

Carbandi in Iranian dome

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Abstract ancient buildings of each country represent its cultural identity, its people thoughts and their civilization. Studies on Iranian historical architecture have attracted great attentions from all Scientists due to having unique features such as balance, equilibrium and adaptation. Ceiling is one of the important and identifying elements of space. In the past vault and dome were mainly used to cover the ceiling. Any new idea is formed in response to the environmental. It means that those needs are related to place and time factors. Carbandy is one of these ideas that were formed in the mind of ancient architects of Iran in response to: 1. Requests 2. Physical demands such as balance, sustainability, resistance and structural behavior. 3. Facilities such as economy, material, geography, society and policy. 4. Environmental sources. Carbandy is made up of vaults with certain arcs that cross each other under geometrical principals and make the main structure of ceiling cover. In ancient Iran architecture and structural engineering were combined with each other in creation of space so that it was difficult to distinguish the difference between them. Therefore in this article in order to understand the role of Carbandy in dome and its performance as an organism against environmental condition and earthquake it has been analyzed from both architectural and structural engineering aspects.

Keywords Carbandy, Dome, Iranian architecture, earthquake

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