



## **Workshop 6**

# **European IAQ standardization & EN 15251 (prEN16798-1: 2015)**

Wednesday 20th May, 11.00-12.30 in  
Auditorium 12/2

# Workshop program

Moderators: Jarek Kurnitski, TUT and Bjarne Olesen, DTU

Introductions:

- Jaap Hogeling, REHVA, Preparation of EPBD 2 generation standards (10 min)
- Bjarne Olesen, DTU, revision of EN 15251 standard (20 min)
- Arnold Edeling, Purafil, Energy Conservation and Improved IAQ with Existing Ventilation Standards (20 min)

Discussion (40 min)



# Discussion

How many of you are aware about EN 15251?



# How EN 15251 is implemented in your country?

1. As a minimum binding ventilation and thermal comfort requirements in the building code
2. As a national standard or guideline for design specification
3. Commonly used as is



# Ventilation air flow rates for dwellings

1. Do you prefer to specify **total air change rate** for the dwelling, or
2. Supply air flows for bedrooms and living rooms, extract air flows from wet rooms, or
3. Both?



# Ventilation for non-residential

How many codes have implemented occupant and material emission components based ventilation rates?

$$q_{tot} = n \cdot q_p + A_R \cdot q_B$$

where

$q_{tot}$  = total ventilation rate for the breathing zone, l/s

$n$  = design value for the number of the persons in the room,

$q_p$  = ventilation rate for occupancy per person, l/(s\* person)

$A_R$  = room floor area, m<sup>2</sup>

$q_B$  = ventilation rate for emissions from building, l/(s,m<sup>2</sup>)



# Minimum ventilation

Can you accept “health based“ minimum ventilation rate of 4 l/s/person?

Implemented as new Category IV: Low level of expectation. This category should only be accepted for **a limited part of the year**



# Minimum ventilation – residential

Can you accept new Category IV ventilation rate  
0.4 1/h in dwellings?





# Minimum ventilation

Can one switch ventilation off out of occupancy?

The total air flow rate needed to deal with building materials emissions is between 0,1 and 0,15 l/(s\*m<sup>2</sup>) in dwellings



# Category IV thermal environment

- 16 °C minimum for heating
- 28 °C maximum for cooling

Category IV: Low level of expectation. This category should only be accepted for **a limited part of the year**



# Overheating in dwellings

- Have you set summer thermal comfort requirements in your country?

Some examples:

- 27 °C + max 150 °Ch excess in Estonia
- < 100 hours above 27°C and < 25 hours above 28 °C Denmark
- Energy penalty in the Netherlands

