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Cooling of a Single Living Space in Dwelling Units for Part 9 Residential

This bulletin provides information regarding the recently released guidelines for determining cooling loads for a single living space titled, “Guideline on Single Zone Cooling in Dwelling Units”. These guidelines help to provide a methodology to appropriately size cooling systems in relation to BC Building Code requirements to minimize health risks associated with overheating of dwelling units.

Background

BC Building Code 2024 introduced new requirements for a maximum design temperature of 26°C in at least one living space in each new dwelling unit. For Part 9 residential occupancies, these new code provisions reference CSA F280, “Determining the required capacity of residential space heating and cooling appliances” to calculate the required cooling capacity of the cooling appliances as per Sentence 9.33.5.1.(1) of Division B. However, CSA F280 is meant to determine cooling loads for whole home cooling systems and does not provide instructions or requirements regarding determination of the cooling loads for a single living space that is adjacent to internal, unconditioned areas.

Guideline

A guideline was developed by the HVAC Designers of Canada (HVAC DC) and the Thermal Environmental Comfort Association (TECA) to provide a suggested approach for appropriately calculating cooling loads for a single space within a dwelling unit in conjunction with CSA F280. The guideline, titled “Guideline on Single Zone Cooling in Dwellings Units, Version 1.0a March 14, 2025” can be found at the following link: [Guideline on Single Zone Cooling](#).

This guideline can be voluntarily used to demonstrate compliance with BC Building Code provisions and provides both a methodology as well as a checklist, found in Appendix 1, that can be provided to the Authority Having Jurisdiction to demonstrate compliance.

These guidelines can be used in conjunction with existing CSA F280 verified software (<https://hvacdc.ca/f280-12software/>) and the user can then utilize the outputs generated by the software in combination with the additional calculations as provided in the guideline to manually complete the checklist for submission to the AHJ.

More Information

The contents of this Bulletin are not intended to be provided as legal advice and should not be relied upon as legal advice. The Construction Standards and Digital Solutions Branch does not enforce compliance with the British Columbia Building Code. Local authorities are authorized to enforce the BC Building Code through the Local Government Act and Community Charter.

Bulletin B24-08 Protection from Overheating in Dwelling Units

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/bulletins/2024-code/b24-08_overheating.pdf