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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. Heldenstein

Construction company:

P. Perrard

Steel construction firm:

Paul Wurth S.A.

Service date:

1985

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

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 m × 46,80 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 m × 36 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. Heldenstein)

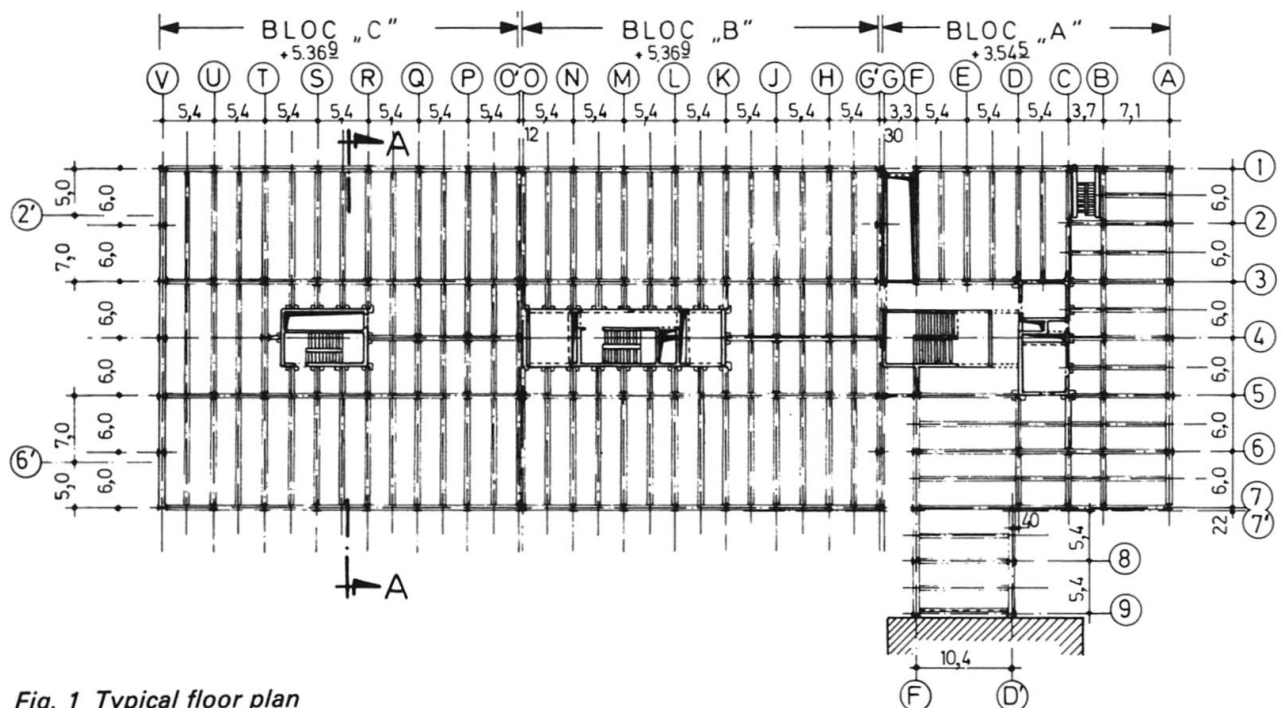


Fig. 1 Typical floor plan

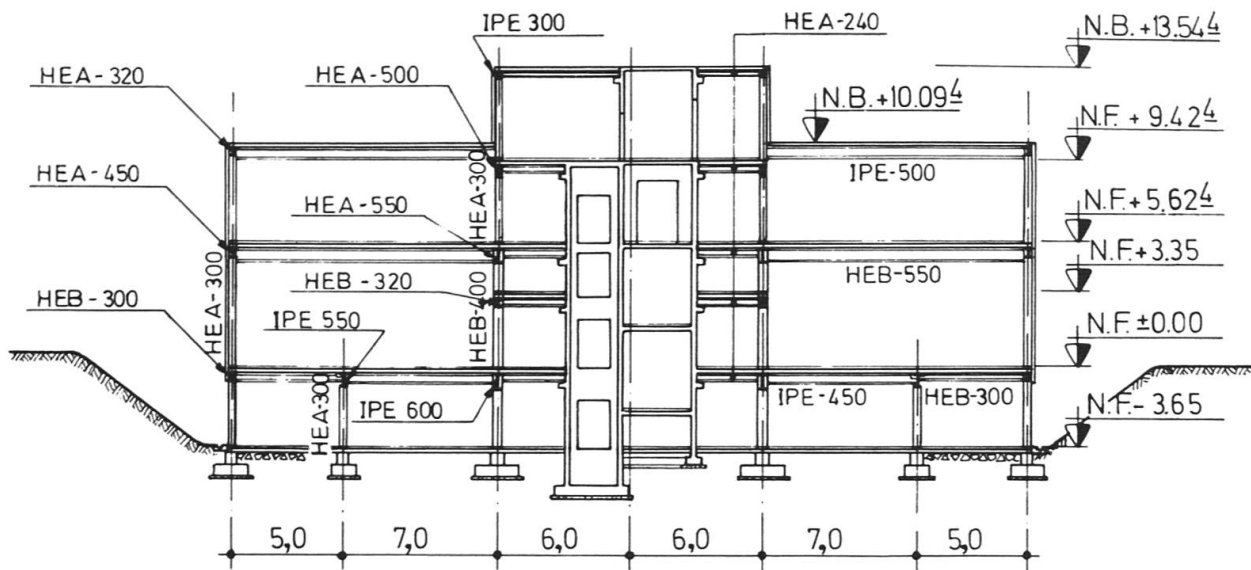


Fig. 2 Cross section A-A

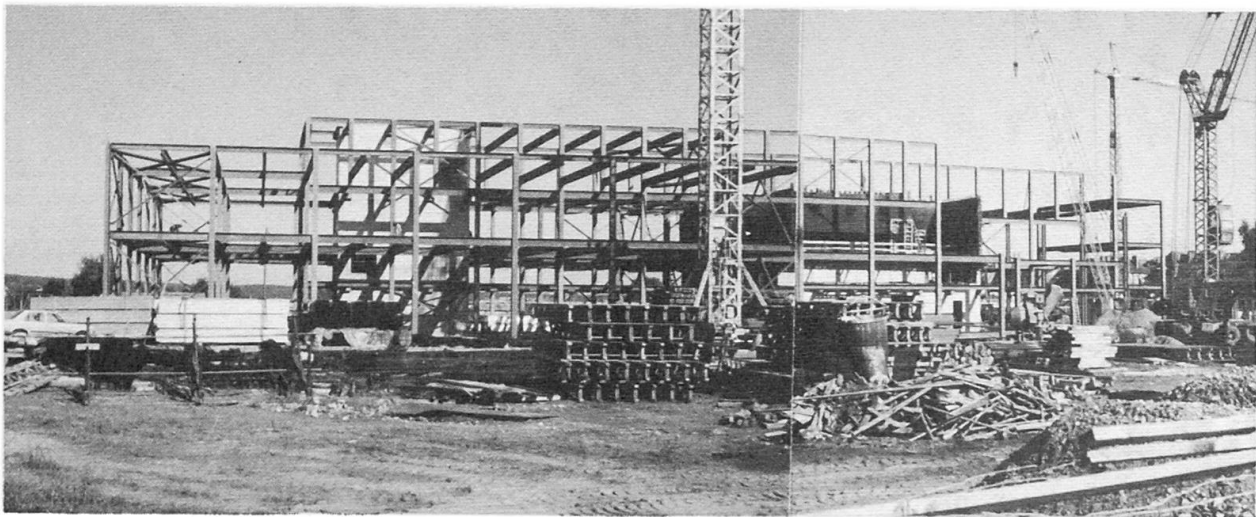


Fig. 3 Steel structure

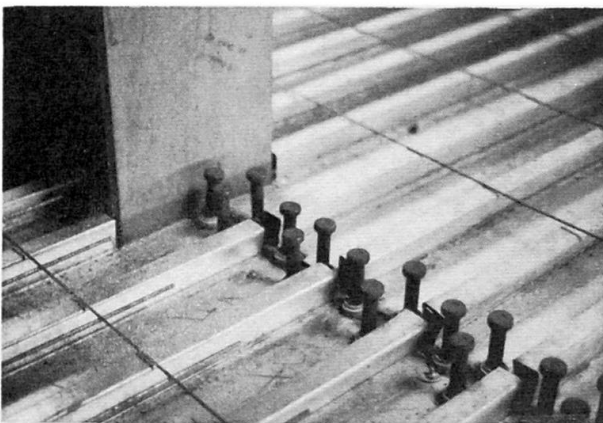


Fig. 4 Connecting dowels and steel deck



Fig. 5 Staircase with brackets