

ПРОЕКТИРАНЕ НА СТОМАНЕНИ ДЪГОВИДНИ ПОКРИВИ

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DESIGN OF STEEL ARCHED ROOFS

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Abstract:

More and more often, because of the fast pace of construction and a high level of technology, in Bulgaria are designed and built steel structures "hangar" type roofs - self-supporting, stepping on R.C. foundations or walls. The thin-walled structures are generally shell-shaped, with zero Gaussian curvature. Halls have arc sizes ranging from 10 to 38 m- wide and a minimum arc height of 4 to 15 m, and in length have no technological limitations. The report presents information on the application and production of such steel structures from self-supporting steel, used for: warehouses and production buildings, garages and hangars, etc. kinds. The advantages and disadvantages are compared with the "traditional" constructions, filled with steel profiles.

Shown are details and stages of build for foundations structures (of different sizes) of such constructions. Critical reasoning is regarding the choice of geometric dimensions for the individual elements. Input data and results are shown on a numerical example solved with SAP2000 software product, with specific comments. The necessary dimensional checks were carried out according to Eurocode 3. The report is accompanied by: drawings, color photographs, and charts of M and V-efforts. Finally, the report concludes with a conclusion covering the surveys and example.

Keywords:

Arched Thin-wall Roof Structures, Eurocodes, Checks for the Cross-section.

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