

Kinetic design principles for structural systems for architectural spaces

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Abstract

Research presents a study of the role of kinetic design in the flexible preparation of transformed architectural spaces through several points that are, in their entirety, principles that must be addressed during the application. Beginning with explaining the concept of dynamism (scientifically and literally), and The relationship of the term to interior design and the development of its application in and the resulting effects on design and construction structure of the architectural space.

This is followed by a discussion of the classifications of kinematic systems on a variety of grounds and their role in determining the types of movement and its methods, which helps to analyze and know their characteristics, which were reviewed by research in the form of providing definitions of the morphological transformations.

All of the above requires detailed knowledge of the kinetic structural systems that were present in the research as well by studying the concepts of these systems and their development until they reach the stage of the intelligent dynamic structure with compound movement. This is in addition to the important study of the foundations and structural relationships of kinetic design and the methods of generation and morphology built on it of kinetic systems.

On the other hand, there is an aspect related to the application of kinetic design, which is the considerations that must be followed during the application to achieve the desired goal of design in a sound manner, namely: architectural considerations, technical considerations, and finally considerations of the stages of preparing the design process.

Keywords

Dynamic, Kinetic design, Morphological transformation, Structural systems.