

Characterization of the Airtightness Level in School Classrooms in Mediterranean Climate

Authors : Miguel A. Campano, Jesica Fernández-Agüera, Samuel Domínguez-Amarillo, Juan J. Sendra

Abstract : An analysis of the air tightness level is performed on a representative sample of school classrooms in Southern Spain, which allows knowing the infiltration level of these classrooms, mainly through its envelope, which can affect both energy demand and occupant's thermal comfort. By using a pressurization/depressurization equipment (Blower-Door test), a characterization of 45 multipurpose classrooms have been performed in nine non-university educational institutions of the main climate zones of Southern Spain. In spite of having two doors and a high ratio between glass surface and outer surface, it is possible to see in these classrooms that there is an adequate level of airtightness, since all the n50 values obtained are lower than 9.0 ACH, with an average value around 7.0 ACH.

Keywords : air infiltration, energy efficiency, school buildings, thermal comfort, indoor air quality, ventilation

Conference Title : ICEESD 2016 : International Conference on Energy, Environment and Sustainable Development

Conference Location : Paris, France

Conference Dates : January 21-22, 2016