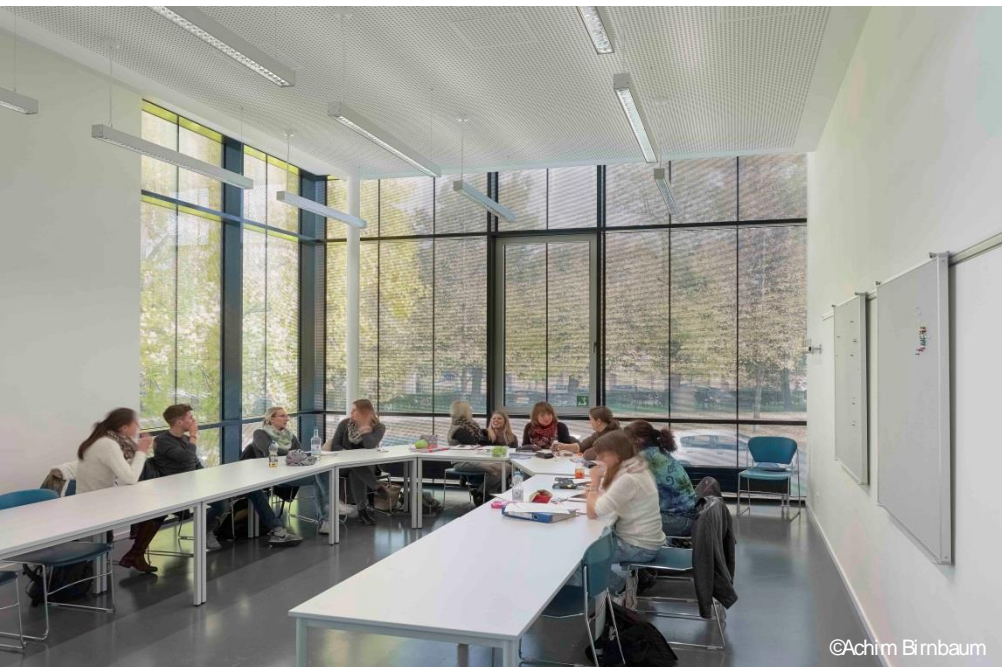
construction and renovation work were necessary. The underlying task for the planning office of müller.architekten from Heilbronn was to achieve state-of-the-art energetic requirements. They chose OKALUX functional glass to effectively support an efficient building shell and optimize the total energy balance of the building. The former tax authority school consists of two rows of partially recessed seminar rooms, directed towards the North and the South and connected through a middle corridor. Pent roofs cover the class rooms and lean toward the interior to the flat roof of the middle corridor. In comparison, the cafeteria is a plain cube on an almost square floor plan with a flat

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roof. The connections between the buildings create open corridors and have a roof consisting of a lightweight steel construction. “It was very important to us to renovate this special witness of time by respecting the original ideas of the former architects while adhering to the new requirements of heat protection”, says Matthias Müller. To preserve the sober, clean lines of the exposed concrete, brick and glass, the planners decided to upgrade the massive outer wall sections with an effective interior insulation. A new roof construction, completely new heating and ventilation technology, numerous changes in the interior as well as new glass façades were

added. The distinctive element of design here is the high proportion of windows. Every seminar room in the school building has continuous bands of windows which stretch from a low parapet up to the almost 3.30 and 4.00 meter high ceiling. The canteen building is completely covered – with the exception of a few wall sections here and there – by a filigree aluminum mullion and transom façade with large panes. Massive construction parts recede optically, reducing to narrow strips. The large amount of daylight gives the interior of both buildings a comfortable working atmosphere. Each part of the basement slightly recedes, making the buildings look as if they were hovering over the lightly sloping

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terrain. The glass shell is decisive for the transparent and light atmosphere of the pavilions. Matthias Müller sought a corresponding solution for the challenge of retaining the filigree effect of the original construction while meeting modern energetic standards. Sun protection was a particular factor to be considered as exterior shading would have largely altered the original character of the former cafeteria. The architect found a solution for the 4.10 meter high façade construction of the cafeteria pavilion in an aluminum mullion transom façade with triple insulating glazing and the functional glass OKASOLAR F O and OKASOLAR F U from OKALUX.

These were mounted on the east, south as well as north side. Fixed louvres are integrated in the cavity of this effective daylight system. In the upper area of the glazing, the OKASOLAR F O type directs the incidental daylight deeply into the room. OKASOLAR F U reflects a large part of the solar radiation to the outside, thus protecting the interior from direct sun rays and preventing overheating and glare. The combination of both louvre types makes it possible to react to any requirements in the interior. The extremely narrow profile cross section of only 16 mm width makes OKASOLAR F perfect for use in triple insulating glass and in narrow glazing configurations. A modern construction of

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aluminum profiles with triple glazing was enough to meet the energetic requirements on the south side of the former tax authority school. Where once eaves and horizontal reinforced concrete beams had given shade, the high performance insulating glass OKAGEL from OKALUX was added and, mounted as skylights now ensures that the middle corridor of the former tax authority school is illuminated evenly with daylight. A silica aerogel in the cavity not

only disperses the daylight evenly into the room but also has high heat and noise insulating properties. The main importance of its lattice structure is, however, to prevent convection in the cavities. In this way, OKAGEL achieves consistently good heat insulation values, even in overhead glazing. The new usage of the tax building and the extensive renovation have made it possible for future teachers to learn and work in an agreeable atmosphere – perfectly illuminated and at comfortable temperatures.

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