

## 1. Thermal comfort evaluation of an existing glazed airport terminal in Thailand

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**Abstract:** The indoor thermal comfort of an existing glazed and air-conditioned airport terminal in Thailand was assessed by objective and subjective assessments and analyses. The environmental variables examined included internal and external air temperatures, internal glazed roof surface temperatures, relative humidity and illuminance over the departure lounge. The objective measurements were reviewed against the subjective results of a questionnaire-based survey. It was found that the internal air temperatures remained stable within the space. Slightly high indoor air temperatures normally occurred between 1200 and 1700h, corresponding to higher afternoon outdoor temperatures. The internal glazed roof surface temperatures were recorded as 40°C by around midday. As a result, the operative temperature within the space, exceeded the American Society of Heating, Refrigerating and Air-conditioning Engineers' 55 standard of 26°C, which led technically to overheating and thermal discomfort. The measured results were in fair agreement with the subjective survey results. The overall comfort vote and perception found the occupants to be slightly uncomfortable and dissatisfied. However, to resolve these problems, the proposed solution for large glazed air-conditioned airport terminals in the tropics would be to provide suitable external or internal sunshades, which are the most applicable and flexible methods in all climates. © 2019 ICE Publishing: All rights reserved. (35 refs)

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