Hollow block floors

Hollow block floors in a variety of forms appear as storey partitions from the 1930s up to the end of the 1960s, when there is a shift towards prefabricated concrete floors.

Solid concrete floors cast on site required extensive and costly formwork: casting frameworks of edge-trimmed, densely packed boards heavily supported for weight reasons.

As an alternative to such floors, a number of designs appeared in the buildings of the 1930s and postwar period. These are all characterised by a gradual simplification, and corresponding reduction in price, of their formwork over time. This was achieved through the use of increasingly large ready-made elements and a simplification of construction site work.

These types are referred to collectively as “hollow block floors”, where the factory-made elements are of brick or concrete of varying densities depending on the structure’s action.

The elements are laid out on formwork, which, depending on the size of the elements, can consist of boards of 25 cm right up to planks of 2-3 metres. The latter are partly self-forming.

After the laying out, reinforcing bars are positioned and concrete is poured between the elements as well as on top of them, if there is a need for increased load-bearing capacity.

The elements are designed and their choice of material determined according to whether they are included as pressure-absorbing or simply as infill in the finished floor.

Distribution onto load-bearing walls and the implementation of openings and other factors, such as balconies, are system- or manufacturer-dependent. All, however, observe the principle in reinforced concrete of pressure on the concrete/brick and tension on the iron.

During the early 1950s, the following types/makes were marketed:
Laid onto uniformly distributed formwork (c.t.c. boards – 25 cm):

RØSELER, BAUMA, MAMMUT, SPERLE and NYBO: all with brick elements, which are used as pressure-transferring elements of the construction.

HC and DANA: with concrete elements. HC’s elements are simply infill and the casting of concrete topping is necessary, whereas DANA’s are pressure-transferring.
LM: with lightweight concrete elements (Leca) which are simply infill.

Hollow block floors with larger spans:
DURISOL: with lightweight concrete (wood-based) elements, which are purely infill and which during casting require underpinning only every 50 cm.

STEEL-REINFORCED BRICK: with brick elements, partly in the form of beams and partly as infill, although in the final construction they also serve as pressure-transferring.

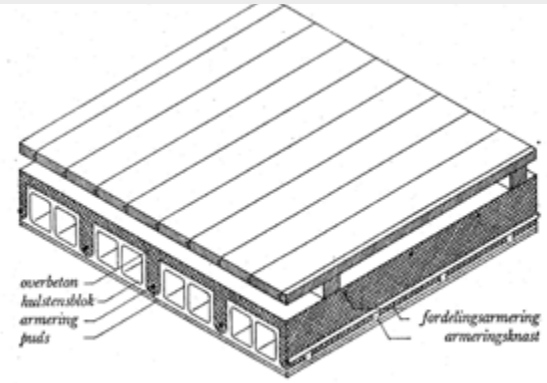
LIND floors: with reinforced concrete elements in the form of beams and infill elements of brick requiring the casting of a concrete topping – bracing of beams up to 300 cm.

KALLTON floors: similar to LIND's with concrete elements as infill only.

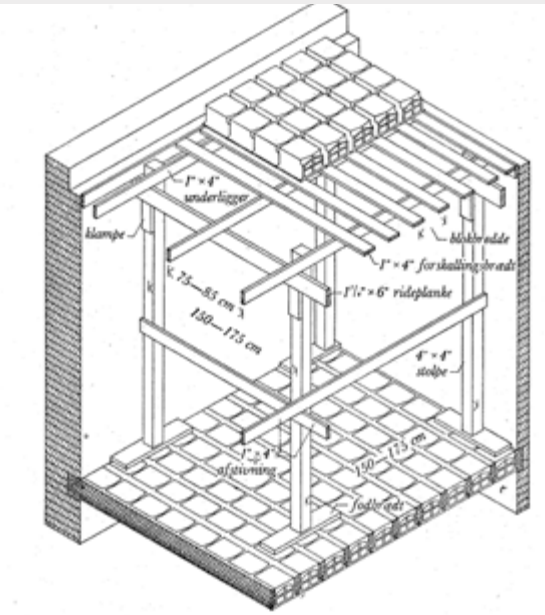
ROMA floors: consisting of brick elements, reinforced and shaped as 25-cm-wide beams up to 6 metres in length; these are factory made.

BISON floors: similar to ROMA's except they are made from concrete, cast in finished lengths and with corresponding spans.

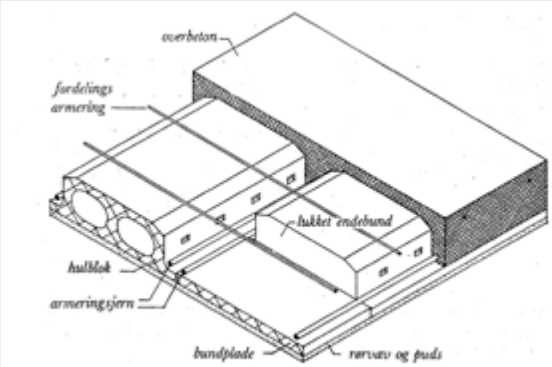
The last two floor types do not require underpinning during laying. Both types can be seen as the first real prefabricated flooring elements to be used in this country.



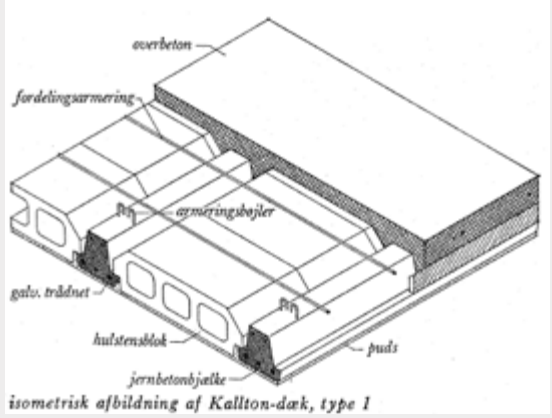
Isometrisk afbildning af hulstensdæk, mål 1:20



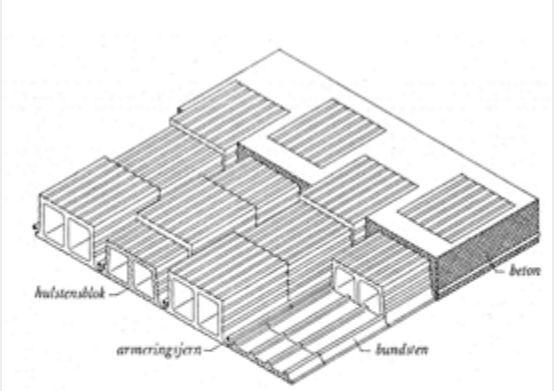
Opstilling af forskalling, mål 1:50



Isometrisk afbildning af Durisol-dæk



isometrisk afbildning af Kallton-dæk, type 1



Udførelse: Normalt uden overbeton.
Hulsten: *Funktion:* Blokkene overfører trykkræfter.
Materiale: Tegl.
Længde×bredde: 25 cm×25 cm.
Antal blokke pr. m²: 16 stk.
Armering: 1 stk. jern pr. ribbe.
Specialsten: Bundsten, 25 cm×25 cm, vægt 2,5 kg.