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## Ineke Van Zeeland, M.Eng.

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### *CURRICULUM VITAE*

Ineke Van Zeeland has developed fire-safety-related building and fire code changes in both Canada and the US; conducted industry research involving fire testing and analysis; and performed evaluations of building products for fire performance for product certification.

Ineke Van Zeeland is an expert in the area of building codes and standards development, wood structures, and fire resistance, as well as performance of structures in wildland-urban interface (WUI) fire scenarios. Her most recent code-related work included being the primary author of the initial package of prescriptive code change proposals to allow for the construction of tall wood buildings of mass timber construction that is expected to be added to the 2020 National Building Code (NBC), and the initial package of code change proposals to revise the generic fire-resistance rating information in the 2015 NBC for light-frame steel and wood buildings. Her extensive codes and standards work includes participating in the national Canadian code process as a member of the Standing Committee on Fire Protection and working on task groups under the NBC Standing Committees, including the Joint Task Group on Combustible Construction, which was responsible for the 2015 NBC changes to allow 6-storey combustible construction.

Ineke Van Zeeland has conducted research related to wood structures and fire over a 20-year period while working with Forintek (now FPIInnovations) and the Canadian Wood Council, while gaining a wider scope of experience in the commercial fire performance testing of other building products while with Intertek. She has participated in some of the key National Research Council of Canada research projects supporting recent and future changes to Canadian building codes, including: the Fire Performance of Houses project, the Special Interest Group on Firestopping and Acoustics, the Research Consortium for Wood and Wood-hybrid Mid-rise Buildings, the Characterization of Fires in Multi-suite Residential Dwellings project, the Special Interest Group on Apparent Sound Transmission Class Ratings, and the Joint Research Project on Fire Resistance Performance of Building Assemblies.

### **SPECIALIZED EXPERTISE**

- Building Codes Development
- Fire Research
- Standards Development
- Fire Safety Engineering
- Wood Structures and Fire Safety
- Fire Testing and Product Certification

### **COMMITTEES**

2002 – Present

ASTM E05 Committee on Fire Standards – currently Membership Secretary, previously Secretary to Committee

The ASTM E05 Committee on Fire Standards is responsible for the development and revision of fire standards intended for analysis and assessment of the fire performance of materials, products and assemblies.

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|------------------------------|---|
| 2002 – 2018                  | <p>ULC S100a Committee on Fire Tests</p> <p>The ULC Standards Committee on Fire Tests is responsible for developing and maintaining standards pertaining to development of test methods for evaluating building materials, assemblies and furnishings used in buildings when exposed to fire conditions; standards based on performance when subjected to test conditions; and standards for the engineering design of assemblies and structural elements for exposure to fire conditions.</p>  |
| 2018                         | <p>Member of National Research Council Committee on Wildland Urban Interface Fires</p> <p>NRC is developing the first national guide on wildland urban interface fires including provisions to make buildings less prone to ignition, to help community planning efforts and to guide in the determination of risk base on local factors.</p>   |
| 2017 – 2018 &<br>2005 – 2011 | <p>Member of Technical Advisory Committee on Part 3 of the Ontario Building Code</p> <p>The Technical Advisory Committee on Part 3 is responsible for the fire safety provisions for buildings in the Ontario Building Code, including recent revisions related to seniors' residences.</p>   |
| 2015 – 2017 &<br>2009 – 2010 | <p>Member of Standing Committee on Fire Protection</p> <p>The Standing Committee on Fire Protection is responsible for the fire safety provisions for buildings in the National Building Code of Canada and the National Fire Code of Canada.</p>   |
| 2006 – 2018                  | <p>Member of various Task Groups under the Standing Committee on Fire Protection (NBC), including:</p> <ul style="list-style-type: none"><li>• Task Group on Spatial Separation</li><li>• Joint Task Group on Combustible Construction</li><li>• Task Group on the Use and Protection of Foamed Plastics in Construction</li><li>• Task Group on the Component Additive Method (Appendix D-2.3.)</li><li>• Joint Task Group on Farm Buildings</li><li>• Joint Task Group on Fire Resistance Ratings and Sound Transmission Class Ratings for Houses and Small Buildings</li></ul> |
| 2008 – 2010                  | <p>Member of Advisory Committee on Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the California Building Code (CBC)</p> <p>The Advisory Committee provided recommendations to the California State Fire Marshal related to new and revision to existing provisions in Chapter 7A of the CBC.</p>  |
| 2009 – 2018                  | <p>Member of CSA O86 Task Group on Fire Resistance</p> <p>The Task Group has introduced design for fire resistance into the 2014 edition of CSA O86. More recently, the Task Group has introduced design criteria for CLT into the 2016 update.</p>   |
| 2005 – 2018                  | <p>ISO TC92 SC4 – Fire Safety Engineering</p> <p>The work conducted under SC4 includes standards related to Fire Safety Engineering such as a General Principles document, which provides guidance on performance-based design as well as a number of documents providing guidance and examples of how fire safety engineering principles can be applied.</p>   |

## PROFESSIONAL REGISTRATIONS AND AFFILIATIONS

- Society of Fire Protection Engineers (SFPE)

## PROFESSIONAL EXPERIENCE

- 2018 – Present            **CHM Fire Consultants Ltd.**, Fire Science Research and Engineering  
Fire Protection Specialist
- 2015 – 2018              **Canadian Wood Council**  
Acting Director/Senior Manager, Codes & Standards – Fire and Acoustics
- 2008 – 2010              **Intertek – Building Products Division**, Product Testing and Certification  
Senior Project Engineer, Engineering Services
- 2010 – 2015,  
2002 – 2008              **Canadian Wood Council**  
Manager/Technical Specialist, Codes & Standards – Fire
- 2001 – 2002              **Carleton University**  
Sessional Lecturer, Department of Civil & Environmental Engineering
- 1996 – 2001              **Forintek Canada Corp.**  
Assistant Research Scientist, Fire Research Laboratory

## EDUCATION

- 2001                    **Masters of Engineering (M.Eng.) with Thesis (Fire Safety Engineering)**  
Carleton University, Ottawa, Ontario
- 1996                    **Bachelor of Engineering (Civil)**  
Carleton University, Ottawa, Ontario

## PUBLICATIONS

- 2019                    ***Relative humidity versus moisture content relationship for several commercial wood species and its potential effect on flame spread***  
Hasburgh, L., Craft, S.T., Van Zeeland, I., Zelinka, S.L.  
Fire and Materials, vol. 43, No. 4, p.365-372
- 2017                    ***Rationalization of Cross-Laminated Timber Design Standards***  
Craft, S.T. and Van Zeeland, I.  
Proceedings of the Fifteenth International Conference Fire and Materials
- 2014                    ***Fire Resistance Tests of Wall Assemblies for use in Lower Storeys of Mid-rise Wood Buildings***  
Su, J.Z., Dagenais, C., Van Zeeland, I., Loughheed, G.D., Benichou, N., Berzin, R., Lafrance, P.-S., Leroux, P.  
Proceedings of the 2014 World Conference on Timber Engineering
- 2013                    ***Passive Fire Protection***  
Van Zeeland, I. and Hicks, S.  
Wood Design and Building Magazine, Summer 2013 Issue
- 2013                    ***Creating a Fire-safe Construction Site***  
Craft, S., Van Zeeland, I. and Street, S.  
Construction Canada, July 2013 Issue

- 2012      ***Fire Safety and Security: A technical note on fire safety and security on construction sites in British Columbia***  
Van Zeeland, I.  
Published by Wood Works! British Columbia
- 2005      ***Compression Strength of Lumber at High Temperatures***  
Van Zeeland, I., Salinas, J.J., and Mehaffey, J.  
Fire and Materials, vol. 29, No. 2, p.71-90
- 2004      ***Course of Construction Insurance Basics, Quick Facts No. 1 – Insurance and Construction Series***  
Van Zeeland, I.  
Published by the Canadian Wood Council
- 2004      ***Course of Construction Risk Control, Quick Facts No. 2 – Insurance and Construction Series***  
Van Zeeland, I.  
Published by the Canadian Wood Council
- 2004      ***Course of Construction - Site Risk Control Guidelines, Quick Facts No. 3 – Insurance and Construction Series***  
Van Zeeland, I.  
Published by the Canadian Wood Council
- 2002      ***Fire Safety and Insurance in Commercial Buildings***  
Van Zeeland, I.  
Published by the Canadian Wood Council
- 1999      ***Modelling the Charring Behaviour of Structural Lumber***  
Lau, P.W.C., White, R., and Van Zeeland, I.  
Fire and Materials, vol. 23, No. 5, p.209-216