

6	IEQ	6.2 HYGIENE
		IEQ 2 PLUMBING AND DRAINAGE
	EXCLUSIONS	None.
	OBJECTIVE	Reduce the potential for contamination of plumbing and drainage systems, the ability of systems to carry infections, and the likelihood of odours.
	CREDITS ATTAINABLE	1
	PREREQUISITES	Compliance with the provisions of the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations.
	CREDIT REQUIREMENT	1 credit for designs that reduce the potential for transmission of harmful bacteria viruses and odours.
	ASSESSMENT	<p>The Client shall submit details of the plumbing and drainage systems in the form of drawings and specifications, and confirmation that installation of the systems was carried out according to the specifications. A summary report shall be submitted highlighting where appropriate means have been included to allow for safe and hygienic operation over the expected lifespan of the systems and components.</p> <p>The ‘appropriate means’ shall include, but are not limited to the following:</p> <ul style="list-style-type: none"> • adequacy of flushing water supply to meet the pattern of demand; • design of drainage stacks of adequate capacity for peak loading; • venting of stacks; • access to pipework and ducts for maintenance purposes; • installation of buried pipework that pays attention to leaks at joints, seals, etc. for the expected life of the installation; • design of floor drains; and • maintenance of water seals. <p>Where it can demonstrate that the design and installation of the plumbing and drainage systems, and any other provisions that can impact on performance (e.g. ventilation of bathrooms) have been given due attention, e.g. comply with the recommended practices promoted by various authorities, then the credit shall be awarded.</p>
	BACKGROUND	<p>Since the outbreak of the SARS virus, there has been a great deal of attention to the design of buildings to improve building hygiene. There appears to be sufficient evidence to conclude that a building drainage system was a path for the transmission of the SARS virus. Subsequent investigations have identified that certain features of drainage and sewage system design should be improved. BEAM seeks to ensure greater attention is paid to the design and installation of plumbing and drainage systems in buildings in order to reduce the risk of transmission of bacteria, viruses and odours into occupied areas.</p> <p>Water seal traps are required to be provided for all sanitary fitments, including floor drains (if provided), before they are connected to a common drainage stack [1]. Trap seal retention can be a problem in multi-level drainage systems. The main ways that air passes a trap are:</p>

1 Buildings Department. Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers, PNAP No. ADV-24 Floor Drains in Kitchens and Bathrooms.
<http://www.bd.gov.hk/english/documents/pnap/ADV/ADV024.pdf>

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

#85. IEQ 2, For BEAM Plus New Buildings Version 1.1 and 1.2, sub-item 7 "maintenance of water seals", are water seal traps required for all floor drains?

Yes. Water seal traps are required for all floor drains located in kitchen, bathroom, plant room, meter room and refuse storage to reduce the potential for transmission of harmful bacteria viruses and odours.

By common practice, the water in the trap may dry up through evaporation unless water is replenished. Therefore, the following approaches should be considered for the maintenance of water seals:

i. Divert some of the waste water from a sanitary fitment to the U-trap of floor drains;

ii. Provide the declaration letter from building owner / property management company to demonstrate manual water refilling will be conducted on regular basis for floor drains outside domestic flats; and

iii. Provide notification, such as resident's handbook, pamphlet, tenant handbook and notices to demonstrate that building users are encouraged to conduct regular manual water refilling for floor drains inside domestic flats.

(Released on 3 May 2019)

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

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