HEAT EMISSION OF URBAN TEXTURE IN PUBLIC SPACES

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Abstract

This paper investigates the impact of heat emission, created by the modification of the urban texture, on urban thermal comfort in Durres Promenade as a case study. The Coastal Promenade of Durres city is used by pedestrians in different weather conditions during the year. Being 1.2 km long and 0.4 km wide, it is used for leisurely walk and different activities by both locals and tourists. Due to its geographic position the promenade is completely exposed to the solar radiation all day long. In 2009 the Municipality has redesigned the west part of promenade. The aim of this paper is to find out how urban texture can mitigate urban heat islands in promenades. At the beginning, it is provided an assessment of urban texture. Then, it is presented the findings about air temperature, relative air humidity, wind speed, and heat emission in different sections of the promenade. Because the western part of promenade is built with different materials from the eastern part which has classic ones, the measurements has shown different values of heat emission. After that, a comparison is done between the western and eastern part of promenade in order to find out whether the urban texture has been considered properly in the design process of promenade. At the end, it is considered a hypothetical model which is designed with a different urban texture. The findings of both models, the existing model and the hypothetical one, are compared in terms of thermal comfort. The results have shown that the arbitrary use of urban texture, such as in the case of Durres Promenade in terms of urban thermal comfort, influences the heating emission. The well-studied use of different materials, green areas and water reduces the radiation of heat from large open areas. In conclusion, the appropriate urban textures can mitigate urban heat islands. Consequently it is one of the factors that improve the urban thermal comfort in Mediterranean promenades.

Keywords**:** *urban thermal comfort, heat islands, heat emission, urban texture, coastal promenades.*