



**architect**

Petr Nerold

**location**

Vídeňská, Prague (Czech Republic)

**companies involved**

Metal Trade Comax (material) - Dekmetal (façade systems)

**website**

[www.mtcomax.cz](http://www.mtcomax.cz)



## IKEM Z7 PAVILION

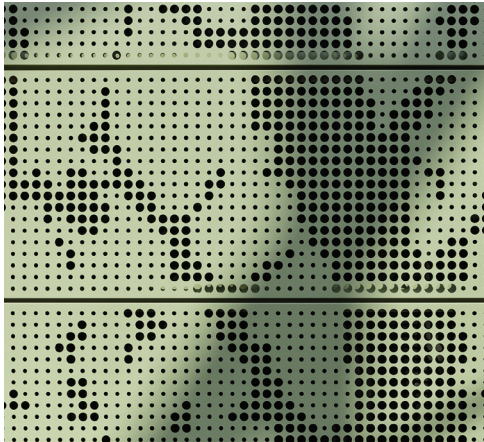
The prestigious IKEM (Institute for Clinical and Experimental Medicine), the Czech Republic's largest centre for clinical research, is located in the Kunratice forest, on the southern side of Prague. The softly curving pale green exterior of the new Z7 laboratories pavilion sits comfortably, in visual harmony within this woodland location.



“As the 27 site was on the periphery of the IKEM grounds with no links to buildings outside, it was decided that the new pavilion adopt an ellipsoidal plan,” says architect Petr Nerold of Prague-based practice Studio A91.

The building comprises two above-ground floors and a basement, and features a spacious glass-roofed inner atrium. It serves as a research centre for experimental medicine and, in addition to research laboratories houses administrative offices, changing rooms, toilets and relaxation areas. The basement of the 41m x 27m edifice accommodates a car park and ancillary technical rooms.





The load-bearing structure at basement level comprises a 300mm peripheral reinforced concrete wall and inner 300x300mm reinforced concrete columns at axial distances of 8.4m lengthwise and 6.2m crosswise.

The floors are monolithic reinforced concrete slabs without supporting girders and the columns have no capitals. The atrium roof consists of steel trusses anchored to reinforced concrete “attic”, explains Nerold, “which is part of the slab over the second floor”.

At the northwest edge of the building, the basement projects partially above the ground, forming a visible base clad with brownish grey natural stone. The upper two-floor volume sits on this base.

This basic volume is an elliptical cylinder perforated by entrances and terraces.

The facade was designed as ventilated structure with 200mm thermal insulation of mineral wool and cladding of framed perforated aluminium sheets. The Dekcassette LE two-way DKM2A cladding from Dekmetal, is a bent element system of interlocking cartridges, which are screwed invisibly to the bearing grid. The frames are 525 to 550mm high and have different widths from 1000 to 2000mm according to the changes in the curvature of the ellipse.

Manufactured from prepainted aluminium supplied by Metal Trade Comax, the Dekcassette LE cladding creates an attractive, cost-effective, lightweight-yet-durable ventilated facade, part of which is nevertheless hidden behind vertical steel posts connected by horizontal wooden planks and steel wires, installed to support an array of plants to provide natural shading.

On the north- and northwest-facing elevations, however, where shading is unnecessary, perforations in the cladding create a graphic pattern designed to resemble oak branches “and made by substituting the basic 10mm holes in the cladding by large 20mm holes”.

The building’s flat roof features a selection of plants, and the area immediately adjacent to the building has been landscaped to provide “a natural transition to the neighbouring forest”.

Various technological features enable the Z7 pavilion to function as a low energy building: ventilation units recycle up to 85% of the heat from the internal air; waste heat is used for heating utility water in this and three other nearby buildings; and adjustable exterior blinds, as well as judicious planting, reduce solar gain (and thus the energy necessary for cooling).



