



Construction Applied to Heritage



Erasmus+

Construction Applied to Heritage

3 ECTS

SH

Sustainable Heritage

EC

Elective Courses



Construction Applied to Heritage

SH

Sustainable Heritage

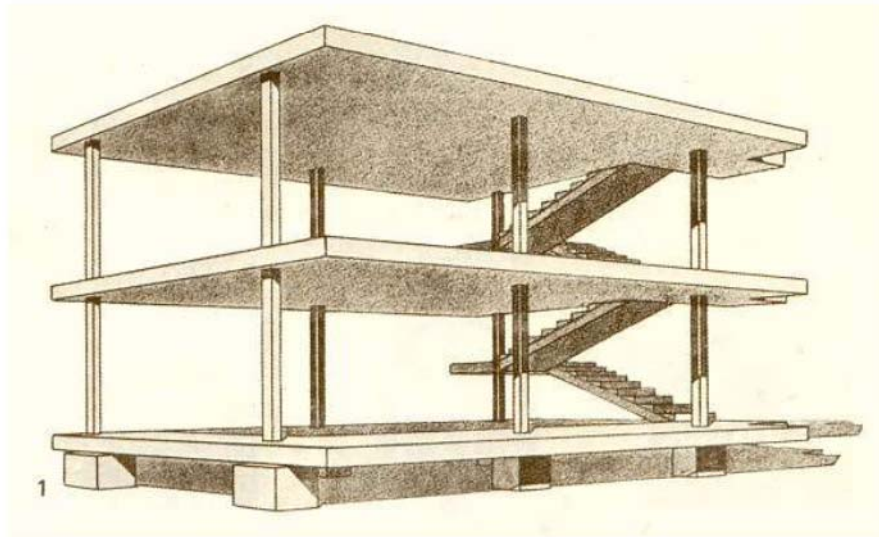
EC

Elective Courses

1. Foundations.
2. Retaining Works.
3. Drainage and Sewerage Systems.
4. The Porous Loadbearing System.
5. The Porous Loadbearing System. Walls.
6. The Porous Loadbearing System. Grid Structures.
7. The Compact Loadbearing System.
8. The Porous and Mixed Horizontal Loadbearing System. Slabs.
9. **The Porous and Mixed Horizontal Loadbearing System. Grid slabs.**
10. Roofs.
11. Sloping Roofs.
12. Flat Roofs.
13. Façades. Porous System. Ventilated Façades.
14. Façades. The Compact System. Curtain Walls.
15. The Internal Partitioning Layout. Construction Process.

Construction Applied to Heritage

3 ECTS



09 THE POROUS AND MIXED HORIZONTAL LOADBEARING SYSTEM. GRID SLABS.

- Grid slabs, massive and lightweight slabs, precast panel slabs
- Mixed concrete decking slabs.
- The characteristics of each type, its suitability for use.
- The constructive processes. Perimeter delimitations.
- Execution process. Quality control.

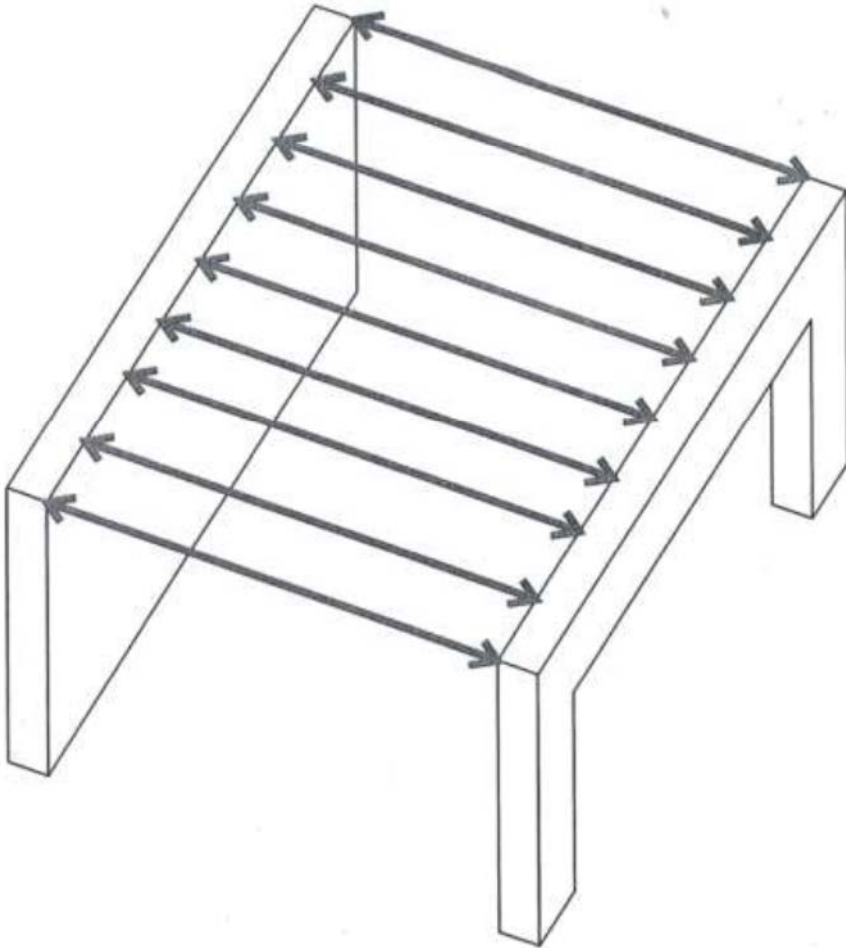
OBJECTIVE

To receive the loads of the building and transferring them to the vertical structural elements (walls or pillars).

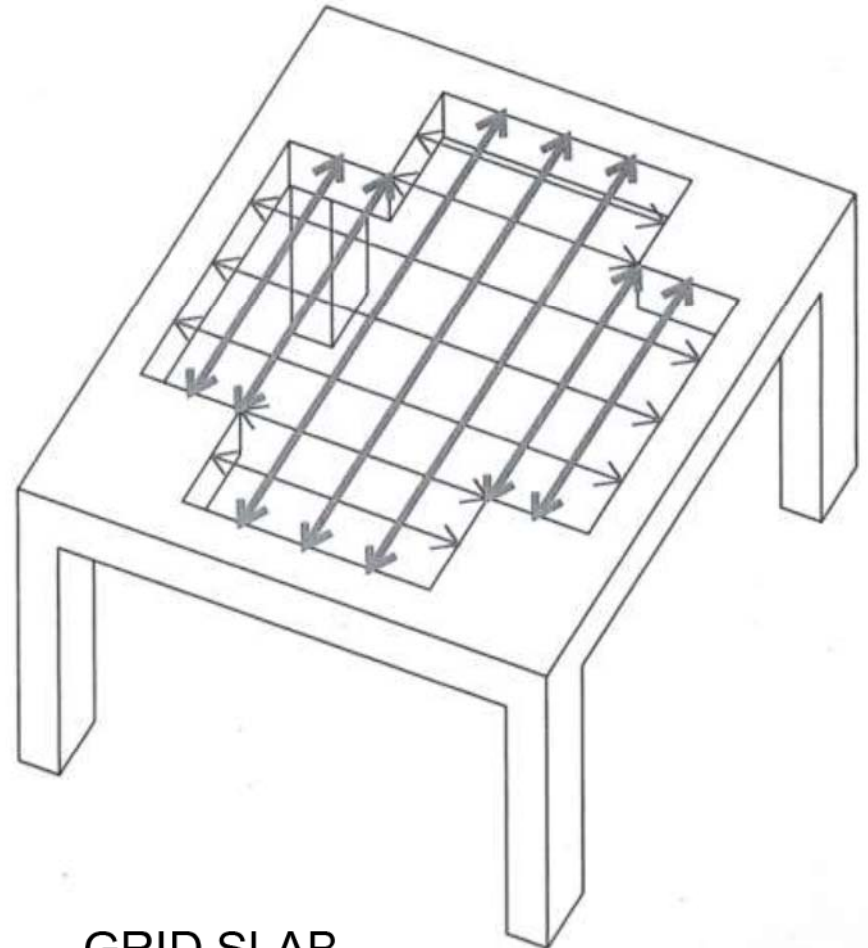
TYPES OF SLABS.

CLASIFICATION.

ACCORDING TO THE DIRECTION OF THE REINFORCEMENET



ONE WAY SPANNING SLAB



GRID SLAB

TYPES OF SLABS

ONE WAY SPANNING SLAB

Self-resistant joist

Do not need horizontal props.

Semi-resistant joist

Horizontal props needed.

Half-joists

Horizontal props needed.

Thin walled joists

Continuous formwork needed.

“On-site” joists

Continuous formwork needed.

Hollowcore plates

Do not need horizontal props.

GRID SLAB

Waffle slab

Reusable coffer.

Non reusable coffer

(concrete, ceramic, EPS).

Continuous formwork is required.

Massive slabs

Continuous formwork is required.

TYPES OF SLABS

- GRID SLABS
- MASSIVE AND LIGHTWEIGHT SLABS
- PRECAST PANEL SLABS,
- MIXED CONCRETE DECKING SLABS

MORE DECISIONS

■ **ECONOMICAL COST**

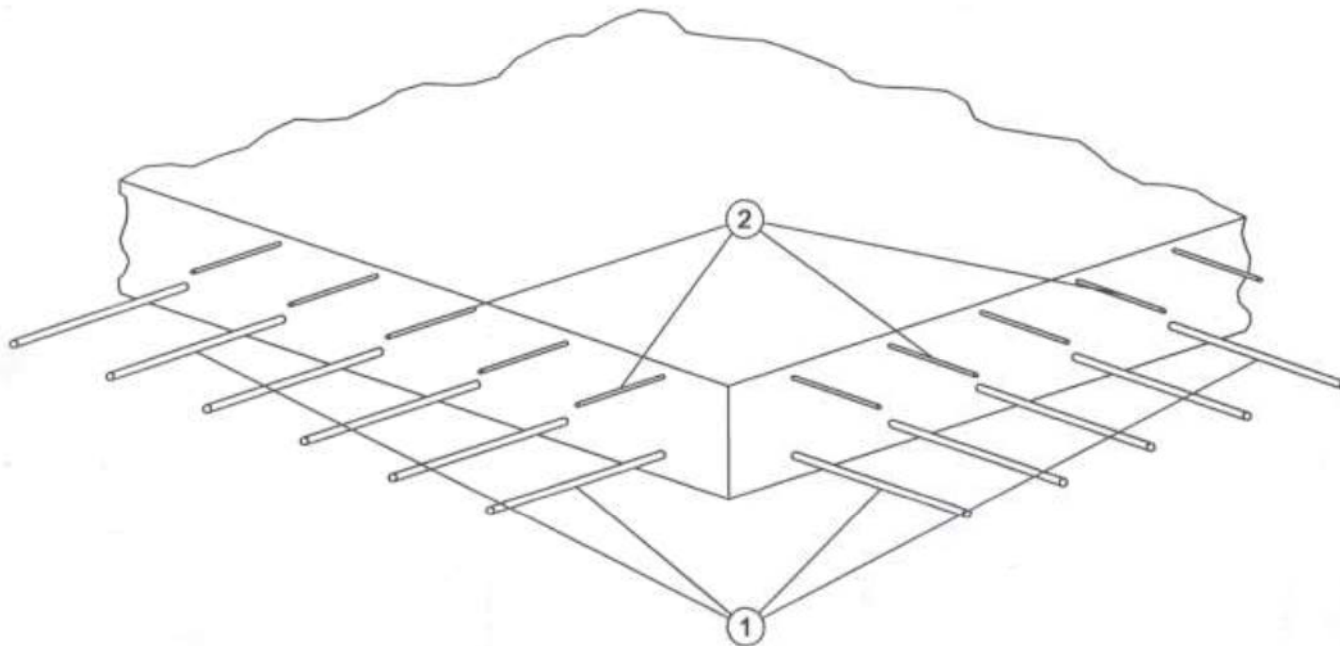
When two types of slabs are technically appropriate, the choice criteria may be economic.

■ **SAFE AND SECURITY**

The safest slabs are those using continuous formwork.

It is compulsory the existence of collective protection measures for work at heights of more than 2 m.

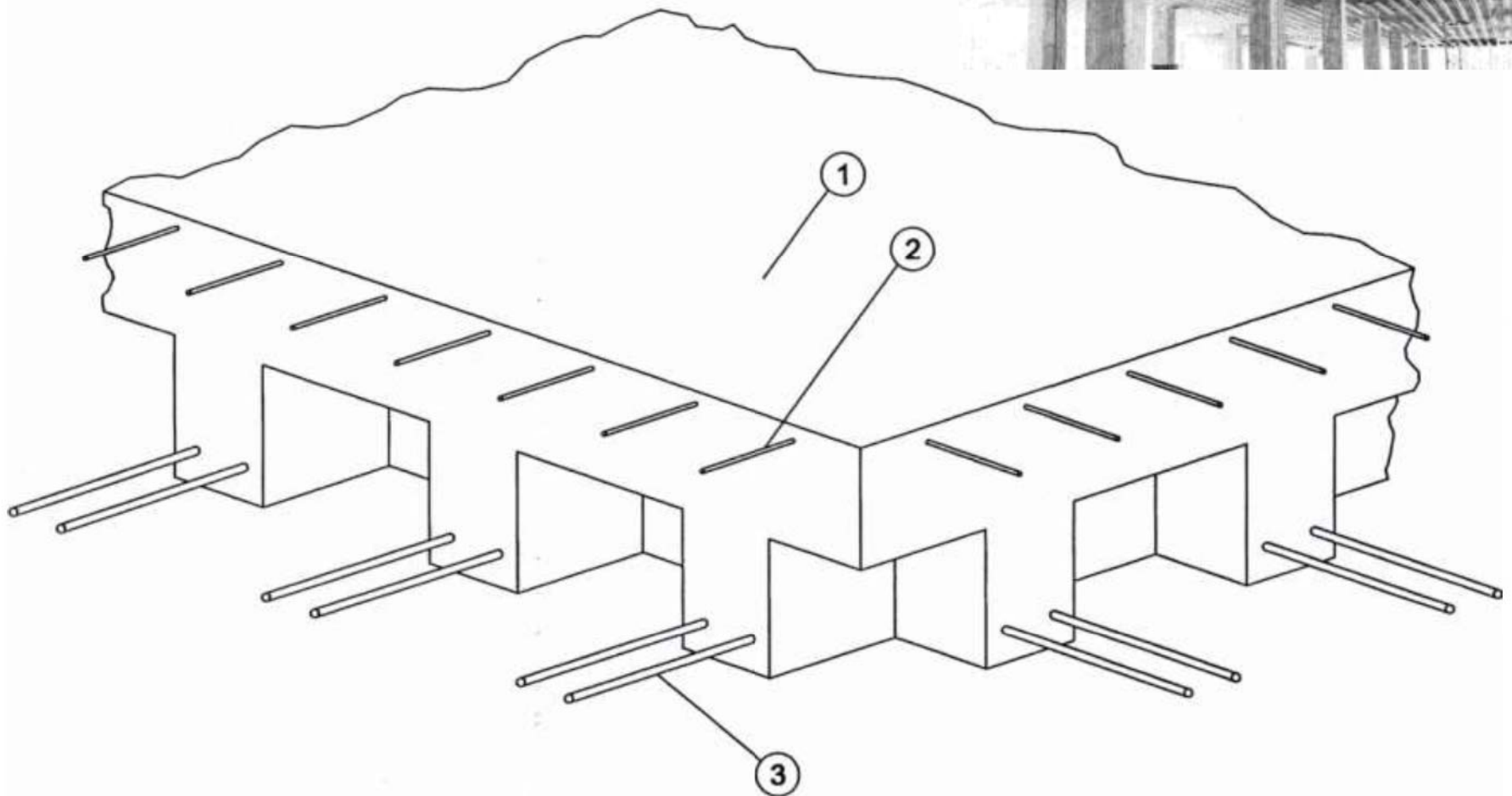
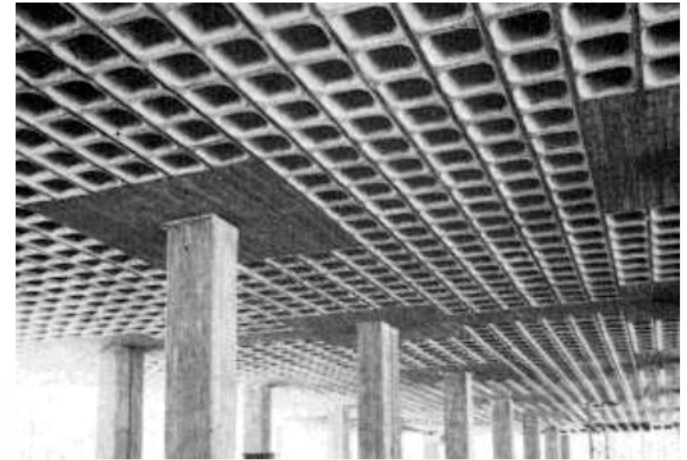
GRID SLAB. MASSIVE SLAB WITH TWO DIRECTIONS
REINFORCEMENT.



GRID SLABS. MASSIVE SLABS
EXECUTION PROCESS. CONCRETING

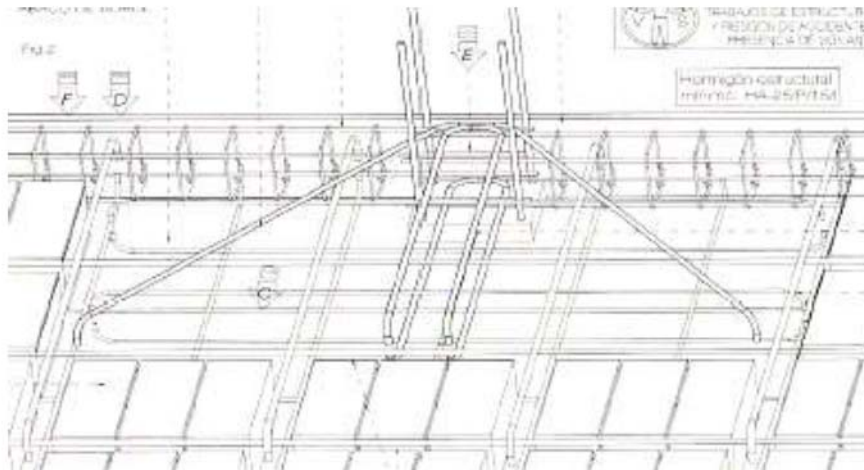
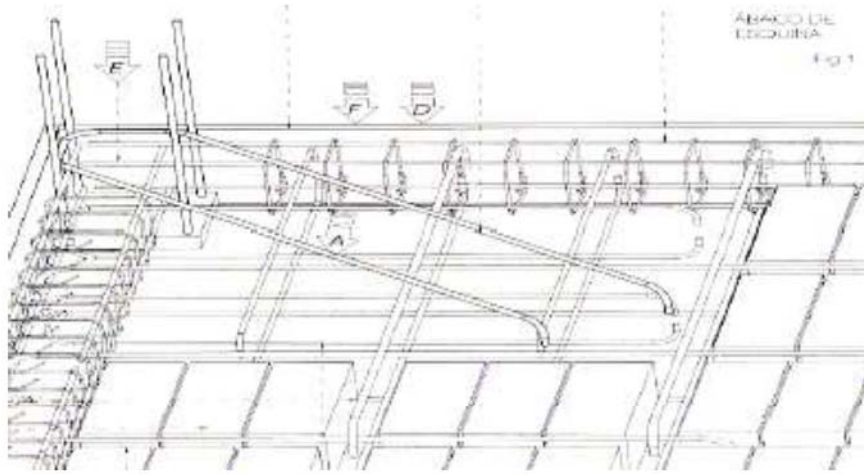


GRID SLABS. LIGHTWEIGHT SLAB WITH REUSABLE FORMWORK

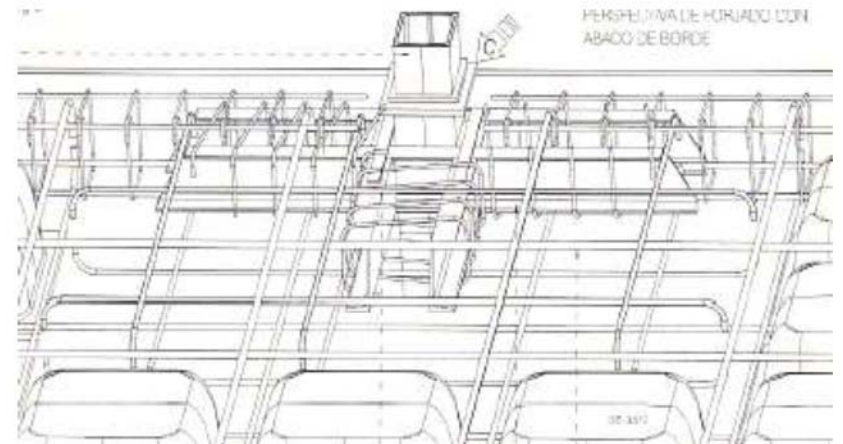
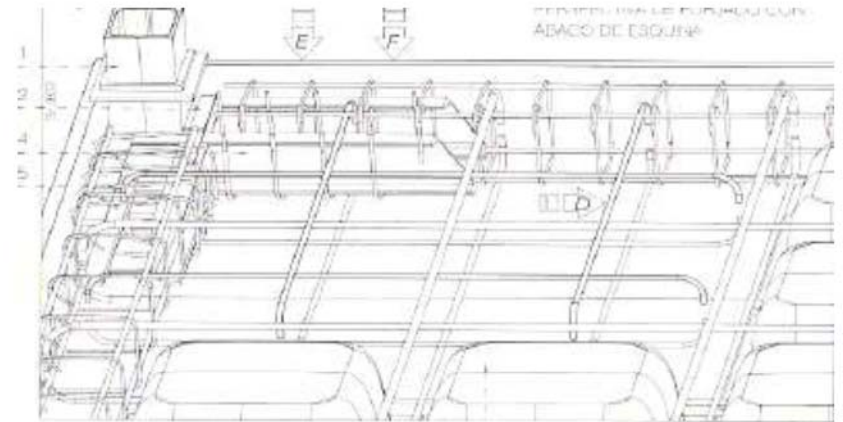


GRID SLABS

LIGHTWEIGHT SLAB ON REINFORCED CONCRETE PILLARS

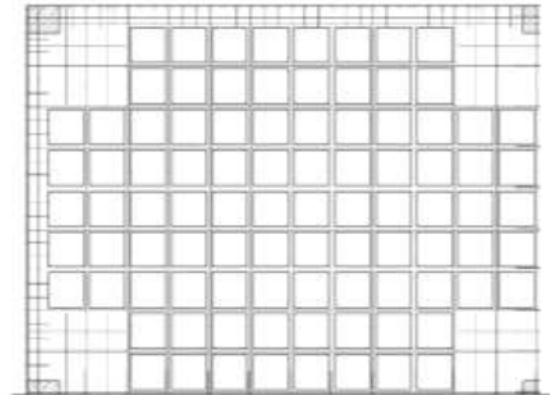
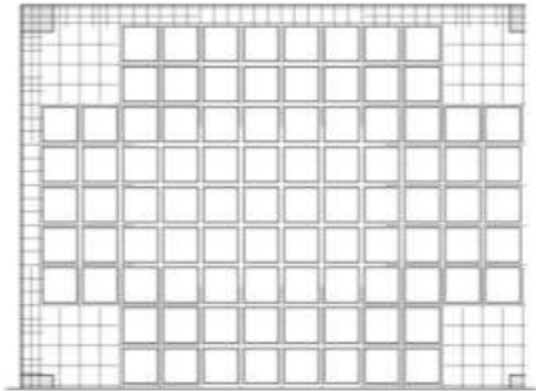


LIGHTWEIGHT SLAB ON STEEL PILLARS

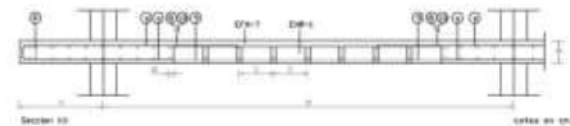
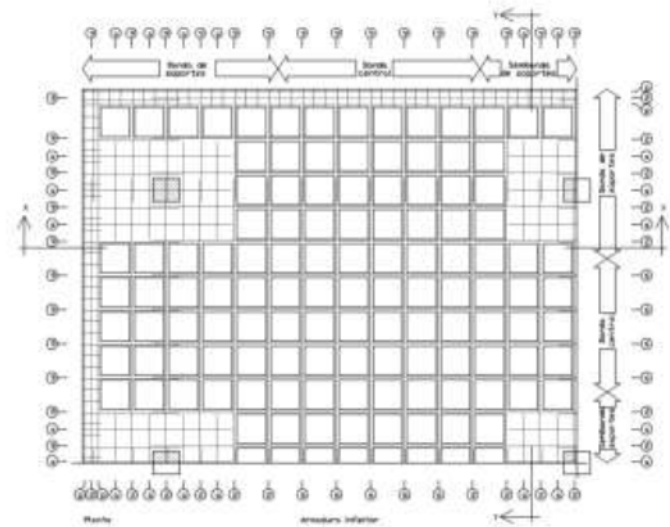
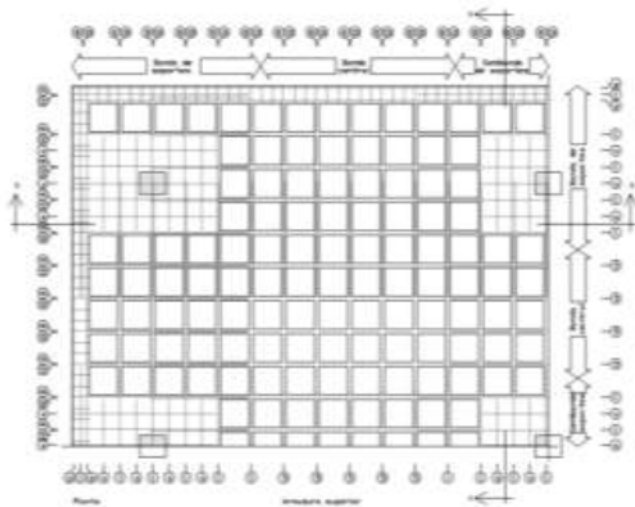


GRID SLABS

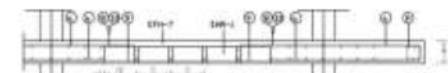
CORNER BOX



LOWER REINFORCEMENT

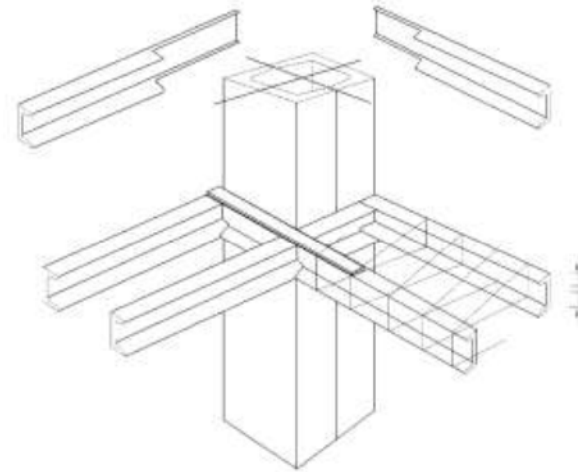
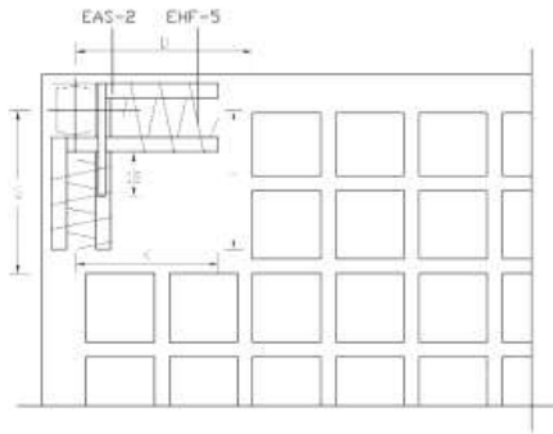


CANTILEVER CORNER BOX

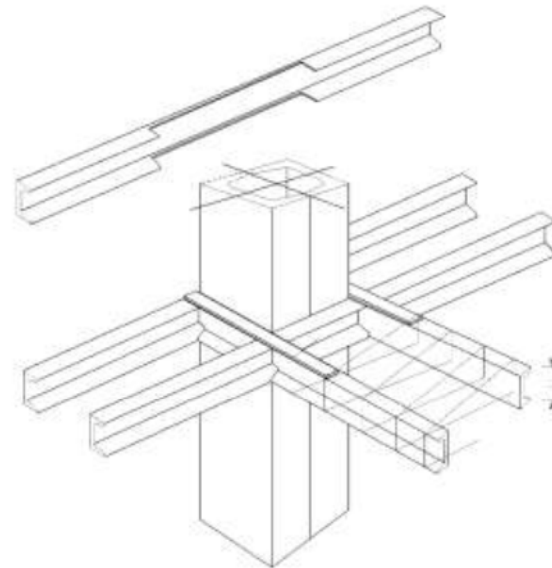
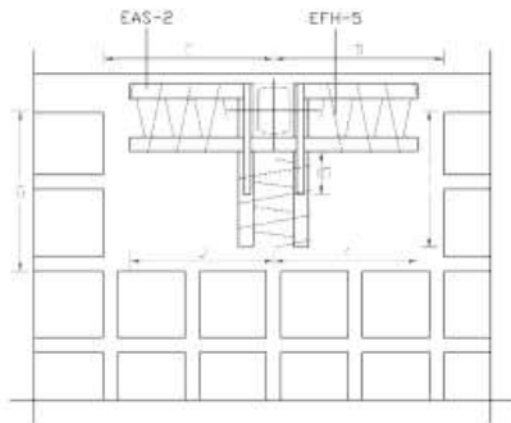


GRID SLABS

CORNER STEEL PIER ANCHORAGE

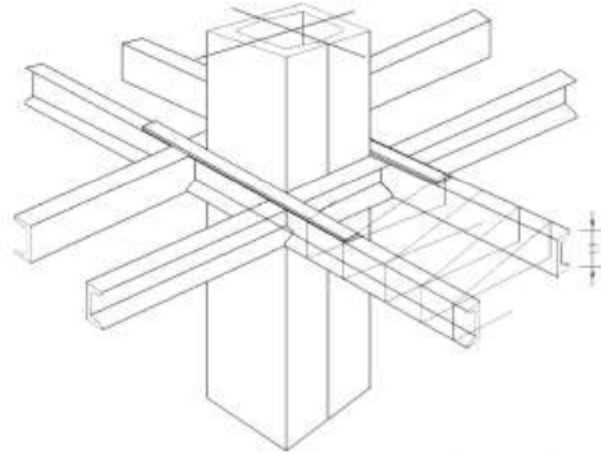
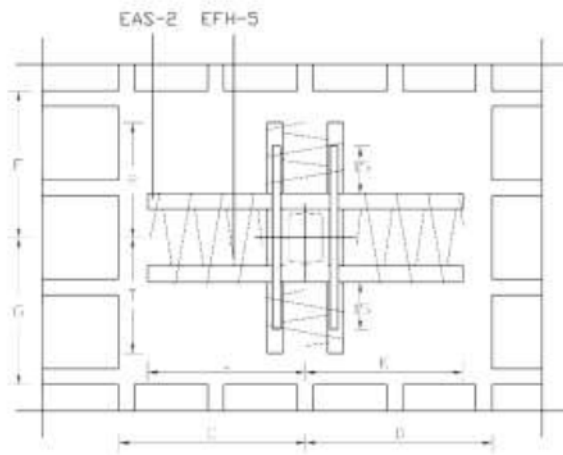


EDGE STEEL PILLAR ANCHORAGE



GRID SLABS

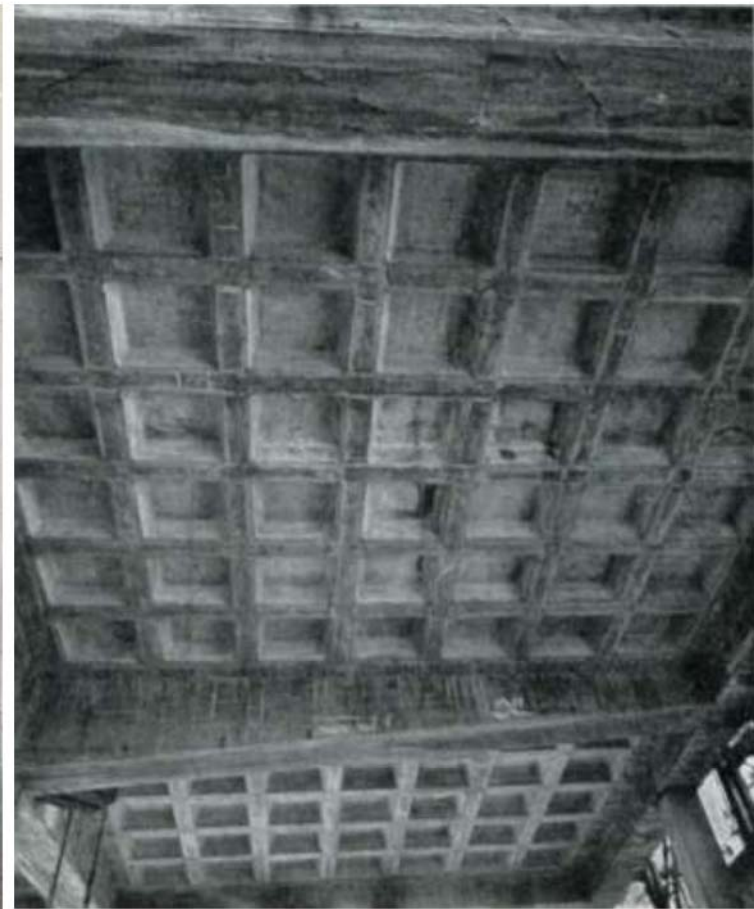
INTERNAL STEEL PIER ANCHORAGE

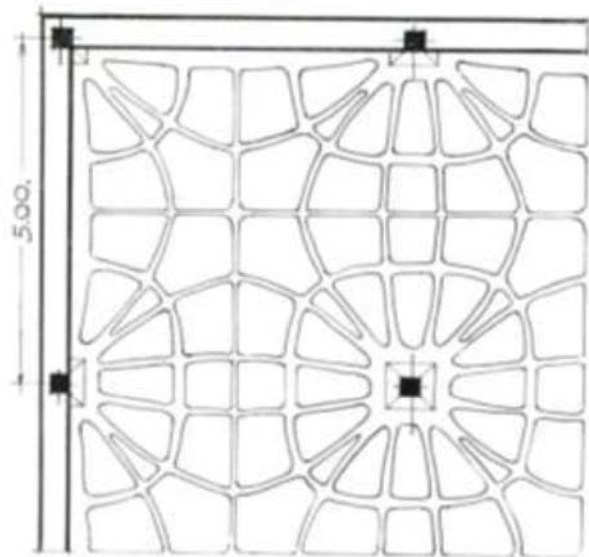


GRID SLABS EXECUTION PROCESS

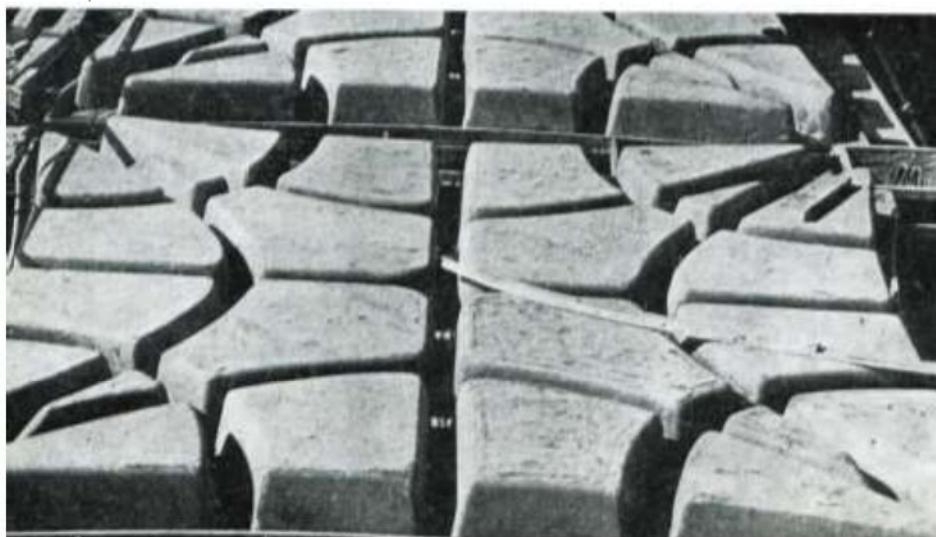
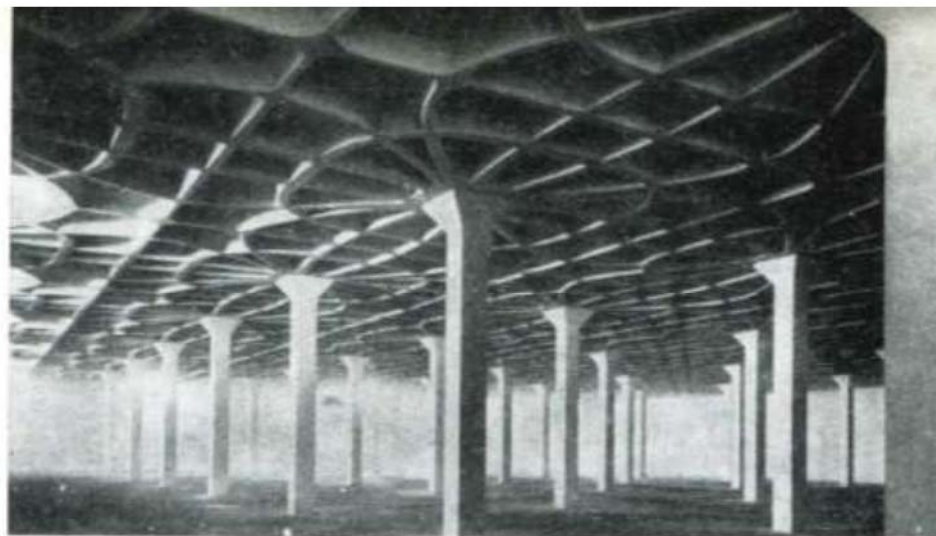


GRID SLABS EXECUTION PROCESS



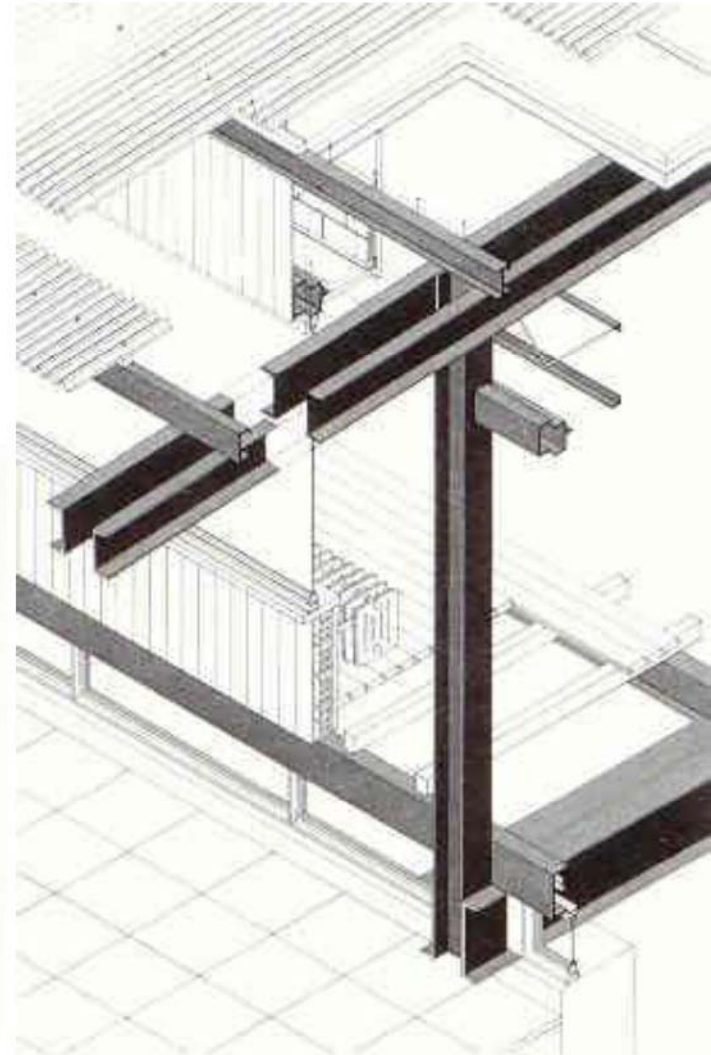
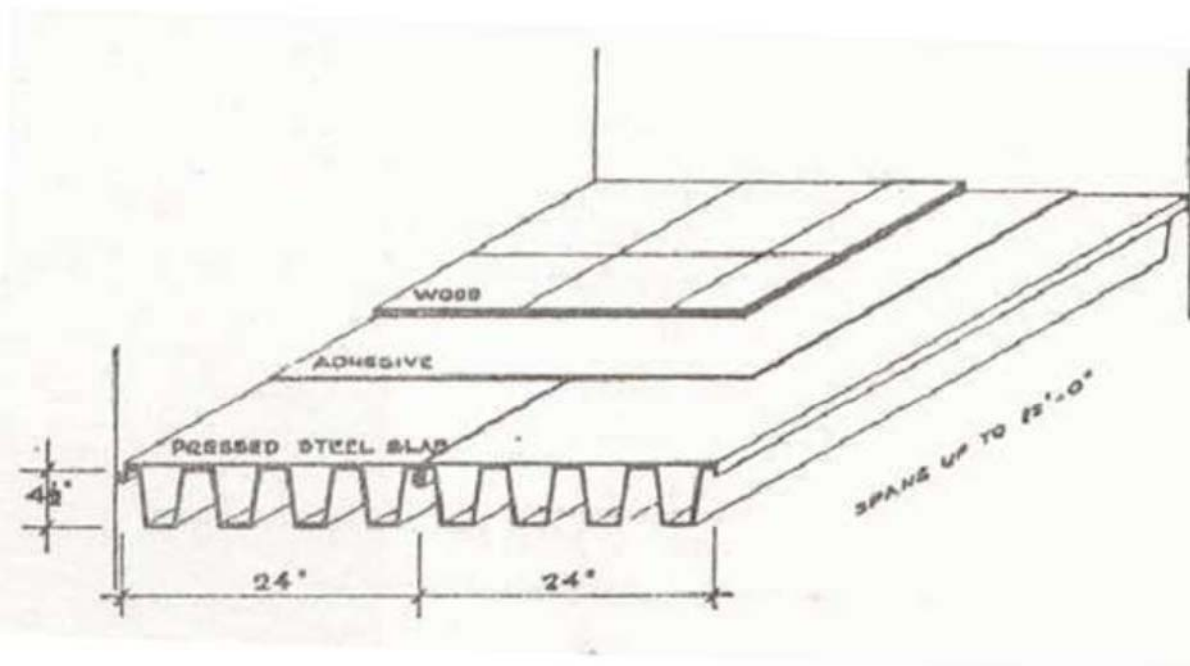


Gatti Factory.
P.L. Nervi



MIXED CONCRETE DECKING SLABS

ORIGIN

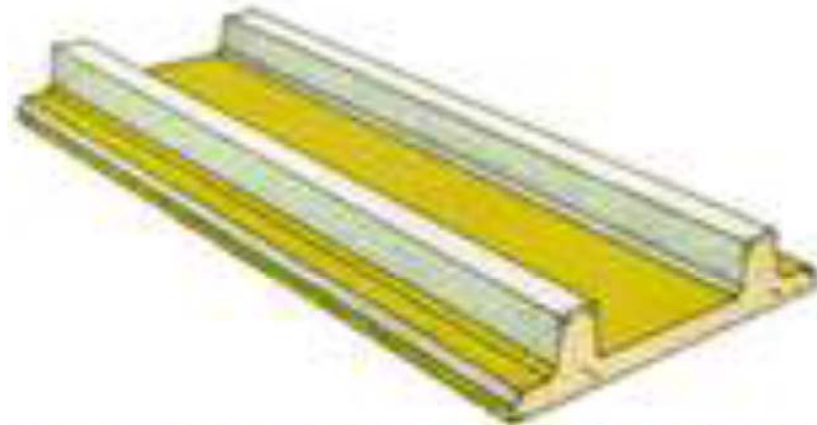


MIXED CONCRETE DECKING SLABS

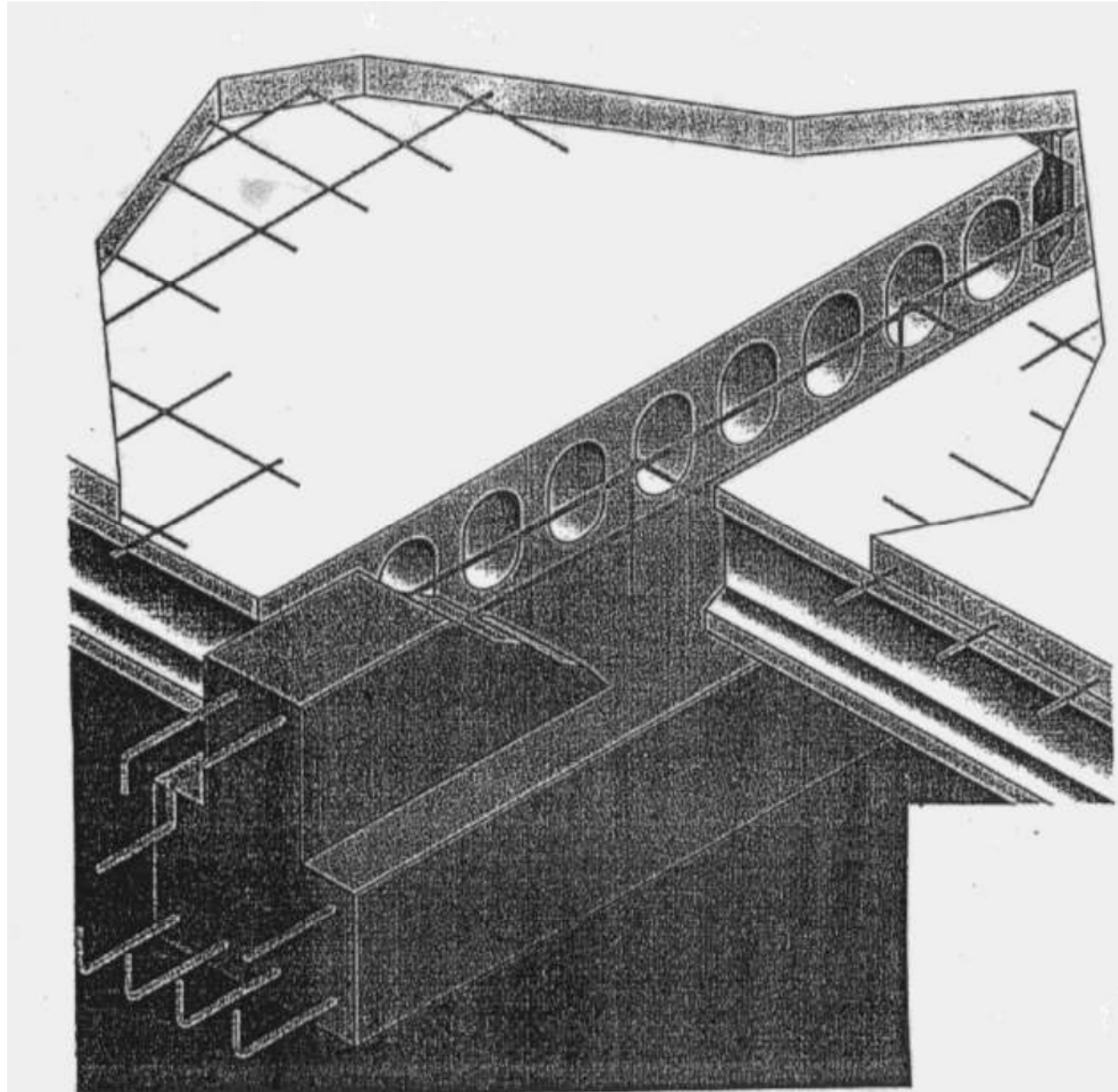


MIXED CONCRETE DECKING SLABS EXECUTION PROCESS





PRECAST SLABS



HOLLOWCORE PLATES



**Project "SURE - Sustainable Urban Rehabilitation in Europe"
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