

## AIRTIGHTNESS TESTS FOR HIGH-RISE BUILDINGS

AIVC/TightVent Webinar – 26 January 2024

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webinar  
2024.01.26

### Airtightness tests for high-rise buildings



#### Agenda (CET)

- 10:00 | Welcome & Introduction, Valérie Leprince (Cerema, France)
- 10:05 | | Challenges and Experiences of Airtightness Tests in Tall Buildings, Stefanie Rolfmeier (BlowerDoor, Germany)
- 10:35 | ISO 9972 and constraints on zero flow pressure difference: a comprehensive study on the influence of stack effect, Benedikt Kölsch (Cerema, France)
- 10:55 | Questions and answers
- 11:00 | Practical recommendations for airtightness tests in high-rise buildings, Nolwenn Hurel and Valérie Leprince (Cerema, France)
- 11:20 | Questions and answers
- 11:30 | End of webinar

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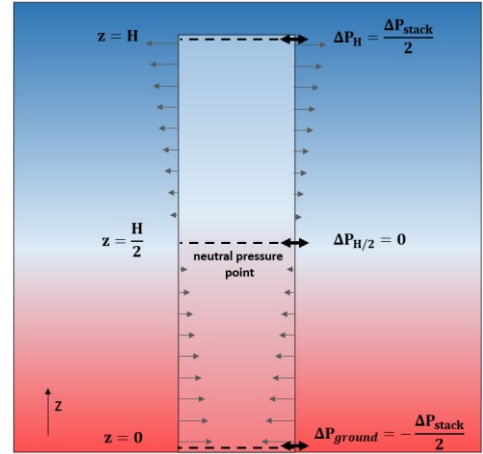
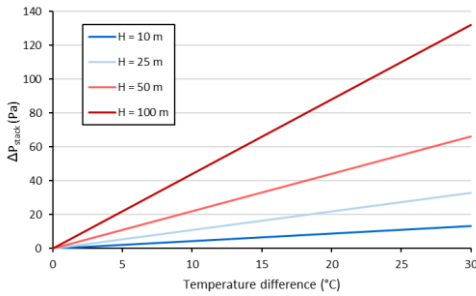
# WHAT IS THE ISSUE WITH HIGH-RISE BUILDINGS?

## 1/ Stack effect

Proportional to:

- The **temperature difference** between inside and outside
- The building's **height**

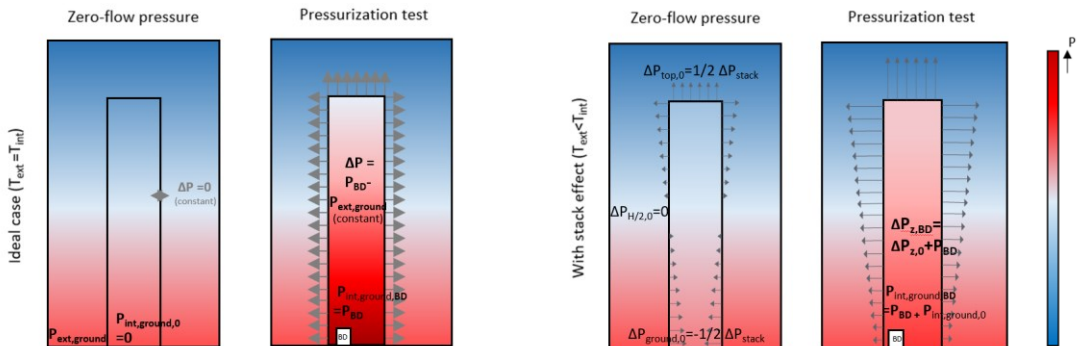
$$\Delta P_{\text{stack}} \approx 0.044 \times H \times (T_{\text{int}} - T_{\text{ext}})$$



# WHAT IS THE ISSUE WITH HIGH-RISE BUILDINGS?

## 1/ Stack effect

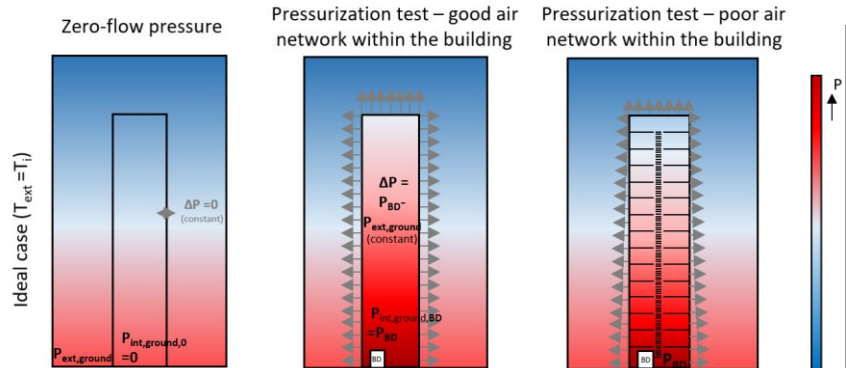
Induces significant  $\Delta P$  variations along the building's height



## WHAT IS THE ISSUE WITH HIGH-RISE BUILDINGS?

### 2/ Pressure loss through stairwell and circulation

Also induces significant  $\Delta P$  variations along the building's height



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## WEBINAR PROGRAMME

- 10:00 | Welcome & Introduction  
**Valérie Leprince (Cerema, France)**
- 10:05 | Challenges and experiences of airtightness tests in tall buildings  
**Stefanie Rolfsmeier (BlowerDoor, Germany)**
- 10:20 | Questions and answers
- 10:30 | ISO 9972 and constraints on zero flow pressure difference: a comprehensive study on the influence of stack effect  
**Benedikt Kölsch (Cerema, France)**
- 10:45 | Questions and answers
- 10:55 | Practical recommendations for airtightness tests in high-rise buildings  
**Valérie Leprince and Nolwenn Hurel (Cerema, France)**
- 11:10 | Questions and answers
- 11:30 | End of webinar

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