

CONSTRUCTIVE SOLUTIONS FOR BEAMLESS CAPITALLESS FLOORS WITH PRESTRESSED REINFORCEMENT

In the article the authors present advanced constructions of prestressed reinforced concrete flat ceiling, where high-strength ropes in elastic shell are used as stressed reinforcement.

The novelty of the solution lays in diagonal arrangement of hard valves and use of high-strength ropes in a flexible shell of "Monostrand" type. This type of prestress, in our opinion, is the most acceptable from technical point of view for selective reinforcement of separate tense rods or cables.

The use of pre-stressed reinforcement in the form of individual rods or cables increases the rigidity and crack resistance of concrete beamless slabs. The use of high-strength ropes in the monostrand-type shell makes it possible to prestress in frames of single cell plate or floor in general and to reduce labour input for stressing armature.

The paper presents original solution with diagonal position of the valve. The authors suggest the use of prestressed diagonal valves as in all cells of the floor with the cells of the same or only slightly different size and in separate cells of the floor (for roofs with different cells).

The diagonal location of stressed reinforcement proposed in the work is an efficient solution for extending the range of dimensions and loads size.

Key words: reinforced concrete, monostrand, prestress, monolithic beamless slab, strength, mixed reinforcement, loss of prestress, anchors.

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For citation: Bardysheva Yu.A., Kuznetsov V.S., Talyzova Yu.A. Konstruktivnye resheniya bezbalochnykh bezkapitel'nykh per-ekrytiy s predvaritel'nno napryazhennoy armaturoy [Constructive Solutions for Beamless Capitalless Floors with Prestressed Reinforcement]. *Vestnik MGSU* [Proceedings of Moscow State University of Civil Engineering]. 2014, no. 6, pp. 44—51.