

The added values of employing the advanced smart materials in the design of the metal furnishing systems for the exhibitions

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Abstract:

The designer of display systems in general and metal systems in particular is interested in harmonizing the various design inputs and outputs, so that the design system is integrated in its functional performance as well as in its characteristics and fulfills the desires of the users. The designer is also keen to achieve the best functional efficiency of the metal display system in order to be able to compete with similar systems in the quality and efficiency of performance, achieving this functional requirement, which is one of the most important requirements of the user that determines the extent to which the metal display system meets his desires and his desired needs. Also, making use of smart new materials technologies contributes to raising the efficiency of design and production of metal furnishing systems for exhibitions and providing many design solutions that can meet the needs of the Egyptian society. Therefore, the research aims to study the smart new materials and how to use them in metal furniture design systems for exhibitions and monitoring the functional, use, engineering, communication, economic, aesthetic and environmental values added to employ the smart materials developed for these systems. The research problem can be identified in that the smart developed materials are considered one of the most important inputs to the design process in many fields, but in return they do not receive sufficient attention at the local level, especially in the field of for exhibitions as it relies on traditional materials such as iron, aluminum, wood and marble, which can be replaced by novel materials that add functional, structural, aesthetic and economic values, as well as the limitations of the metal furnishing systems for exhibitions in the Egyptian market that depend on traditional materials in achieving added values for design at the functional, use, engineering and communication levels And the economic and the Aesthetic and environmental, which created the need to monitor these added values for employing smart materials developed in the design of metal furnishing systems for exhibitions, and the research concluded that each type of smart materials developed has its own characteristics and distinctive characteristics that distinguish it from other developed smart materials that have a role in the design of the metal display system. The new smart materials have the ability to cope with the environment surrounding the metallic display system and have a distinctive reaction to the surrounding stimuli.

Key words:

smart materials - metal furnishing - metal display systems