

Feb 13, 2024 Bulletin No. 24-02 Revised:

Suspended Garage Slabs

Single Family Dwelling and Two Family Dwellings

To inform Staff, Building Contractors and Structural Engineers of the requirements for Suspended Garage Slabs in one and two family dwellings.

BACKGROUND

The City of Penticton has observed several different construction techniques for suspended garage slabs and various uses for the areas below the slab.

The City has always required a Structural Engineer of record to be involved in the design and field review of a Suspended Garage Slab when used for single- & two-family dwellings (Part 9).



The suspended slab as per BCBC shall be protected by using an approved membrane system as defined in [CAN/CSA S413-14](#). Insulation below the slab is to be spray applied rigid medium density polyurethane foam (minimum R-28 closed cell) unless cross ventilation or mechanical ventilation can be provided.

CONCLUSION

The City of Penticton will now require the following professionals in the design and field review of a Suspended Garage Slab:

- 1) Structural Engineer
- 2) Building Envelope Engineer (optional) based on type and location of the membrane selected

The reason for the change of policy is that the British Columbia Building Code makes no reference to this assembly within Part 9 or about how to install them.

There is concern that moisture penetration thru the slab may eventually weaken the structural members causing failure or moisture related damage to the interior finishes below the slab.



It is our understanding that the majority of the designs will fall into one of the following categories:

- 1) Waterproof membrane designed and installed on the surface of the suspended garage slab. (Contractor solely responsible for providing product details and specifications of membrane, and following manufacturer's application instructions)
- 2) Waterproof membrane installed between a 75mm thick non- structural concrete slab on top and a structural slab below. This is similar to the requirements for waterproofing in Part 9 of the code. Refer to Article 9.13.3.5 (Contractor solely responsible for providing product details and specifications of membrane, and following manufacturer's application instructions)

- 3) A Professional design which is designed in combination between the Structural Engineer and the Building Envelope consultant.
- 4) A design in which the structural engineer takes sole responsibility for the structural design plus initials the schedule B for moisture related disciplines with the architectural portion of the schedules

Have questions? We're here to help.
Please contact the Building Department at 250-490-2571
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