

CIBSE TM40 HEALTH AND WELLBEING IN BUILDING SERVICES WEBINAR

FAQs

Rev 2 – 8 APRIL 2020

GENERAL

What are the key changes?

See Executive Summary <https://www.cibse.org/tm40#Exec%20summary> and the first section of each TM40 chapter, "Key Takeaways".

How does the Well Building standard compare to TM40 - where are the overlaps and differences?

There is a lot of overlap in scope, as both cover key environmental conditions including thermal conditions, humidity, air quality, water quality, lighting, and acoustics. However, WELL covers architectural measures in more detail, and also goes beyond the direct scope of designers by covering organizational issues such as human resource policies, and individual behaviours and choices such as nutrition.

For a technical comparison of recommendations in the areas of overlap, see CIBSE - WELL mapping: <https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q0O00000FcCz9QAF>

What is 'FM team'?

Facilities Management; a full list of abbreviations is provided in TM40 Annex B

Can you explain acronyms used e.g. PMV, PPD etc?

PMV: Predicted Mean Vote; PPD: Predicted Percentage Dissatisfied; a full list of abbreviations is provided in TM40 Annex B

CORONAVIRUS, MICROBIAL CONTAMINATION AND INFECTIOUS DISEASES

What are the recommended measures to control the spread of infectious diseases in HVAC systems?

See TM40 & Coronavirus Information Note (https://go.cibse.org/l/698403/2020-04-03/xfpsn/698403/68981/CIBSE_TM40_and_Coronavirus_Information_note.pdf), including links to REHVA guidance and more information

What is the best thing organisations could/should be doing before employees return to work?

See TM40 & Coronavirus Information Note (https://go.cibse.org/l/698403/2020-04-03/xfpsn/698403/68981/CIBSE_TM40_and_Coronavirus_Information_note.pdf), including links to REHVA guidance and more information

Do you think COVID-19 will make employers move to more home working and therefore reduce the need for big offices.

It is difficult to say at this stage. There could be many consequences on office design and operation, and on organizational arrangements. Flexible arrangements on home working is one possible trend, which was already there anyway. It could also influence the approach to shared spaces & hot desking. CIBSE are involved in the International Well-Being Institute (IWBI) task force looking at this (among other issues); we very much welcome feedback from organisations on what they are putting in place or researching.

AIR QUALITY

On IAQ - is CIBSE planning to move towards an IAQ based ventilation design recommendation for mechanically ventilated buildings and areas?

Yes, it is the approach taken in TM40, i.e. focusing on indoor air quality (IAQ) outcomes such as pollutant levels, rather than design measures such as ventilation rates. TM40 also acknowledges that in many cases thermal comfort is as much of a driver as IAQ to ventilation design.

On the subject of environmental sensors (CO₂, No₂, TVOC), what is the thinking on calibration and recalibration? (Frequency)

See TM40 sections 4.8 and 9.4.7. You may also be interested in the recent Technical Bulletin on VOC monitoring, produced by the CIBSE Air Quality Task Group:
https://www.cibse.org/getmedia/98d8bb15-3358-45de-bc09-1d75cb153f70/Breathe-Easy-Volatile-Organic-Compounds_v2.pdf.aspx

Could you elaborate on the CO₂ controversy - BB101 standards for schools for example seems to deem it important for cognitive function?

TM40 does acknowledge the impact of CO₂ levels on cognitive function. The debate is around the levels of CO₂ at which this happens: where there is strong evidence of impact on cognitive function, it tends to be at much higher levels than recommended under current good practice guidance. See Table 9.1 in TM40, which refers to BB101 for targets applicable in schools. The recommendations of TM40 on CO₂ levels in other environments are broadly in line with those of BB101, but slightly lower.

See also recent review of evidence in SDAR Journal:

<https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1063&context=sdar>

Do you think IAQ monitoring would remove the need for ductwork periodic cleaning ?

Potentially, although inspections of the ductwork would probably still be recommended as the monitoring may not pick up on every pollutant introduced in the space through the ventilation system

I would like to know about the effect of increasing air tightness, for energy efficiency, IAQ, monitoring IAQ, and the range of ventilation options.

See Chapter 9 of TM40

What are IAQ standards on Building design and FM works.

See Chapter 9 of TM40 on IAQ, and Chapter 5 on FM.

THERMAL COMFORT AND OVERHEATING

What is the gender temperature difference in numbers - has that been researched ?

CIBSE are not aware of comprehensive conclusive studies quantifying this, particularly ones that would take account of different factors such as metabolism as well as circumstantial ones (e.g. dress code, different types of activities in the workplace). However, there is a lot of anecdotal feedback that perceptions of thermal comfort, and to some extent of air quality, may be different among men and women. In particular, a review of building use studies over 47 non-domestic buildings found that that women had significantly more negative perceptions of air quality and of winter conditions: see Aidan T. Parkinson, Richard Reid, Harriet McKerrow & Darren Wright (2018) Evaluating positivist theories of occupant satisfaction: a statistical analysis, Building Research & Information, 46:4, 430-443, DOI: 10.1080/09613218.2017.1314148.

What strategies have you seen or heard of being used to manage staff's push to have greater control of local work environments for their health and wellbeing while automated systems are still commonly used in buildings?

Individual control is an important factor to achieve high levels of comfort and satisfaction; this doesn't have to be over a very wide scale, but can significantly help. Flexible workstation arrangements and dress codes can also help. Otherwise, very good and responsive FM may to some extent compensate - see TM40 sections 4.8 and 7.4.3, including examples.

I want advice on noise when overheating mechanical Ventilation boost is put on by the user

We assume this question relates to residences. See TM40 Chapter 11 for criteria and guidance on noise (including overall indoor noise levels, and noise from mechanical ventilation systems). In general however, the advice is that mechanical ventilation is unlikely to be able, on its own, to adequately mitigate overheating risk: see guidance on this in TM40 Chapter 7 Thermal Conditions, especially Thematic Box 7.1 Overheating in Homes.

For acoustics is it ok to open windows in peak temperature even though it could have noise issues?

We assume this question relates to residences. The advice is that openable windows should always be provided in habitable rooms; this provides occupants with a choice, and it provides resilience against plant or grid failure. See TM40 Chapter 11 for criteria and guidance on noise (including overall indoor noise levels, and noise from mechanical ventilation systems). In general however, the advice is that mechanical ventilation is unlikely to be able, on its own, to adequately mitigate overheating risk: see guidance on this in TM40 Chapter 7 Thermal Conditions, especially Thematic Box 7.1 Overheating in Homes. TM40 also refers to the recent ANC guidance document, which provides advice on issues such as early stage design decisions, and balancing the needs for acoustics, thermal conditions, and ventilation: Acoustics Ventilation and Overheating: Residential design guide (Purley: Association of Noise Consultants) available at <https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2019/12/ANC-AVO-Residential-Design-Guide-January-2020-v1.0-1.pdf>

OTHERS

Do lifts play a part in the health and wellbeing of buildings? if so, what is the role?

There are ways to encourage active movement throughout the day, such as designing attractive stairways which are prominently positioned. TM40 section 4.6 provides an overview but doesn't look at it in detail as it is more architecture-driven. Lifts may also play a key role for fire-fighting and emergency evacuation for those with limited mobility, and this is set out in more detail in CIBSE Guide D Chapter 6.

CONTACT

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