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1. Technical School in Luxembourg – Limpertsberg

**Owner and supervisor
of works:**

*Administration of
Public Buildings*

Architects:

*R. Aspesberro and
P. Schumacher*

Civil Engineer:

J. Hedenstein

Construction company: *P. Perrard*

Steel construction firm: *Paul Wurth S.A.*

Service date: *1985*

Design of building

The extension of the «Lycée Technique» consists of a wing for classrooms (Bloc A) and a wing for workshops (blocs B and C) (Fig. 1); the classroom wing of $30,50 \text{ m} \times 46,80 \text{ m}$ includes a closed basement, a ground-floor and two upper floors, all of which are adapted to the levels of the existing building, whereas the workshop wing of $75,60 \text{ m} \times 36 \text{ m}$ has an open basement (parking area with ramps), a ground-floor with a technical mezzanine, a first floor and a recessed second floor. (Fig. 2)

The staircases and elevator shafts as well as the closed basement of the classroom wing are made of reinforced concrete; for the rest of the building the bearing structure is a steel structure with collaborating reinforced concrete floors, poured on steel decks; the classroom wing and the workshop wing are separated by a joint; equally the workshop wing is divided in its middle by a joint; each block is stabilised by its own staircase and elevator shaft; at these points the steel structure rests on concrete brackets; all connections are made with bolts and angles.

The connecting dowels have been welded on site. All steelwork faces not covered by reinforced concrete have been coated with a layer of fire protection material.

(*J. Hedenstein*)

Building features

| | |
|---------------------------|---|
| Purpose: | Extension of school building with classes and workshops |
| Built area: | 3200 m^2 |
| Floors: | basement, ground floor, 1st floor, 2nd floor, partially in recess |
| Built volume: | 63000 m^3 |
| Earthworks: | 36000 m^3 |
| Concrete: | 4200 m^3 |
| Normal formwork: | 12700 m^2 |
| Steel decks: | 14000 m^2 |
| Reinforcing steel: | 344 t |
| Steel structure: | 1150 t |
| Connecting dowels: | 24100 |

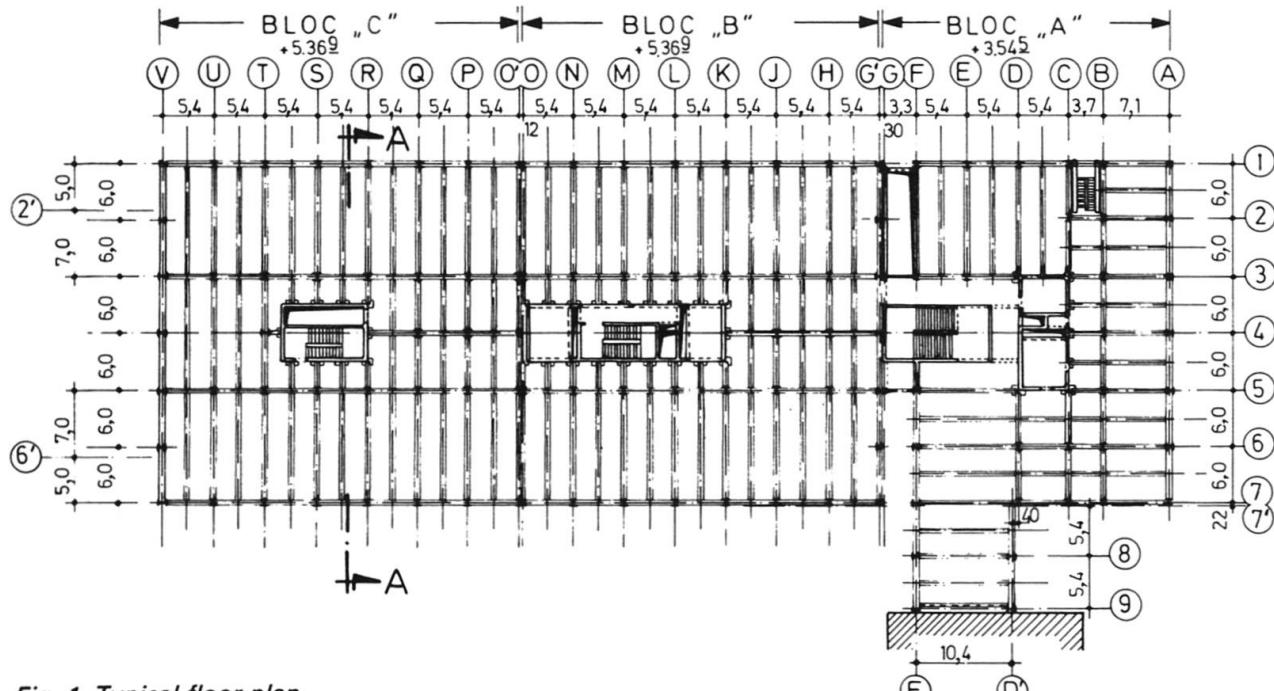


Fig. 1 Typical floor plan

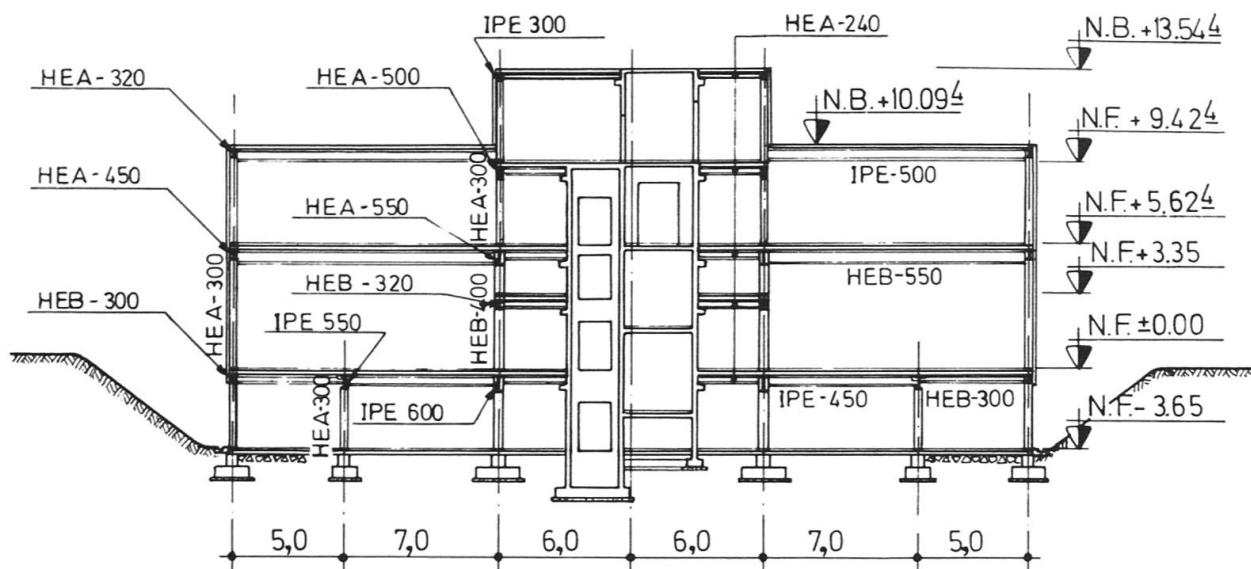


Fig. 2 Cross section A-A

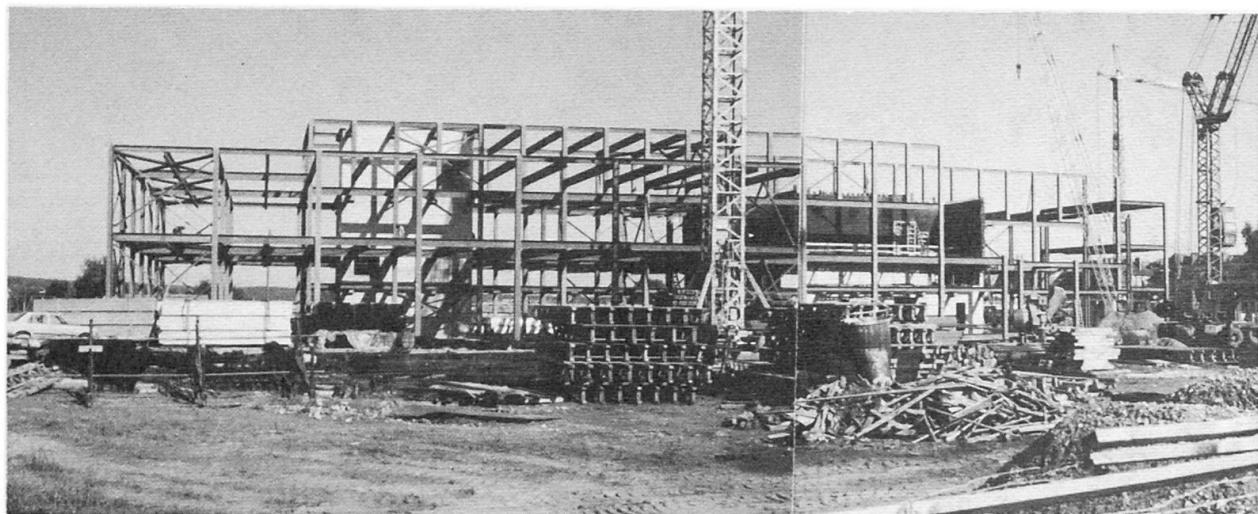


Fig. 3 Steel structure

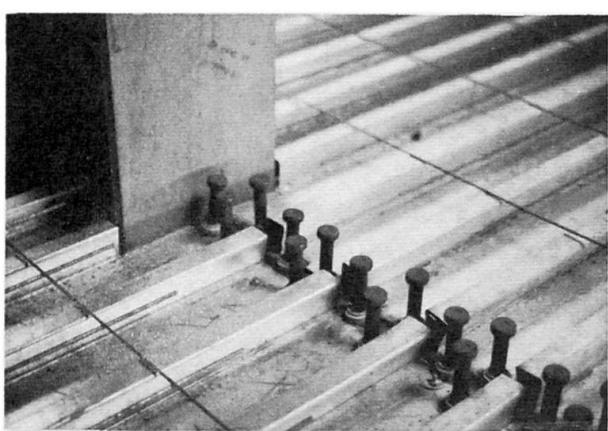


Fig. 4 Connecting dowels and steel deck



Fig. 5 Staircase with brackets