

Adopting Precast Insulated Concrete Panels for Building Envelope in Hot Climate Zones

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Abstract : The absorbedness of solar radiation within the concrete building is higher than other buildings type, especially in hot climate zones. However, one of the primary issues of architects and the owners in hot climate zones is the building's exterior plastered and painted finishing which is commonly used are fading and peeling adding a high cost on maintenance. Case studies of different exterior finishing' treatments used in vernacular and contemporary dwellings in the United Arab Emirates were surveyed. The traditional plastered façade treatment was more sustainable than new buildings. In addition, using precast concrete insulated sandwich panels with the exposed colored aggregate surface in contemporary designed dwellings sustained the extensive heat reducing the overall cost of maintenance and contributed aesthetically to the buildings' envelope in addition to its thermal insulation property.

Keywords : precast concrete panels, façade treatment, hot climate

Conference Title : ICES 2020 : International Conference on Environment and Sustainability

Conference Location : Miami, United States

Conference Dates : March 12-13, 2020