

**THE EFFECT OF TINTED WINDOW ON DAYLIGHTING AND
INDOOR TEMPERATURE IN BUILDING : A CASE STUDY OF UiTM
TEST CELL**

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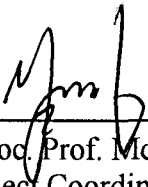
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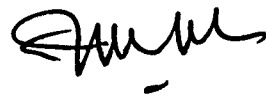
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ABSTARCT

THE EFFECT OF TINTED WINDOW ON DAYLIGHTING AND INDOOR TEMPERATURE IN BUILDING : A CASE STUDY OF UITM TEST CELL.

This is a field study to evaluate the effects of tinted films on daylighting and thermal performance of test cell. A test cell located in the campus of UiTM Shah Alam is used as case study. Thermocouple type T was used to measure the outdoor and indoor temperature of the test cell with five different types of solar control materials, Control, System 4, System 5, System 6 and System 7. The natural daylighting pass through the window was measured using Hobo at an interval of 5 minutes for duration 35 days at the center of the building. The difference of optical characteristics of solar control materials depends on its visible transmittance. Control has $SC = 1.00$ and $V_t = 89\%$, therefore it has the highest solar heat gain and illuminance. System 4 has $SC 0.27$, System 5 has $SC 0.69$, System 6 has $SC 0.60$ and System 7 has 0.42 , hence System 5 and 6 has the amount of solar heat gain almost similar. The V_t for System 4 is 12.7% , System 5 is 73.2% , System 6 is 50.7% and System 7 is 32.6% . System 4 is the best performance than others because it permits illuminance that satisfies the common use in house and office. However, sometime it still exceeds the common range and causing glare. Results show that for glazing system, the indoor air temperature are influenced by the Solar Energy Transmittance and Solar Energy Reflectance, and the daylighting are influenced by Visible Light Transmission and Shading Coefficient.