

# CMI in Seraing - Office building

Rue Cockerill, Seraing (BE)



Complete stability mission, building services and equipment, energy performance and health & safety coordination

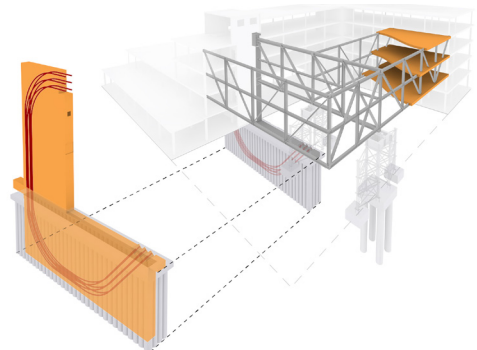
Owner  
Cockerill maintenance  
& ingénierie (CMI)

Architect  
Reichen et Robert & associés

Cost of the works  
€ 13,8 M excl. vat of which  
€ 3,7 M for the structure  
and € 3,2 M for the building  
engineering services

Studies  
2009 - 2013

Execution  
2010 - 2013



This new administrative 8 500 m<sup>2</sup> building, although a private project, is part of a wider plan for the urban renewal of the town. It is located next to the CMI "Château", on the site of the existing warehouses of which a part of the shed roof and a facade are preserved without maintaining their function.

The structure is mainly comprised of metal beams and columns with pre-stressed concrete slab floors and rigid reinforced concrete cores.

The structure has a large overhang with a total area of approximately 2,000 m<sup>2</sup> spread over three levels. It is composed of four lattice girders with spans of 25 to 35 m, one of which rests on top of the other and the main one of which is embedded in an imposing post-tensioned concrete cantilever resting directly on the rock at a depth of 10 m.

With its natural properties of high stiffness and strength, the steel lends a feeling of extreme lightness to the structure despite the cantilevered section weighing in at around 2 000 tons. Construction called for 350 tons of steel S355 and S460, 150 tons of which were needed for the four lattice beams alone.

These lattice beams were fabricated entirely in the workshop, transported via the nearby Meuse and erected on site in a few days. As an interim measure, the beams were held on two temporary supports, with pre-determined pre-camber so as not to transfer the bending stresses generated by the overhang to the building's main structure.

The pre-stressed concrete slab floors could then be constructed with the same supporting arrangements. This was followed by the combined operation of post-tensioning of the wall and removal of the supports from the cantilevered section to gradually balance the transfer of the vertical forces. The lattice structures are visible from inside the large open-plan offices and give the building a very special character, reinforced by the variation in section of the different profiles tracing the natural path of the forces.