

## **DAY CARE FACILITIES**

### **DISCUSSION**

This STANDATA has been developed to provide an easy-to-reference guide for the requirements related to day care facilities. A day care facility is defined in Article 1.4.1.2. of Division A as:

*Day care facility* means a day care centre, drop-in centre or nursery school for children under seven years who are not attending school on a full-time basis.

There are additional classifications of child care facilities contained in the *Child Care Licensing Act* (C-10.5 2007) and the Child Care Licensing Regulation (AR 143/2008). Refer to STANDATA 06-BCI-027 for clarification on what types of facilities are considered to meet the definition of "day care facility" in the Alberta Building Code.

A day care facility is classified as a Group B Division 2 Care and Detention occupancy and must be constructed in accordance with Part 3. The requirements outlined in this STANDATA apply to new buildings constructed as day care centres and to day care centres installed in existing buildings such as single family homes, shopping centres, schools, etc.

Since there may be additional requirements not covered here, plans should be submitted as early as possible to the authority having jurisdiction.

### **GENERAL CONSTRUCTION**

Sprinklering of all B2 occupancies is required under Subsection 3.2.2.; however, Sentence 3.2.1.7.(3) permits day care facilities to be exempt from this requirement.

Sentence 7.6.1.3.(1) states that a day care facility shall not be located above the second storey or totally below ground level (see STANDATA 06-BCI-026 for more information). Sentence 3.1.3.2.(1) states that a care and detention occupancy shall not be located in the same building as a Group F Division 1 High Hazard Industrial Occupancy.

In general, all B2 occupancies must be of noncombustible construction. However, Articles 3.2.2.40. and 41 give allowances for the use of combustible construction, provided certain conditions are met.

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Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2006.

Article 3.2.2.40. states that if a building is not more than one storey in building height and not more than 2 400 m<sup>2</sup> or if two storeys in building height and not more than 1 600 m<sup>2</sup> on any floor

1. the building may be of either combustible or noncombustible construction,
2. floor assemblies require at least a 45 min fire-resistance rating, and
3. supporting members must have a fire-resistance rating equal to what they are supporting.

Article 3.2.2.41. states that if a building is not more than one storey in building height with a building area of not more than 500 m<sup>2</sup> then the building can be of either combustible or noncombustible construction.

Where the day care facility is the only occupancy in the building, the entire building shall be classified as a B2 occupancy and must be constructed in accordance with the requirements outlined in this STANDATA and contained in the Alberta Building Code 2006. Where the day care facility is not the only occupancy in the building and it occupies more than 10% of the floor area of the storey in which it is located (as per Sentence 3.2.2.8.(1)), then it must be considered as a separate major occupancy and must be separated from all other occupancies in the building in accordance with the requirements of Subsection 3.1.3.

The above information illustrates that if there are multiple major occupancies in the building, the Code requirements become more complex and it is recommended that a registered architect licensed to practice in the province of Alberta be engaged for the design of the building.

### **PROFESSIONAL INVOLVEMENT**

The drawings and specifications for a day care facility must carry the seal of an architect on the architectural drawings and the seal of an engineer on the engineering drawings for a building that is

- (a) single storey in building height and larger than 300 m<sup>2</sup>,
- (b) two storeys in building height and larger than 150 m<sup>2</sup> on each floor,
- (c) three storeys in building height and larger than 100 m<sup>2</sup> on each floor, or
- (d) over three storeys in building height.

Architects and Engineers must be licensed to practice in the province of Alberta. (Article 2.4.2.1. of Division C).

When professional involvement is required under Section 2.4. of Division C, letters in the forms set out in Schedules A-1, A-2, B-1, and B-2 must be submitted to the authority having jurisdiction before construction begins (Sentence 2.4.3.1.(1)).

If the building is smaller in size than listed above, professional involvement may still be needed for items such as the structural design.

### **DESIGN FOR ACCESSIBILITY**

All day care facilities are required to have provisions such that the building and its facilities can be approached, entered, and used by persons with physical, mental or sensory disabilities conforming to Section 3.8. Some examples of items that need to be addressed when looking at barrier-free accessibility include, but are not limited to:

- access to the facility, such as ramps or wheelchair lifts,
- width of doors and corridors,
- barrier-free accessible washrooms, and
- automatic door openers at the entrance.

### **FIRE SAFETY PLANS AND FIRE DRILLS**

Section 2.8. of the Alberta Fire Code 2006 requires that all care and detention occupancies prepare a fire safety plan for their facility and have supervisory staff that are properly trained in the emergency procedures described therein.

Subsection 2.8.3. of the Fire Code specifically requires that fire drills be conducted in day care facilities at intervals not greater than one month.

### **SERVICE ROOMS**

Sentence 3.6.2.1.(1) states that service rooms such as boiler, furnace or hot water heater rooms must be enclosed with a fire separation having a fire-resistance rating not less than 1 hr. The door to the service room must be a fire rated door and frame with a rated latch and self closer with a fire-resistance rating not less than 45 min. Note that Sentence 3.6.2.1.(2) states that if the fuel-fired appliance serves only one room or suite then it is not required to be separated from the remainder of the building.

In order to ensure the integrity of the fire separation surrounding the service room, a shaft with a fire-resistance rating equivalent to the service room must be installed around the gas vent, chimney and ducts, such as combustion air and fresh air ducts, which penetrate floor or wall assemblies.

Article 3.1.8.7. states that, since the walls, floor and ceiling of the service room must be constructed as a fire separation, fire dampers are required to be installed in all ducts where they enter or leave the service room.

Article 3.1.9.1. states that all piping, tubing, ducts, etc. shall be cast in place or sealed with fire stop material where they enter or leave the service room.

### **STORAGE ROOMS**

Article 3.3.1.26. states that when a storage room is more than 1 m<sup>2</sup> in area, storage rooms must be separated from the remainder of the building by a fire separation having at least a 1 hr fire resistance rating. The fire-resistance rating may be reduced to 45 min where the fire-resistance rating of floor assemblies are permitted to be less than 1 hr. Clothes closets not exceeding 800 mm in depth need not be separated.

Note that pantries in close proximity to kitchens or food service areas that are used solely for the storage of food are not considered as storage rooms and do not need to be separated from the remainder of the building by a fire separation.

### **JANITOR ROOMS**

Article 3.3.1.21. states that all rooms for the storage of janitorial supplies must be separated from the remainder of the building by a fire separation having at least a 1 hr fire-resistance rating. The fire-resistance rating may be reduced to 45 min where the fire-resistance rating of floor assemblies are permitted to be less than 1 hr.

### **DOORS AND FRAMES**

Sentence 3.1.8.4.(1) states that all doors, frames and hardware in a fire separation with a fire-resistance rating are required to be rated in accordance with CAN4-S104, "Fire Tests of Door Assemblies" and shall be installed in accordance with NFPA 80, "Fire Doors and Fire Windows".

Each door assembly is to include a door closer and latch. The allowable fire-resistance ratings for doors in a fire separation are found in Table 3.1.8.4. and are reproduced as follows:

2 hr fire separation.....	1.5 hr door assembly
1 hr fire separation.....	45 min door assembly
45 min fire separation .....	45 min door assembly <sup>(1)</sup>

From NFPA 80, combustible floor covering shall not extend underneath the door and steel, concrete or other noncombustible sills shall be installed for doors with a fire-resistance rating of more than 20 min.

### **WALL, FLOOR AND CEILING FINISHES**

Sentence 3.1.13.2.(1) states that the flame spread rating of wall and ceiling finishes should not be more than 75 for unsprinklered buildings, 150 for sprinklered buildings, and 25 in exits.

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<sup>1</sup> Note that, according to Sentence 3.1.8.10.(1), the fire resistance rating of a door in a 45 min fire separation may be reduced to 20 min when it is in a building not more than 3 storeys in building height.

Article 7.6.1.4. states that wall, floor and ceiling finishes in every room of a day care facility shall be easily cleanable and the paint used shall be lead free and non-toxic when dry.

### **EXITS**

If the building exceeds two storeys in building height, if the floor area is larger than 75 m<sup>2</sup>, or if the travel distance to a single exit exceeds 10 m, at least two separate exits leading directly to the outside of the building are to be provided from each floor level. These exits are to be located as remote from each other as possible so that the travel distance from the most remote point of the floor area is within 30 m of an exit (45 m if the building is sprinklered) (Sentence 3.4.2.1.(1), (2), (3) and Table 3.4.2.1.B.).

All exit stairs are to be separated from the remainder of the building by a stair enclosure constructed as a fire separation with a fire-resistance rating equal to the fire separation of the floor through which it passes or serves, but not less than 45 min. (See Appendix D) (Sentence 3.4.4.1.(1)).

### **CORRIDORS SERVING SLEEPING ROOMS**

Sentence 3.3.3.3.(1) states that corridors that serve sleeping rooms are to have no dead-end portion unless the area has a second and separate means of egress.

### **GENERAL LIGHTING**

Lighting shall be at least 215 lx in a sleeping room, hallway, stairway or washroom and 375 lx in all other rooms (Article 7.6.1.5.).

### **EMERGENCY LIGHTING**

Emergency lighting, which will be automatically activated in the event of the interruption of the regular power supply to the building, must be provided in accordance with Subsection 3.2.7.

### **FIRE ALARM AND DETECTION SYSTEMS**

Sentences 3.2.4.1.(1) and (2) state that a fire alarm system is required in all sprinklered buildings and in all cases where the occupant load exceeds 40 persons. The fire alarm must be a 2 stage system in conformance with Subsection 3.2.4. that would include:

- (a) A pull station at each exterior door and, if the building has a stair shaft, at each exit door into that stair shaft.
- (b) Audible signal devices that will provide sound pressure levels as specified in Article 3.2.4.18.
- (c) Smoke detectors in all sleeping areas, each corridor serving as part of a means of egress from sleeping rooms, and stair shafts.
- (d) Provision to transmit a signal to the fire department by way of an independent central station or a proprietary control centre.

- (e) An annunciator where the building is more than one storey in building height.
- (f) A duct-type smoke detector in the recirculation air system if there is more than one storey, more than one suite or more than one fire compartment.

**FIRE EXTINGUISHERS**

An appropriate number of fire extinguishers must be provided. It is recommended that a Type 2A:10BC be installed in the kitchen (located between the stove and the nearest exit door) and near each exit door. Further information can be found in NFPA 10, "Portable Fire Extinguishers."

**WATER CLOSETS AND LAVATORIES**

The number of water closets required for day care facilities shall be at least one for each 10 children (Sentence 7.2.2.6.(5)). Note that separate washrooms are not needed for each sex.

Day care facilities shall have at least one lavatory in a washroom, a sink suitable for the washing of toys, and a sink for the diapering area available to the occupants (Sentence 7.2.4.2.(1)).

**SPATIAL SEPARATION**

If the exterior wall of the building is on the property line, noncombustible masonry or concrete construction with a 2 hr. fire-resistance rating will be required. (Sentences 3.1.10.2.(2) and (3)).

When considering the conversion of a detached or semi-detached dwelling unit to a day care facility, care must be given to the consideration of the requirements for proper spatial separation between buildings. It may not be possible to achieve proper wall construction and spatial separation on an exposing building face when dealing with an existing building. If that is the case, it will be necessary for the owner of the day care facility to submit a proposal for an alternative solution to ensure that the level of safety in the building is not being compromised. Any proposed alternative solution must meet or exceed the objectives of Division B of the Code. It may be possible for an authority having jurisdiction to accept existing wall construction in certain situations, provided other aspects of the exposing building face are upgraded (e.g. removal of windows, sprinklering of building, upgrading of siding, etc.).

It is recommended that plans be submitted and reviewed with the authority having jurisdiction as early in the process as possible to be able to adequately address these issues.

**HEATING AND VENTILATION**

Heating and ventilation systems for day care facilities must be designed in accordance with Part 6. In most cases, this will necessitate the involvement of a professional engineer to design the mechanical system for the facility. See the section on professional involvement for more specific requirements.

**ROOM AREAS**

Rooms or areas used for playing, resting or sleeping shall have a net floor area not less than 3.0 m<sup>2</sup> per child (Sentence 7.6.1.1.(1)).

**WINDOWS**

All play areas used by children in a day care facility shall have a minimum window glass area of 10% of the area served (Sentence 7.6.1.1.(2)).

Additionally, unless the day care facility is sprinklered, each room that is intended to be used as a sleeping area for the children must be provided with egress windows in conformance with Article 9.7.1.2.