Accepted Manuscript

Title: Gaseous pollutant transmission through windows between vertical floors in a multistory building with natural ventilation

Authors: Jihong Wang, Tengfei Zhang, Shugang Wang,

Francine Battaglia

PII: S0378-7788(17)31830-3

DOI: http://dx.doi.org/doi:10.1016/j.enbuild.2017.08.025

Reference: ENB 7854

To appear in: *ENB*

Received date: 24-5-2017 Revised date: 25-7-2017 Accepted date: 9-8-2017

Please cite this article as: Jihong Wang, Tengfei Zhang, Shugang Wang, Francine Battaglia, Gaseous pollutant transmission through windows between vertical floors in a multistory building with natural ventilation, Energy and Buildingshttp://dx.doi.org/10.1016/j.enbuild.2017.08.025

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

Gaseous pollutant transmission through windows between vertical floors in a multistory building with natural ventilation

Jihong Wang^{1, 2}, Tengfei Zhang¹, Shugang Wang¹, Francine Battaglia^{2*}

- 1. School of Civil Engineering, Dalian University of Technology, 2 Linggong Road, Dalian 116024, China
- Department of Mechanical Engineering, Virginia Polytechnic Institute and State University,
 Prices Fork Road, Blacksburg, VA 24061, USA

*Corresponding author: Tel.: 001-540-231-0077; Fax: 001-540-231-9100; E-mail address: fbattaglia@vt.edu

Highlights

- Six popular window styles are examined to reduce pollutant cross-transmission
- Awning windows provide the best performance for restricting cross-transmission
- Vertical slide and horizontal pivot windows show adequate cross-transmission restriction
- Window types and ventilation rates should be included together to reduce infection risks

Abstract Natural ventilation is an effective strategy to control thermal comfort in buildings, and can be enhanced depending on the window style. The combination of natural ventilation and window can also facilitate the removal or dilution of gaseous pollutants from indoor sources in

1

Download English Version:

https://daneshyari.com/en/article/4918990

Download Persian Version:

https://daneshyari.com/article/4918990

<u>Daneshyari.com</u>