Accepted Manuscript

A study of frost build-up on hydrophilic and hydrophobic surfaces under forced convection conditions

Christian J.L. Hermes, Valter S. Nascimento Jr., Felipe R. Loyola, Rodrigo P. Cardoso, Andrew D. Sommers

PII:	S0894-1777(18)31102-6
DOI:	https://doi.org/10.1016/j.expthermflusci.2018.08.009
Reference:	ETF 9575
To appear in:	Experimental Thermal and Fluid Science
Dessional Datas	12 June 2019
Received Date:	15 June 2018
Revised Date:	27 July 2018
Accepted Date:	7 August 2018



Please cite this article as: C.J.L. Hermes, V.S. Nascimento Jr., F.R. Loyola, R.P. Cardoso, A.D. Sommers, A study of frost build-up on hydrophilic and hydrophobic surfaces under forced convection conditions, *Experimental Thermal and Fluid Science* (2018), doi: https://doi.org/10.1016/j.expthermflusci.2018.08.009

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

A study of frost build-up on hydrophilic and hydrophobic surfaces

under forced convection conditions *

Christian J. L. Hermes^{1,*}, Valter S. Nascimento Jr.², Felipe R. Loyola¹ Rodrigo P. Cardoso², Andrew D. Sommers³

¹ POLO Labs, Department of Mechanical Engineering, Federal University of Santa Catarina 88040535 Florianópolis, SC, Brazil

² Post-Graduation Program in Materials Science and Engineering, Federal University of Paraná 81530000 Curitiba, PR, Brazil

³ Department of Mechanical and Manufacturing Engineering, Miami University 56 Garland Hall, 650 East High Street, Oxford, OH 45056 USA

Corresponding author, voice: +55 48 3721 7902, e-mail: hermes@polo.ufsc.br

The footnote text is as follows -

"An abridged version of this manuscript was presented at the 17th International

Refrigeration and Air Conditioning Conference at Purdue, July 9-12, 2018, West Lafayette -

IN, USA"

ABSTRACT

The present study is aimed at investigating, by means of an experimental approach, the effect of surface wettability on the frost accretion over horizontal flat surfaces under forced convection conditions. A purpose-built closed-loop wind-tunnel facility was especially

[#] An abridged version of this manuscript was presented at the 17th International Refrigeration and Air Conditioning Conference at Purdue, July 9-12, 2018, West Lafayette - IN, USA

Download English Version:

https://daneshyari.com/en/article/10139836

Download Persian Version:

https://daneshyari.com/article/10139836

Daneshyari.com