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Building Standards Manager
by e-mail to all Local Authorities

Local Authority Building Standards Scotland
by e-mail

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Dear Building Standards Manager

Carbon Dioxide Monitors Meeting Guidance to Standard 3.14

As you will be aware, in October 2015 the Domestic Technical Handbook guidance covering ventilation in dwellings was revised, including a new clause (3.14.2) titled “ventilation awareness in dwellings”. The most effective tool identified to assist occupants of dwellings to recognise the need to ventilate their homes was interrogatable carbon dioxide (CO₂) monitoring equipment. To this end, clause 3.14.2 calls for CO₂ monitoring equipment to be provided in the main or principle bedroom of a dwelling where infiltrating air rates are tighter than 15m³/hr/m² @ 50Pa. The intention of the guidance is that residents are provided with a simple means of determining when the indoor air quality is poor (indicated by elevated levels of CO₂) and thereafter provide them with guidance on how it may be improved when necessary.

The guidance within clause 3.14.2 of the Technical Handbook is supplemented with additional information regarding the characteristics of CO₂ monitors meeting the guidance within chapter 11 of the Domestic Ventilation Guide.

It has recently come to our attention that there are CO₂ monitors on the market that do not meet the objectives of the guidance within 3.14.2 of the Domestic Technical Handbook, as supported by the Domestic Ventilation Guide. These monitors are not fully interrogatable in that they only display the current and 24 hour average CO₂ concentration levels of the room and residents would not be able to determine the maximum level attained throughout the 24 hour period (unless this coincided with the current level).

It is important that residents are able to interrogate the monitor over at least the preceding 24 hour period to allow flexibility of use. For example, this allows residents to check the CO₂ readings from the preceding 24 hours and then adjust trickle ventilators or windows as required before they retire for the evening.

CO₂ concentrations of between 1,000 and 2,000 parts per million (ppm) are not in themselves a risk to the health of the occupants of dwellings, however, they are indicative of the general quality of the indoor air from other contaminants. Some CO₂ monitors have “warning” lights, frequently amber and red, which illuminate at pre-determined concentration levels. Where this is the case, the information provided to the occupants on the operation of monitoring equipment (proforma within Annex A of the Domestic Ventilation Guide) should:

- a. indicate the criteria under which these “warning” lights illuminate and
- b. confirm that such lights should be considered as indicative only and determination of the adequacy of the indoor air quality should always be based on an interrogation of data recorded over at least the previous 24 hours.

I trust this letter is self-explanatory, however, if you would like to discuss any aspect further please do not hesitate to contact me.

Yours sincerely

Clyde Ashby