



Seville, 26th March 2019

**Level(s) test phase helpdesk**  
**Indicator 4.1 look up tables taken from EN 16798-1**  
**(superceding EN 15251) and EN 13779**

**Ventilation rate (from EN 16798-1)**

For offices (see I.1.4 Method 3)

**Table I.5 — Default predefined design ventilation air flow rates for an office (un-adapted person)**

Category	Total design ventilation air flow rate for the room	
	l/(s per person)	l/(s* m <sup>2</sup> )
I	20	2
II	14	1,4
III	8	0,8
IV	5,5	0,55

For homes (see I.2.2 Design supply air flow rates)

**Table I.6 — Criteria based on pre-defined supply ventilation air flow rates: Total ventilation (1), Supply air flow (2) and (3)**

Category	Total ventilation including air infiltration (1)		Supply air flow per. person (2)	Supply air flow based on perceived IAQ for adapted persons (3)	
	l/s,m <sup>2</sup>	ach		$q_p$ l/s*per	$q_B$ l/s,m <sup>2</sup>
I	0,49	0,7	10	3,5	0,25
II	0,42	0,6	7	2,5	0,15
III	0,35	0,5	4	1,5	0,1
IV	0,23	0,4			

<sup>a</sup> Supply air flow for Method 3 is based on Formula (1) from 6.3.2.2.

## CO<sub>2</sub> concentration (from EN 16798-1)

For offices (see I.1.3 Method 2)

**Table I.4 — Default design CO<sub>2</sub> concentrations above outdoor concentration assuming a standard CO<sub>2</sub> emission of 20 L/(h per person)**

Category	Corresponding CO <sub>2</sub> concentration above outdoors in PPM for non-adapted persons
I	550 (10)
II	800 (7)
III	1 350 (4)
IV	1 350 (4)

For homes (see I.2.2 Design supply air flow rates)

**Table I.7 — Design CO<sub>2</sub> concentrations in occupied living rooms and bedrooms**

Category	Design ΔCO <sub>2</sub> concentration for living rooms (ppm above outdoors)	Design ΔCO <sub>2</sub> concentration for bedrooms (ppm above outdoors)
I	550	380
II	800	550
III	1 350	950
IV	1 350	950

NOTE 1 The above values in Table I.7 correspond to the equilibrium concentration when the air flow rate is 4, 7, 10 l/s per person for cat. I, II, III respectively and the CO<sub>2</sub> emission is 20 l/h per person and 13,6 l/h per person for living rooms and bedrooms respectively.

NOTE 2 For a 10 m<sup>2</sup> room (room height 2,5 m, 25 m<sup>3</sup>) 4; 7 and 10 l/s per person correspond, with two persons in the room, to an air change rate of 1,2; 2,0 and 2,9 ACH.

## Relative humidity (from EN 16798-1)

See I.3 The recommended criteria for dimensioning of humidification and dehumidification

**Table I.11 — Example of recommended design criteria for the humidity in occupied spaces if humidification or dehumidification systems are installed**

Type of building/space	Category	Design relative humidity for dehumidification, %	Design relative humidity for humidification, %
Spaces where humidity criteria are set by human occupancy. Special spaces (museums, churches, etc.) may require other limits	I	50	30
	II	60	25
	III	70	20

## Benzene and Particulates (from EN 13779)

Outdoor air quality categories (See 6.2.3 Outdoor air)

**Table 4 — Classification of outdoor air (ODA)**

Category	Description
ODA 1	Pure air which may be only temporarily dusty (e.g. pollen)
ODA 2	Outdoor air with high concentrations of particulate matter and/or gaseous pollutants
ODA 3	Outdoor air with very high concentrations of gaseous pollutants and/or particulate

Classifications:

ODA 1 applies where the WHO (1999) guidelines and any National air quality standards or regulations for outdoor air are fulfilled.

ODA 2 applies where pollutant concentrations exceed the WHO guidelines or any National air quality standards or regulations for outdoor air by a factor of up to 1,5.

ODA 3 applies where pollutant concentrations exceed the WHO guidelines or any National air quality standards or regulations for outdoor air by a factor greater than 1,5.

Ventilation filter classes (see A.3.2 Use of air filters)

**Table A.5 — Recommended minimum filter classes per filter section (definition of filter classes according to EN 779)**

Outdoor Air Quality (see 6.2.3)	Indoor Air Quality (see 6.2.5)			
	IDA 1 (High)	IDA 2 (Medium)	IDA 3 (Moderate)	IDA 4 (Low)
ODA 1 (pure air)	F9	F8	F7	F5
ODA 2 (dust)	F7+F9	F6+F8	F5+F7	F5+F6
ODA 3 (very high concentrations of dust or gases)	F7+GF+F9 <sup>a</sup>	F7+GF+F9 <sup>a</sup>	F5+F7	F5+F6

<sup>a</sup> GF = Gas filter (carbon filter) and/or chemical filter.