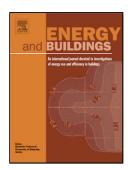
Accepted Manuscript

Title: An investigation on the thermal and energy performance of living wall system in Shanghai area

Author: <ce:author id="aut0005" author-id="S0378778816320771a373f92c7b00d8fa0a95d39db6b1ba74"> Yang He<ce:author id="aut0010" author-id="S0378778816320771a3d724d7e5bf761aff7298d30c0c642c"> Hang Yu<ce:author id="aut0015" author-id="S0378778816320771-4452947e954396fd4126f88ca584b72d"> Akihito Ozaki<ce:author id="aut0020" author-id="S0378778816320771-3a8b5c4db7b0b0484324f30d4b3e3f09"> Nannan Dong<ce:author id="aut0025" author-id="S0378778816320771e1e7f7012ce504922b73abc2410ca0e1"> Shiling Zheng



PII:	S0378-7788(16)32077-1
DOI:	http://dx.doi.org/doi:10.1016/j.enbuild.2016.12.083
Reference:	ENB 7262
To appear in:	ENB
Received date:	7-8-2016
Revised date:	18-12-2016
Accepted date:	30-12-2016

Please cite this article as: Yang He, Hang Yu, Akihito Ozaki, Nannan Dong, Shiling Zheng, An investigation on the thermal and energy performance of living wall system in Shanghai area, Energy and Buildings http://dx.doi.org/10.1016/j.enbuild.2016.12.083

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

An investigation on the thermal and energy performance of living wall system in Shanghai area

Yang He¹, Hang Yu¹*, Akihito Ozaki², Nannan Dong³, Shiling Zheng⁴

- HVAC&GAS Institute, School of Mechanical Engineering, Tongji University, Shanghai, P.R. China
- Graduate School of Human-Environment Studies, Kyushu University, Fukuoka, Japan
- Department of Landscape Studies, College of Architecture and Urban Planning, Tongji University, Shanghai, P.R. China
- Department of Architecture, College of Architecture and Urban Planning, Tongji University, Shanghai, P.R. China

*: Corresponding author Email: tjyuhang@163.com Tel: +86 18817308597

Highlights:

(1) A coupled heat and moisture transfer model of living wall is developed and validated.

(2) A thermal performance comparison between living wall and common wall is presented.

- (3) The impact of orientation on relative thermal benefits of living wall is analyzed.
- (4) Equivalent thermal resistance of living wall is calculated in summer and winter.
- (5) Sensitivity test of various factors on equivalent thermal resistance is conducted.

Download English Version:

https://daneshyari.com/en/article/4919276

Download Persian Version:

https://daneshyari.com/article/4919276

Daneshyari.com