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CLIMATE RESPONSIVE FENESTRATION FOR RESIDENTIAL BUILDINGS IN PUDUCHERRY WITH WARM HUMID CLIMATE

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ABSTRACT

Energy crisis is the major problem in India especially in Tamil Nadu, measures have already been taken in improving efficiency of appliances by star rating but that doesn't contribute more to the energy scarcity. Building sector consumes large amount of energy when compared to other energy consuming sectors. LEED (Leadership in Energy and Environmental Design) ratings and green building concepts have been introduced to reduce the embodied energy of buildings. In order to reduce the maintenance cost and effective use of power recourses, BMS (Building Management System) of smart buildings and intelligent buildings are used but these are applied only for few commercial projects. As per international energy association in India, 29% of energy is consumed by buildings out of which 21% is by residential buildings and 8% is by commercial buildings, hence if we apply energy conservation techniques on residential buildings in place of commercial buildings it will contribute more to reduce the energy scarcity. This paper majorly focuses on climate responsive techniques of residential buildings to reduce the energy consumption and the effective usage of natural recourses. At the conclusion, the authors specify that ventilation and lighting are the major energy consuming factors of residential buildings which are directly related to the fenestrations of a residential building and for which an appropriate climate responsive fenestration would be the solution.

KEYWORDS: Climate Responsive, Energy Efficiency, Fenestration and Residential Buildings