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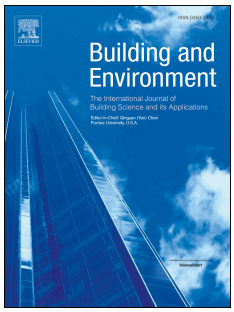

Improving energy model calibration of multi-unit residential buildings through component air infiltration testing

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Improving energy model calibration of multi-unit residential buildings through component air infiltration testing

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Abstract

Building infiltration rates are one of the most uncertain parameters among multi-unit residential building (MURB) energy model inputs and have the potential to greatly impact building energy consumption. Infiltration rates exhibit high spatial and temporal variability and are highly building-specific making them difficult to estimate from published data. Reduction of parameter uncertainty using on-site measurements has traditionally been prohibitive, both from a cost and a logistical standpoint.

Window component infiltration rate testing was conducted at two MURBs to develop component-weighted infiltration rates, which were input into whole-building energy models and compared with models that used a single building-level infiltration rate. The component-

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