Guillermo Barrios del Valle <gbv@ier.unam.mx>

Invitation to review for Energy & Buildings

1 message

Energy & Buildings <em@editorialmanager.com> Mon, Nov 27, 2023 at 5:38 AM
Reply-To: Energy & Buildings <support@elsevier.com>
To: Guillermo Barrios del Valle <gbv@ier.unam.mx>

Manuscript Number: ENB-D-23-03698

Study on the effect of coupled hygrothermal transfer in crack-containing walls based on crack roughness

Shengkun Sun; SHUI YU; Yijia Xu; Xueyan Liu

Dear Dr Barrios del Valle,

I would like to invite you to review the above referenced manuscript submitted by Prof. SHUI YU , as I believe it falls within your expertise and interest. The abstract for this manuscript is included below.

You should treat this invitation, the manuscript and your review (as well as other reviewer comments shared with you) as confidential. You must not share your review or information about the review process with anyone without the agreement of the editors and authors involved, irrespective of the publication outcome. If the manuscript is rejected by this journal and the author agrees that the submission be transferred to another Elsevier journal via the Article Transfer Service, we may securely transfer your reviewer comments and name/contact details to the receiving journal editor for their peer review purposes.

Please respond to this invitation at your earliest opportunity.

If you would like to review this paper, please click this link:
Agree to Review

If you have a conflict of interest or do not wish to review this paper, please click this link:
Decline to Review

If you decline to review I would appreciate your suggestions for alternate reviewers.

If, for any reason, the above links do not work, please log in as a reviewer at https://www.editorialmanager.com/enb/

Since timely reviews are of utmost importance to authors, I would appreciate receiving your review within 21 days of accepting this invitation.
Once you submitted your review, you will receive a notification from Elsevier's reviewer recognition platform, which provides you with a link to your "My Elsevier Reviews" private profile page. You can collect your review certificates, editor recognition as well as discounts for Elsevier services from your profile page

I hope you will be able to review this manuscript.
Thank you in advance for your contribution and time.

As a reviewer you are entitled to complimentary access to references, abstracts, and full-text articles on ScienceDirect and Scopus for 30 days. Full details on how to claim your access via Reviewer Hub (reviewerhub.elsevier.com) will be provided upon your acceptance of this invitation to review.

Please visit the Elsevier Reviewer Hub (reviewerhub.elsevier.com) to manage all your refereeing activities for this and other Elsevier journals on Editorial Manager.

Kind regards,

Teng Jia

Co-Guest Editor

Energy & Buildings

*****

Abstract:

Complex wall crack patterns can lead to a more complex transfer of coupled heat, air, and moisture transport processes (HAM transport) in damaged concrete. In this study, a coupled HAM transport model for crack-containing walls has been developed based on the “HAM-Lea” model. After verifying the accuracy of the model, the annual simulation study of the external thermal insulation wall in Shenyang is carried out. The results show that compared with the non-crack wall, the relative humidity of the mortar-concrete intersection and the concrete XPS intersection in the cracked wall increased by 54.9 % and 53.4 %, respectively. The water content of the concrete layer and the XPS layer increase by 3 times and 20 times, respectively. This leads to a significant increase in the risk of mold growth and year-round condensation in building walls. As the wall crack roughness increases from 1 to 10, the relative humidity inside the cracks decreases by a maximum of 67.5%, the high humidity area inside the wall decreases as the crack roughness increases. Risk of condensation and mold growth on wall surfaces is greatly reduced. The temperature and humidity distribution inside the concrete shows regional characteristics under the influence of the cracks. In order to minimize the negative impact of cracks on the building wall, when formulating concrete, so as to satisfy the structural and use requirements, try to choose smaller water-cement ratios and coarser crushed stone aggregate, and choose smaller strengths to improve the roughness of its internal cracks.

More information and support

FAQ: How do I respond to an invitation to review in Editorial Manager?
https://service.elsevier.com/app/answers/detail/a_id/28524/supporthub/publishing/

You will find guidance and support on reviewing, as well as information including details of how Elsevier recognises reviewers, on Elsevier's Reviewer Hub: https://www.elsevier.com/reviewers

FAQ: How can I reset a forgotten password?
https://service.elsevier.com/app/answers/detail/a_id/28452/supporthub/publishing/kw/editorial+manager/

For further assistance, please visit our customer service site: https://service.elsevier.com/app/home/supporthub/publishing/. Here you can search for solutions on a range of topics, find answers to frequently asked questions, and learn more about Editorial Manager via interactive tutorials. You can also talk 24/7 to our customer support team by phone and 24/7 by live chat and email.

#REV_ENB#

To ensure this email reaches the intended recipient, please do not delete the above code

---