



Case study

Bus station and Park-and-ride building Nördlingen

Products:

Montana aluminium trapezoidal profile
Profile type: SWISS PANEL SP 45/150 A,
Full-surface perforation: $d = 5/Tg = 8$ mm
Colour/surface: 25 μ m polyester coating
on both sides
Outside: colour DB 703 (anthracite)
Inside: RAL 7040
Size: 1000 m²

Kalzip aluminium standing seam
profiled sheets
Profile type: 50/429
Colour/surface: RAL 9006 (silver grey),
Underside with anti-condensation fleece
Size: 1270 m²

Client:

Stadt Nördlingen

Architects:

MORPHO-LOGIC, Architektur und
Stadtplanung, Munich
Ingrid Burgstaller, Michael Gebhard

Structural engineering:

Dr. Behringer Ingenieure, Munich

General contractor:

Goldbeck GmbH, branch Treuen



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An unusual ensemble of buildings has arisen as a mobility hub in the small Bavarian town of Nördlingen. The new bus station and the adjacent park-and-ride building set urban development standards and form a popular meeting place for citizens and travellers. The façade and roof of the ensemble consist of a composition of various metals sheets.

The challenge

The link between commuter traffic and private vehicle is a practical alternative for many commuters. Lower costs and more relaxed and sustainable travelling are of growing significance, particularly in urban areas. The achievement of this goal requires a suitable infrastructure with sufficient parking space in the immediate vicinity of a station. In the Bavarian town of Nördlingen, the architectural office Morpho-Logic from Munich was faced with the challenge of designing a central bus station and a park-and-ride building on a former wasteland site directly at the station.

The result was a municipal square of extraordinary design which, due to its central position directly next to the station, enables swift transfers between the various means of transportation, whether train, bus, car, motorbike or bicycle. The new urban space forms a meeting and contact point in the best interests of all concerned, and is the core of a mobility hub consisting of motorised individual traffic, public transport by train and bus as well as local and regional bicycle traffic.

The solution

The harmoniously designed ensemble forms an architectonic unit, which not only convinces by the selected layout and shape of the buildings, but also by its materiality. The new bus station with its striking, golden shimmering, Z-shaped roof, generates a signalling effect. The step-shaped construction mediates between the heterogeneous environments at the same time defining two different areas: the open, six-metre high roofed-over waiting zone with the bus stops and the roughly 4.5 metres high pedestrian passage running alongside, leading to the station forecourt.

The park-and ride building, situated along the length of the bus station, has three levels, accommodating as an important infrastructure element 151 car parking spaces, 102 bicycle spaces and 18 lockable bicycle boxes, as well as a public toilet. The building envelope with its perforated trapezoidal metal sheets and golden expanded metal elements has the appearance of a translucent veil, creating a filtered visual contact between inside and outside.

The golden decorative façade of the P+R building made of expanded metal elements complements the golden roof of the bus station in material and colour. The choice of material and colour is deliberately symbolic, in order to anchor the newly created urban space as a memorable impression in the awareness of the citizens.

Building structure and façade

The building structure of the bus station was made of galvanised steel profiles. The supports are flat steel elements, combined into rectangular profiles; the roof supports consist of conventional steel profiles. Visible elements of the supporting structure have an epoxy resin-based coating with micaceous iron oxide. The roof supports and the main and ancillary supports of the roof construction were made of different galvanised steel profiles. The roof facing consists of canted, powder-coated aluminium sheets, the view from below being made of expanded metal sheets with galvanised, powder-coated steel frame on the back. The single-layer roof covering was made using Kalzip profiled sheets 50/429 in RAL 9006 (silver grey) with a three degree slope, with an anti-condensation fleece on the underside.



The absorption capacity of the fleece at a layer thickness of 600 g/m² is approx. 0.46 litres/m².

The park-and-ride building consists of a galvanised steel skeleton construction on an axial grid of 2.5 metres. Steel beams span the parking stands and roads and create support-free levels. The outer shell consists of two different metals. The golden decorative façade facing the bus station leads above the road to a canopy roof that protects against the weather. The continuous canopy roof is held by galvanised cantilever beams, which are clad with gold-coloured plain sheets and expanded metal sheets on the face and undersides.

The ground floor façade and all other sides of the buildings are made of polyester-coated, anthracite-coloured, perforated trapezoidal sheet with visible fastening. The horizontally arranged aluminium elements SWISS PANEL SP 45/150 A from the Swiss company Montana Bausysteme AG have full-surface perforation. Hence, even with closed façade surfaces, a veil-type transparency is created, which enables visual contact between inside and outside, increasing the experienced feeling of safety, particularly at night or in diffuse wintry weather conditions. The transparency of the building enables natural illumination during the day. At the same time, the selected perforation represents sufficient ventilation, which enables the omission of additional ventilation technology. The fastening of the steel elements, which are mounted in front of the supporting structure of the parking levels on



a galvanised, hollow-profile substructure, took place to the galvanised and powder-coated steel bracket frame visibly with shadow joints. The formation of the corners took place with a mitre cut and shadow joint. Therefore, pilaster strip profiles or edge profiles were able to be omitted to the benefit of a lighter weight. The design of the single-layer roof covering, which is barely noticeable behind the trapezoidal profiles, also took place using Kalzip profiled sheets 50/429 in RAL 9006 (silver-grey) with a three degree slope, with an anti-condensation fleece on the underside.

Best urban development situation

After its completion, the convincing design of the building ensemble was quickly accepted by the public and soon became a popular meeting point in Nördlingen. For many commuters and travellers, the new bus station actually did rapidly develop into the mobility hub originally intended by the planners. The selected materials trapezoidal steel sheet, standing seam aluminium profiled sheets and expanded metal as well as concrete and wood allow the square to grow into a harmonious entity. Its urban quality was distinguished in 2012 with the Thomas-Wechs award of the BDA Schwaben. In 2013, the project won the BDA award in the category "Best urban development interpretation".

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