

Calwer Passage Stuttgart



Location
Stuttgart

Built
Construction period: 2018–2021

A Rooftop Forest for Stuttgart

Two years after starting construction of the new Calwer Passage building in Stuttgart, an intensive planting phase launched this May. Black pine, English oak, Swedish hackberry, hornbeam, gleditsia – more than 60 trees will be planted by September.

The trees will form a rich, diverse roofscape, complementing the unique green characteristics on each floor. The facades of the mixed-use residential and commercial building will be densely planted with climbing and hanging plants according to a finely balanced system. The urban green concept was developed by ingenhoven associates for the Calwer Passage investor, Ferdinand Piëch Holding GmbH.

The most striking aspect of the green landscape will be the rooftop forest on the seventh floor. Some of the trees being planted are already 10 metres high, and in the coming years are expected to reach a crown height of 12 metres. On the sixth floor, an extensive hilly landscape with trees, terraces, and a herb meadow will invite people to relax and contemplate the natural surroundings. Meanwhile, the inner courtyard of the first upper floor will feature a garden with flower beds and somewhat lower trees and shrubs. Gleditsia trees will also be planted on the public square, Calwer Platz.

For the green facade, 2,000 planters – 1,700 linear metres with 11,000 seedlings – will be inserted into a structure mounted in front of building facade. A trellis of steel cables and nets stretched between the storey levels will support the growing plants. The rich arrangement will include lonicera, clematis, maidenhair vine, cotoneaster, winter jasmine, purple berry, ivy, and yew, with both cascading and upward growing plants. The result will be a multifaceted green facade, growing both horizontally and vertically, in various densities – moderate in front of the offices so as not to block incident light, and denser in front of the stairwells. Since 2019, the plants have been pre-cultivated in the planters at a nursery. Arriving at the site with fully formed roots and voluminous foliage, they will be able to quickly acclimate to their new surroundings.

Greening the City – Site-Specific Solutions

As with Kö-Bogen II in Düsseldorf, Europe's largest green facade, ingenhoven associates were advised on the greening system and the selection and care of the plants by the phytotechnologist Prof. Dr. Strauch of Beuth University of Applied Sciences in Berlin and by the vegetation ecologist Prof. Dr. Reif of Albert Ludwig University in Freiburg. By planting Kö-Bogen exclusively with hornbeams – 35,000 plants, strung together to form a hedge 8 kilometres long – ingenhoven associates in Düsseldorf pursued a sculptural approach in dialogue with nearby icons of post-war modernism, the Dreischeidenhaus high-rise and the Schauspielhaus theatre. In Stuttgart, ingenhoven associates opted for a freer, wilder composition, thus continuing their intensive work with urban greenery and site-specific solutions.

For many years, plants have played a central role in almost all of the firm's projects as an integral part of the design. More green in the city – seen in a wider context, urban greenery is also an essential part of cities' response to the increasing impacts of climate change. Green roofs and facades improve the city's microclimate by binding carbon dioxide and dust, dampening noise, supporting biodiversity, and enhancing people's general wellbeing. Even more important is their positive impact in reducing the urban heat island effect and providing rainwater retention. Especially in summer, conventional mineral or bituminous surfaces absorb solar radiation and continue to emit this as heat, causing our inner cities to become warmer. Layers of foliage, on the other hand, act as large-scale energy converters. They cool the air, which

counteracts the heat island effect. Green rooftops in particular retain rainwater and reduce stormwater runoff. While the water cycle is interrupted by land sealing in many urban areas, green roofs close this gap in the water cycle and naturally prevent an overload of the public sewerage system.

Awards, Nominations

2023

Beispielhaftes Bauen Baden-Württemberg 2023 - Recognition
European Union Prize for Contemporary Architecture - Mies van der Rohe Awards 2024 - NomineematerialPREIS 2023 - Award for material in use

Team

Client

Ferdinand Piëch Holding GmbH, Stuttgart

Facade planning - green facades and green roofs
ingenhoven associates, Düsseldorf

Team ingenhoven associates

Christoph Ingenhoven, Martin Reuter, Michael Rathgeb, Nina Schaffernoth, Victor Braun, Julian Blönnigen, Bastian Müller, Jürgen Schreyer, Dariusz Szczygielski, Stefan Boenicke, Thanh Dang

Phytotechnology / Special Building Greening

Prof. Dr. Strauch, Beuth Hochschule für Technik, Berlin, Fachbereich Life Sciences and Technology

Consultancy for Vegetation Ecology

Prof. Dr. Reif, Albert-Ludwigs-University, Freiburg, Professorship for Site Science and Vegetation Science