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MODELLING OF MOVEMENTS THE RETRACTABLE ROOFS BASED ON A COMPUTER PROGRAMS CAD TYPE

Keywords: *retractable roof, kinematics, computer programs.*

New digital technologies create almost unlimited possibilities in shaping the architectural forms. Implementation of the research model roof which motion generating a multiple change of its shape, can be made using computer tools CAD type. Digital analysis are used to determine the geometric construction of the roof and to determine its kinematics, so that the proposal was innovative relative to existing solutions.

The movement executed by the roof became an inspiration to searching new solutions of covers in the structure of mechanisms. Was carried out studying the mechanisms of class II, which elements perform sliding and rotational movements (figure) used in the real solutions. Digital model of roofing realized in a computer program Autodesk Inventor Professional. This tool allows to build objects, which elements are connected statically by applying a static assembly constraints, and movement, by connecting elements in the kinematic pairs. For imparting object or its parts in motion, they are responsible kinematic assembly constraints (sliding, rotating or rotation-translation), applied to one or more components of the model. Computer simulations are a source of information about the structure and kinematics of mechanisms, followed can be the basis for testing static and dynamic objects.

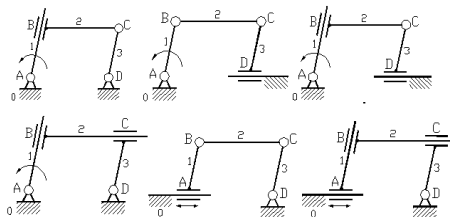


Fig. Mechanisms of class II the kinematic pairs of rotating and sliding

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