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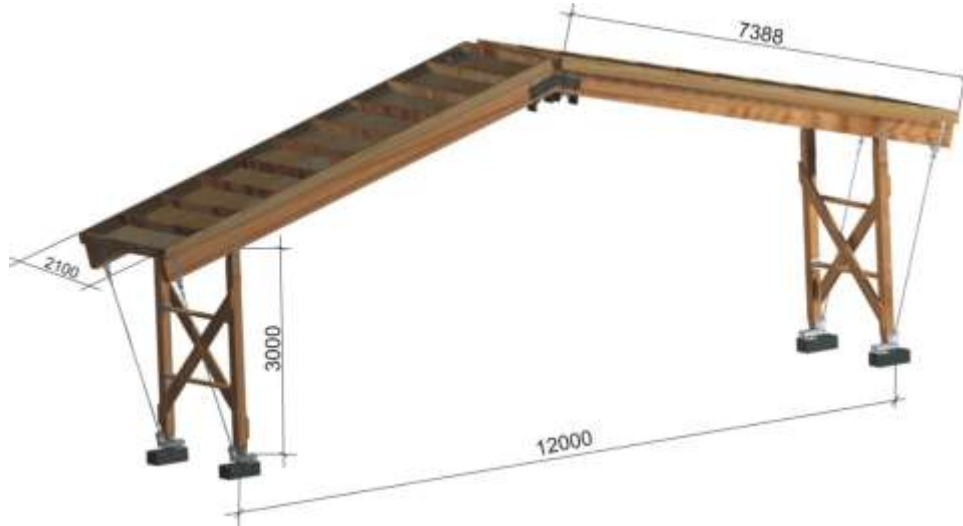
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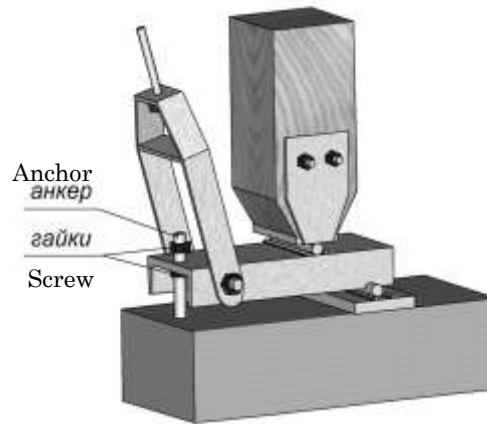
*The Department of Building Structures and
Controlled Systems*





Controlled block sections with prestressed timber elements



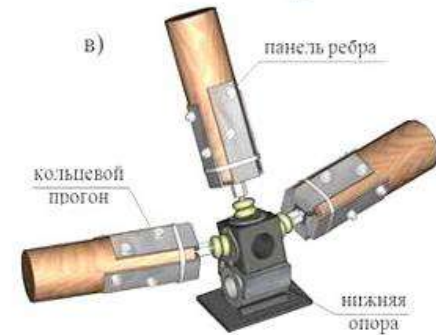
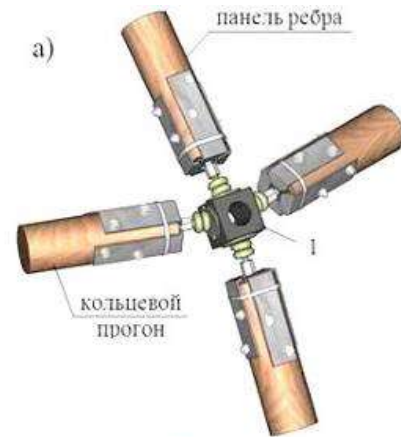
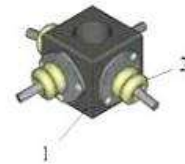
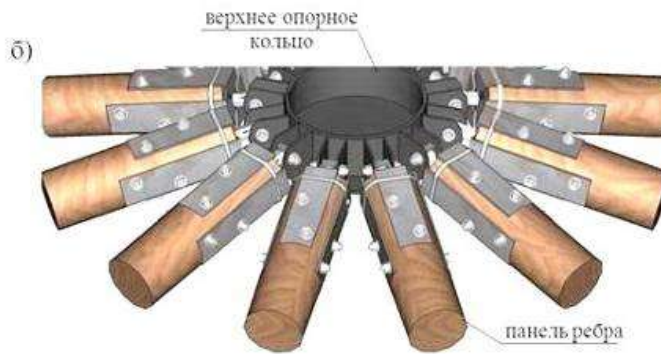
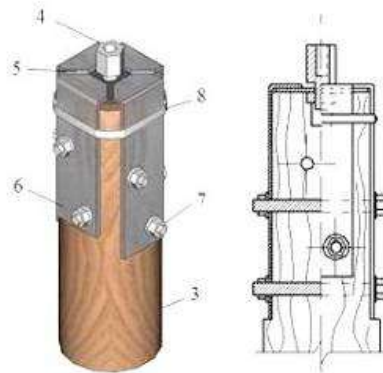
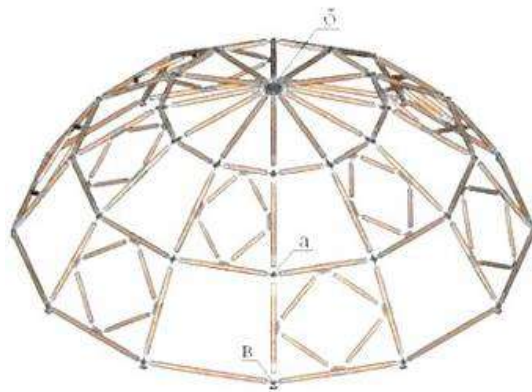


The idea of girder movement control is realized in the structure. With the purpose of vertical movements regulation in this structure the supporting knots are designed as derelaxion devices.

In the process of maintenance by steel struts tension there arises a possibility for regulation of the ridge height to compensate the loss of prestressing.

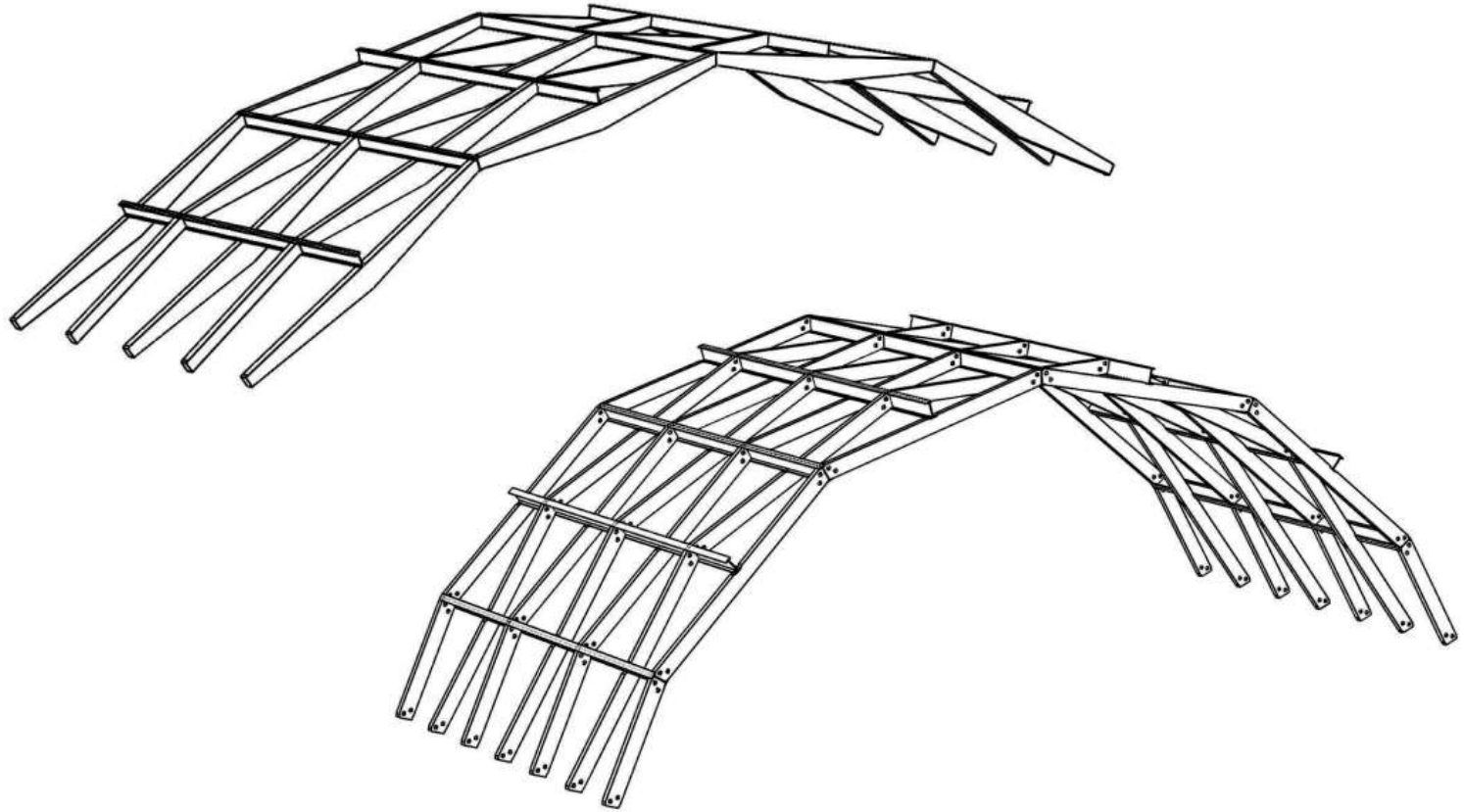
Consumption of basic materials per 1 m² of: Wood - 0,120 ... 0,130 m³, steel - 4.90 ... 8.10 kg.

Timber ribbed circular dome with stiffness elements in chess order



The dome looks like a segment in a sphere with a radius of 12m and a height of 4m. It is formed by 12 meridional ribs (each rib is formed by three panels), three girder rings, 48 braces. Meridional ribs are arranged on a sphere with rotation angle of 30 degrees. Consumption of materials for one square meter is: timber – 0,017square meters, metal – 8, 4 – 9,5 kg.

Timber grid vaults with an orthogonal grid



Vaults with an orthogonal grid are based on the use of interconnected short bearing elements along a geometric grid with a square or rectangular cell. Two sides of the cell are always perpendicular to the generating line of the vault.

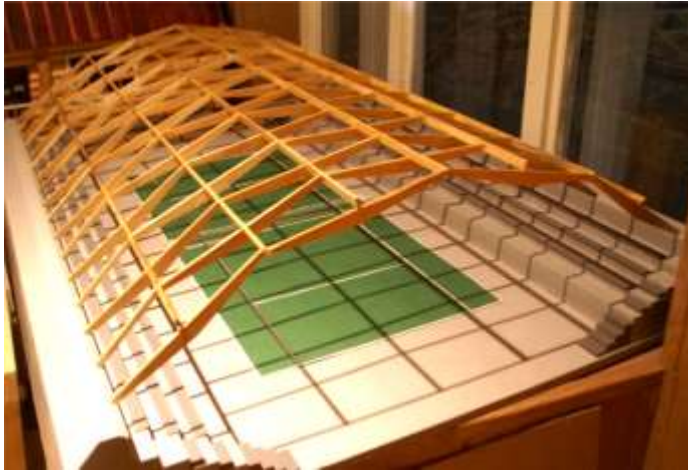
Consumption of materials in the area of 1m^2 : Wood - $0.02\text{-}0.05\text{ m}^3$, metal - $5\text{-}9\text{ kg}$.





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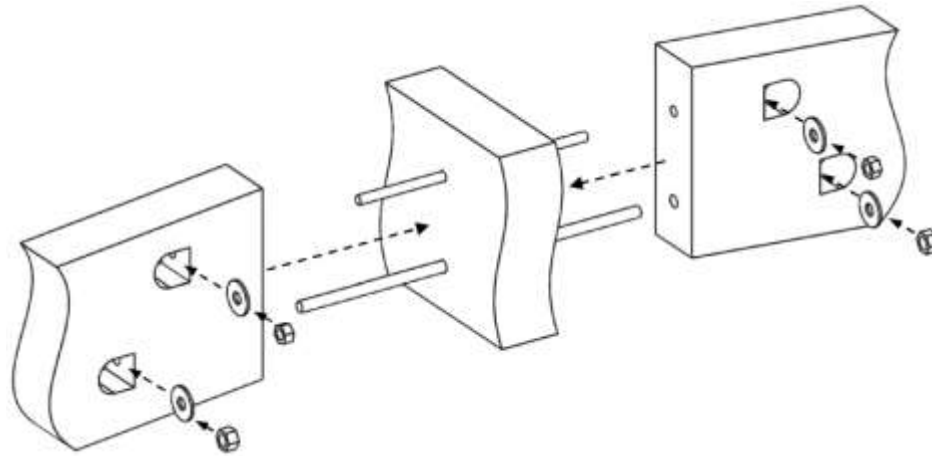


Front view



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Design



Framed houses from block sections



Assembly position



Framed block section: span – 12m, height till the ridge – 5m, width – 2.1m. One block section covers 25m of the dwelling area. Free planning is also of importance.



Transportation position



Design



Front view

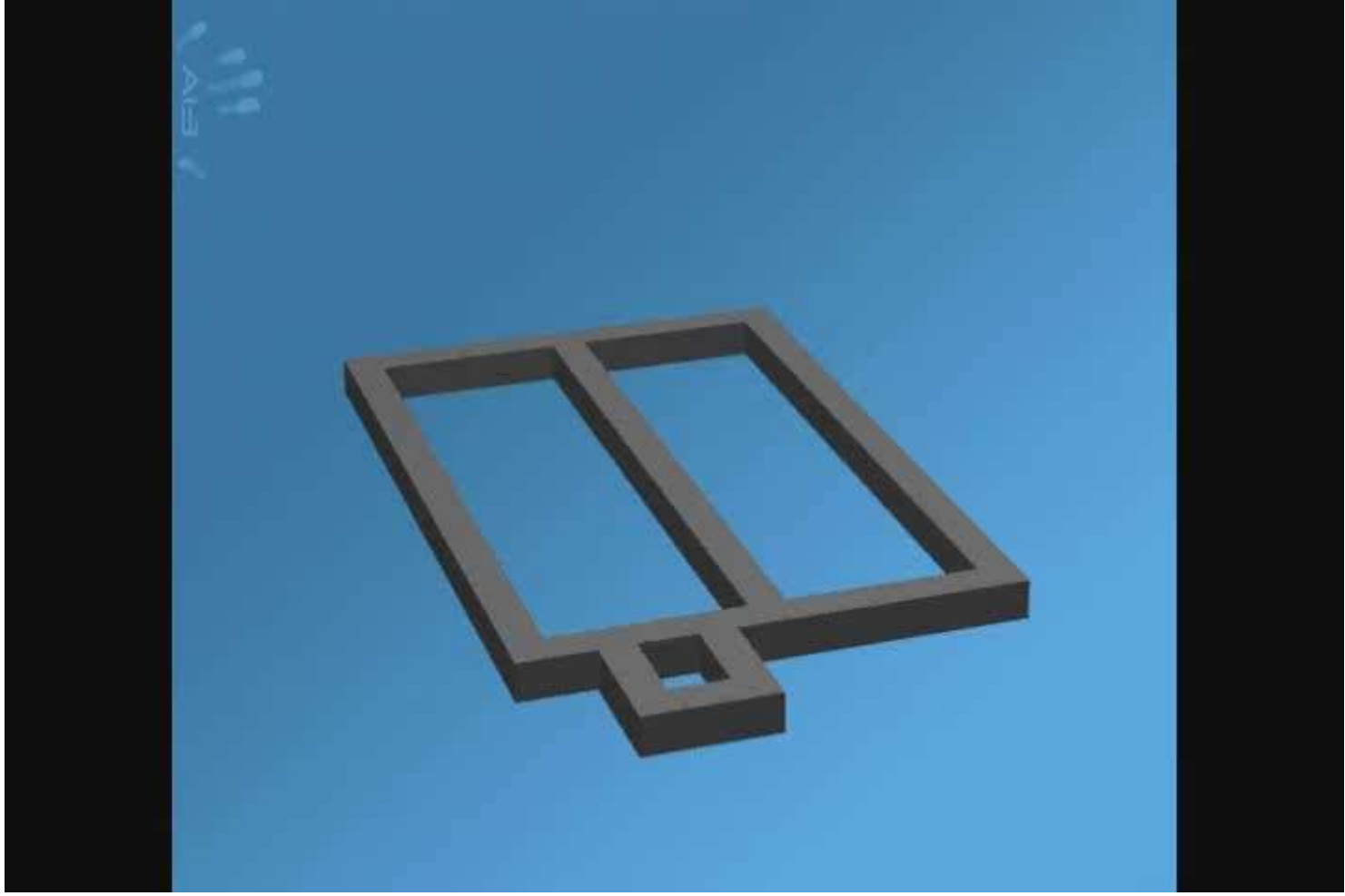


Interior view



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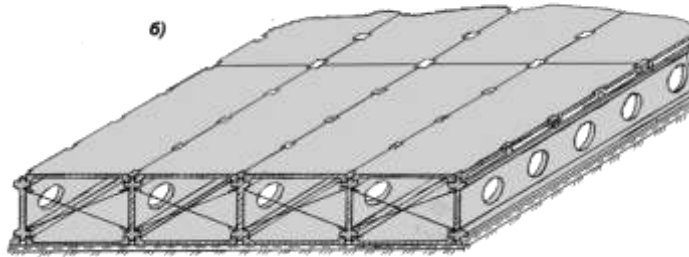
Building assembly – video film

Spatial foundation platforms for construction in complicated soil conditions and seismicity

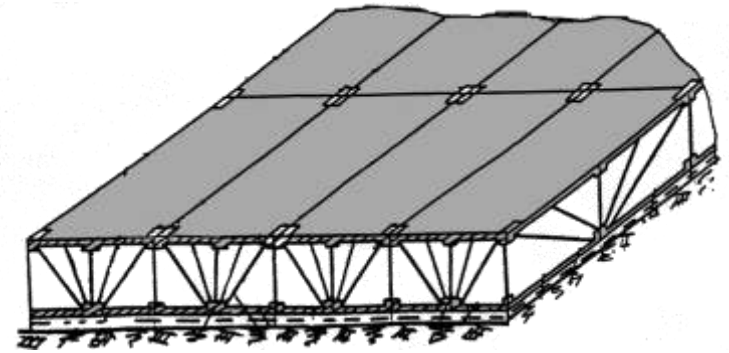


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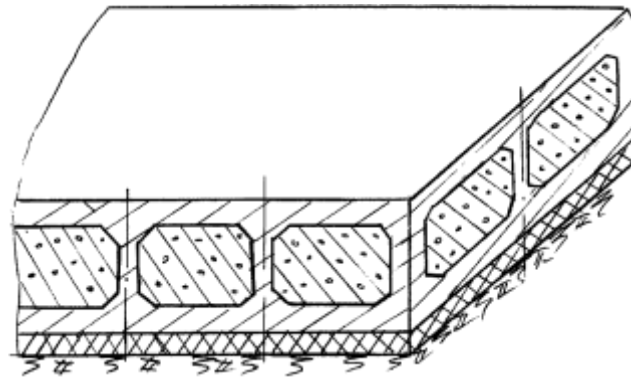
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Prefabricated ferroconcrete platform
(patent № 38789)



Prefabricated steel concrete platform
(patent № 2206665)



Monolithic foundation platform
(patent № 45410)



An administrative building and a warehouse of building materials in the place of former dumping ground in the present area of the city



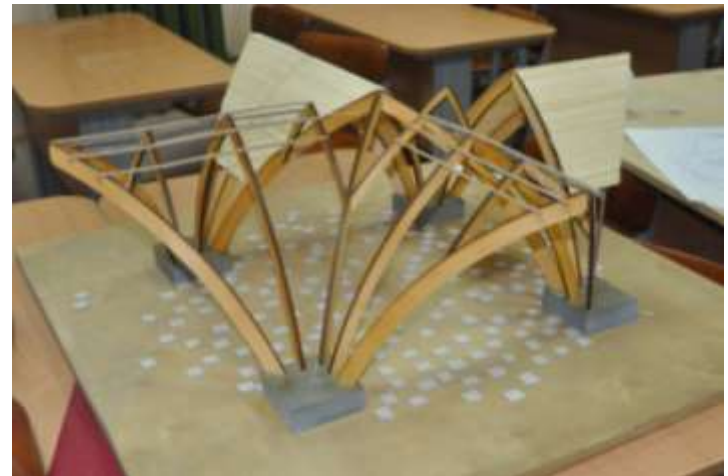
Transformer substation in the flood lands terrace of the Kacha-river



Car park in strained city conditions

Examples of spatial foundation platforms use

Pavilions from bent glued elements



Commercial activity of the Dpt.

- Independent technical examination;
- Technical investigation of buildings;
- Laboratory research/ testing of structures and materials;
- Field tests of structures and materials;
- Field tests of the pile field;
- Technical certification of the quality of building of investigated objects;
- Design, calculation and testing of structures with the evaluation of their bearing capacity and deformation.

