

February 21, 2019

Bulletin 2019-001-FI

## Storage in Underground Parking Facilities

Fire By-law 11312 does not prohibit the storage of incidental items in a parking garage provided the fire protection system within the parkade is not overtaxed. It is understood that many other jurisdictions interpret the BC Fire Code as “no incidental storage allowed” and this creates much of the confusion and controversy; however this is not the intent of Building or Fire Codes in Canada. If basic measures of good housekeeping are observed, the presence of combustibles does not constitute an undue fire hazard.

The building and fire codes in Canada classify parking garages as “Low Hazard Industrial Occupancies”, and if sprinklered, the sprinklers must be designed in accordance with the NFPA 13 standard. Note the occupancy classification in building and fire codes do not necessarily correlate with occupancy classification in the NFPA standard.



Under NFPA 13 the fire protection sprinklers for garages are typically designed to “Ordinary Hazard Group 1” which is defined as occupancies where combustibility is low, quantity of combustibles is moderate, stockpiles of combustibles do not exceed 8 feet (2.4 m) and fires with moderate rates of heat release are expected. Other examples of Ordinary Hazard Group 1 are restaurant service areas, automobile showrooms, and bakeries.

For the purposes of compliance to the British Columbia Fire Code or Vancouver Fire By-law, one or more of the following actions may be ordered by the Fire Chief.

1. Immediately remove ALL propane cylinders from within the building, facility and or underground parking garage and store in a secure location outside.

2. Return all parking stalls to their original use as vehicle storage. Use of parking stalls as other than vehicle storage constitute a “change of use” and will require approval from the City through the development and building permit processes.
3. Remove all partitions and walls in the parking garage that have been constructed without development or building permits.
4. Building owner to retain the services of a professional engineer to review the type and quantity of the fire load that needs to be protected by sprinklers.

Where the amount of combustibles is excessive (such as in a general storage room) or higher rates of heat release are expected (if there is a substantial amount of plastics, for example) the fire sprinkler system design must be reviewed by a professional engineer and upgrades may be required (under a sprinkler permit), or the amount of combustibles must be reduced.

Whether a particular storage arrangement conforms to the fire bylaw is determined on a case by case basis. For example, bicycles should be, but not necessarily, stored in bicycle lockers, or be secured to bicycle racks, and cans of paint or other combustible liquids should be stored inside metal cabinets to prevent their falling and rolling on the floor. Canoes or kayaks, if they do not exceed the conditions of Ordinary Hazard Group 1 in their numbers, do not obstruct the sprinklers, are not stacked, and if they are secured in place and can remain in place during a fire without affecting aisles and means of egress, would generally be acceptable inside a vehicle storage garage.

This bulletin may aid building owners, managers, and strata councils in the development of housekeeping rules and strata by-laws to mitigate the risk of accidental fire within the parking garage, while also allowing for the reasonable storage of materials within the garage.

Should you have further questions or inquiries regarding the information provided above, please do not hesitate to contact the City of Vancouver by dialing 3-1-1 and asking to speak with the Fire Prevention Division of Vancouver Fire Rescue Services.

Signed,

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