PATENT CLAIMS

1. Energy and weight efficient building block that has a prismatic body made ~~form~~ from a post-hardening ~~foam concrete~~ material (1), characterized in that a flexible static insert structure (2) is placed inside the body, ~~the insert structure (2) has a cutting edge (8)~~ positive adapters (12) are formed on an upper plane (11) of the building block and negative adapters (13) are formed on a ground plane (10) of the building block, wherein the negative adapters (13) are configured for being fitted on the positive adapters (12) of a building block located thereunder and the flexible static insert structure (2) is adapted for touching the flexible static insert structure of a building block located thereunder when the building blocks are placed on each other.

2. The building block of claim 1, characterized in that the flexible static insert structure (2) ~~is made of metal, and~~ is assembled from one or more insert profiles (3) with the same structure.

3. The building block of claim ~~1 or~~ 2, characterized in that the insert profile (3) is made from two mirror-symmetric half elements (4), a straight-line part (5) on its two edges, and an arched-line part (6) in its middle third; in case of more than one insert profiles (3), an auxiliary tensioning element (7) is connected to both sides of both edges, the straight-line part (5) ~~with~~ and the joining auxiliary tensioning elements (7) together form ~~the~~ a cutting edge (8), furthermore, there are perforations (9) made on the surface of the half elements (4) and the auxiliary tensioning elements (7).

4. The building block of claim 1, characterized in that the static insert structure (2) is made of metal.

5.~~4.~~ The building block of claim 1, characterized in that the static insert structure (2) is made from cylindrical plastic tubes ~~or~~.

6. The building block of claim 1, characterized in that the static insert structure (2) is made ~~from~~ of organic material~~, preferably from wood~~.

7. The building block of any of the claims 1-6, characterized in that the post-hardening material (1) is polystyrene foam concrete.

8.~~5.~~ The building block of any of the claims 1~~-4~~-7, characterized in that with the building block standing on its ground plane (10), the positive adapters (12) are formed on its upper plane (11), protruding from the plane thereof, at nearly the same distance from the edges, ~~positive adapters (12) are formed,~~ while on the ground plane (10), hollowed from the plane thereof, also at nearly the same distance from the edges, the negative adapters (13) are formed.

9.~~6.~~ The building block of any of the claims 1~~-5~~-8, characterized in that the positive adapters (12) are formed as prisms or pyramids with a rectangular base or cylindrical or cone-shaped bodies.

10. The building block of any of the claims 1-9, characterized in that on one of the faces perpendicular to its flat front plane, grooves (14) and tongues (15) are formed alternately, whereas on the other face opposite thereto, tongues (15) and grooves (14) are formed alternately.

11.~~7.~~ Manufacturing process for the production of the building block of claim 1, in the course of which a post-hardening material (1) is produced by mixing a lightening material with a density less than 500 kg/m^3, cement and water, characterized in that ~~a flexible~~ the static insert structure (2) is placed into ~~the~~ a form body (16), then the form body (16) is filled up with the stirred post-hardening material (1) or at first the stirred post-hardening material (1) is poured into the form body (16), and the ~~flexible~~ static insert structure (2) is placed therein afterwards ~~in that way, that the cutting edge (8) remains free~~, then the building ~~element~~ block with ~~the cutting edge (8) and~~ the ~~flexible~~ static insert structure (2), embedded in the post-hardening material (1) is let to dry until set in the form body (16) itself or after being taken out thereof.

12.~~8.~~ The process of claim ~~7~~ 11, characterized in that new, whole polystyrene foam balls with a diameter of 1-15 mm, or crushed or granulated polystyrene foam, or waste polystyrene foam, or perlite or chopped wood is used as lightening material.

13. The process of any of the claims 11-12, characterized in that the mixing of the post-hardening material (1) is continued until it is earth-moist.

14. The process of any of the claims 11-13, characterized in that accelerated drying of the building block is carried out with an accelerator additive added to the post-hardening material (1).

15.~~9.~~ Application process from the production of a building structure between a lower blocking layer (17) and an upper blocking layer (18) from the building block of claim 1, in the course of which the building blocks are aligned to each other on the fixed lower blocking layer (17), characterized in that two neighbouring building ~~elements~~ blocks are fitted to each other in a way that ~~the~~ tongues (15) formed on one face of a building block are fitted into ~~the~~ grooves (14) formed on the other face of the other building block, the building blocks fitted to each other are stuck together and/or pressed together, thus the first row of the building structure is built up this way, then the building blocks of the next row are placed on the building blocks of the first row, displaced in the longitudinal direction in a way that the negative adapters (13) formed on the ground planes (10) of the building blocks of this row are fitted on the positive adapters (12) formed on the upper plane (11) of the building blocks of the first row located thereunder~~, characterized in that the cutting edges (8) formed on the ground planes (10) cut into the positive adapters (12) formed on the foam concrete soft upper plane (11)~~ and the flexible static insert structures (2) of the building blocks of this row touch the flexible static insert structures of the building blocks of the row thereunder, then the previous steps are continued until the planned height of the building structure is built up.