

<b>6</b>	<b>IEQ</b>	<b>6.4 VENTILATION</b>	
		<b>IEQ 10 BACKGROUND VENTILATION</b>	
	<b>EXCLUSIONS</b>	Buildings not designed to utilise natural ventilation.	
	<b>OBJECTIVE</b>	Ensure that normally occupied premises designed to utilise natural ventilation are provided with a minimum of background ventilation to control indoor air pollutants.	
	<b>CREDITS ATTAINABLE</b>	1	
	<b>PREREQUISITES</b>	Compliance with the Building (Planning) Regulations (B(P)Reg.) 30, 31 and 32.	
	<b>PREREQUISITES</b>	1 credit where it can be demonstrated that adequate ventilation can be achieved by natural means.	
	<b>ASSESSMENT</b>	<p>The Client shall provide evidence in form of a report by a suitably qualified person stating that appropriate analysis or measurements have been undertaken to verify the adequacy of background ventilation (minimum air change rate).</p> <p>The minimum ventilation rate required to maintain known contaminants below recognised limits can be calculated using recognised procedures, for example, Appendix D of BS 5925 [1] or similar.</p> <p>Ventilation performance may be simulated using wind tunnel tests, computational fluid dynamics (CFD) or other appropriate modelling techniques [2,3].</p> <p>The modelling technique shall show a boundary layer as appropriate for the site, and the model will include any significant buildings and site obstructions within a distance of approximately 2 building heights. The pressure data will be used with recognised calculation procedures (e.g. BS 5925) to estimate flows through the habitable areas. Buoyancy or turbulence driven flows need not be considered. Ventilation rates can be predicted using either CFD or approaches that range in complexity from simple single zone models to elaborate multi-zone models [2]. Principles of model operation are discussed in the ASHRAE Handbook [4].</p> <p>Alternatively, a suitable commissioning test may be performed, for example a tracer gas decay test [5]. The test should be carried out in representative units as defined above and performed under average wind conditions with windows closed and purposely designed ventilators open.</p> <p>Where it can be demonstrated that background ventilation meets ACH of 2.0 that is of a higher level (ACH of 1.5) as prescribed by the Building Authority (BA), the credit can be awarded.</p>	<div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div>

- 1 BS 5925:1991 (Inc. Amendment No 1), Code of Practice for Ventilation principles and designing for natural ventilation. British Standards Institute, London. December 1995.
- 2 American Society for Testing Materials. ASTM E 2267-03. Specifying and Evaluating Performances of Single Family Attached and detached Dwellings – Indoor Air Quality. 2003.
- 3 American Society of Heating, Refrigerating and Air Conditioning Engineers. ASHRAE Fundamentals Handbook Chapter 26. Atlanta 2001.
- 4 American Society of Heating, Refrigerating and Air Conditioning Engineers. ASHRAE Fundamentals Handbook Chapter 26. Atlanta 2001.
- 5 ASTM E 741-00. Standard Test Method for Determining Air Change in a Single Zone by means of a Tracer Gas Dilution. American Society for Testing Materials. Pasadena USA. 2000.

EU 9 Energy Efficient Appliances

EU 10 Testing and Commissioning

EU 12 Metering and Monitoring

#### Water Use

WU P1 Water Quality Survey

WU P2 Minimum Water Saving Performance

WU 1 Annual Water Use

WU 5 Water Efficient Appliances

#### Indoor Environmental Quality

IEQ P1 Minimum Ventilation Performance

IEQ 1 Security

IEQ 2 Plumbing and Drainage

IEQ 4 Waste Disposal Facilities

IEQ 5 Construction IAQ Management

IEQ 6 Outdoor Sources of Air Pollution

IEQ 7 Indoor Sources of Air Pollution

IEQ 9 Increased Ventilation

IEQ 10 Background Ventilation

#93. IEQ 10, For BEAM Plus New Buildings Version 1.1 and 1.2, should domestic kitchen be considered as normally occupied premises?

No. Normally occupied areas are enclosed areas where people normally stay there for more than 1 hour per person per day on average.

(Released on 29 November 2019)

IEQ 11 Localised Ventilation

IEQ 12 Ventilation in Common Areas

IEQ 14 Thermal Comfort in Naturally Ventilated Premises

IEQ 15 Natural Lighting

IEQ 16 Interior Lighting in Normally Occupied Areas

IEQ 17 Interior Lighting in Areas Not Normally Occupied

IEQ 18 Room Acoustics

IEQ 19 Noise Isolation

IEQ 20 Background Noise

IEQ 21 Indoor Vibration

IEQ 22 Access for Persons with Disability

IEQ 23 Amenity Features



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Issue Date: 23 June 2014

Application: BEAM Plus NB Version 1.1  
BEAM Plus NB Version 1.2

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### **Credits Not Applicable to Not Normally Occupied Buildings**

This circular letter announces that the following credits are not applicable to buildings that are not normally occupied (e.g. pump stations, sewerage treatment plants).

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- SA 2
- SA 3
- IEQ 10
- IEQ 15
- IEQ 16
- IEQ 21
- IEQ 23a

Signed :

A handwritten signature in blue ink, appearing to read "Ray", is written over a horizontal line.

Dr. Raymond Yau  
Chairperson of Technical Review Committee



Circular Letter No.: 2020.168 (Revision 1)

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### **Updated Exclusion Clauses for IEQ Credits**

1. **Technical Circular Letter No. 2016.134 dated 09 August 2016 will be withdrawn on the effective date.**
2. This Circular Letter clarifies the exclusion clause for the following credits:

Credits	New Exclusions
IEQ P1 IEQ 9	Residential premises, or Premises designed to utilise natural ventilation and without any fresh air provision <sup>1</sup> .
IEQ 3	Residential premises, or Premises without any provision of air-conditioning equipment.
IEQ 5	Residential premises, or Premises without HVAC system.
IEQ 6	Residential premises, or Premises without any fresh air provision <sup>1</sup> .
IEQ 7a IEQ 7b	Residential premises without any interior decoration, or Premises without any fresh air provision <sup>1</sup> and interior decoration.
IEQ 10	Premises with fresh air provision <sup>1</sup> .
IEQ 11b	Residential premises, or Premises without any future tenant (for example, single owner occupier premises).
IEQ 12	Premises without any enclosed common area in the main circulation route.
IEQ 13a	Normally occupied premises <sup>2</sup> without any air-conditioning equipment installed and provided by the project proponent, or without any fresh air provision <sup>1</sup> .
IEQ 13b	Normally occupied premises <sup>2</sup> without any installation of air diffuser in the air-conditioning system.

<sup>1</sup> Fresh air provision means any fresh air equipment such as PAU, AHU, FAU, FAP, FAF, etc.; and/or premises with fresh air louvers, etc.

<sup>2</sup> Normally occupied premises are enclosed spaces / areas where people normally stay there for more than 1 hour per person per day on average.

Credits	New Exclusions
IEQ 14a	Normally occupied premises <sup>2</sup> with fresh air provision <sup>1</sup> .
IEQ 14b	Normally occupied premises <sup>2</sup> with fresh air provision <sup>1</sup> , or without any air-conditioning equipment installed and provided by the project proponent.
IEQ 16	Residential premises, hotels, apartment and premises where lighting installation will be provided by future tenant such as Retail and F&B <sup>3</sup> .
IEQ 21	Not normally occupied premises <sup>2</sup> .




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Ir SK Ho  
Chairperson of Standards Sub-committee

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<sup>3</sup> The clause “For premises to be fitted out by tenants, compliance shall be confirmed if the technical details and contractual arrangements with tenants in respect of lighting installation are deemed to meet the assessment criteria.” in BEAM Plus Manual IEQ 16 becomes not applicable.