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THE PROBLEM OF THE FEASIBILITY STUDY IN RESPECT OF DESIGN OF JOINTS OF METAL STRUCTURES

Objective processes that have been underway in the community cause significant changes in the economic development of Russia. The country has witnessed growth of its high-tech industries, driven by the need to implement large-scale modernization projects involving its production facilities. This effort requires accelerated update of its range of products.

Statistics demonstrates that metal processing factories supplied enough metal to construct the total floor area of about 2,000,000 m^2 in 2010.

Design of any structures requires structural engineering skills and awareness of related industries. So, for example, essential influence is produced by the economic component. The main factors influencing selection of the optimal option include the metal consumption rate, structure of costs and labour input. Design projects that do not constitute any ambiguity in terms of selecting optimum indicators are frequent. Therefore, each case needs identification of the main factors of impact.

It is noteworthy that this problem enjoyed much attention back in the past when the country suffered from steel deficit, and metal processing plants could not keep up with the needs of consumers. This problem was dealt with by Y.M. Lihtarnikov, a Soviet scientist, who published his work “Variant design and optimization of steel structures” in 1979.

The authors employ the theoretical base developed by the scientist to perform their research into the optimum solutions to the problems of several types of metal joints.

Key words: feasibility study, metal consumption, cost, labor input.

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