



## Relevant Information for Distillers in the National Building and Fire Code (Alberta Edition) 2019

THE ALBERTA CRAFT DISTILLERS ASSOCIATION (ACDA) DOES NOT TAKE RESPONSIBILITY OR ANY LIABILITY FOR THE ACCURACY AND VALIDITY OF ANY OF THE INFORMATION CONTAINED IN THIS DOCUMENT. IT IS INTENDED AS A STARTING POINT FOR THOSE LOOKING TO ENTER INTO THE DISTILLING INDUSTRY IN ALBERTA. THIS IS NO MEANS AN INCLUSIVE DOCUMENT, AND THE PROCESS OF OPENING A DISTILLERY IS UNIQUE TO EACH CASE. SIGNIFICANT RESEARCH, REGISTERED PROFESSIONAL ENGINEERING AND EXPERT ADVICE, ADHERANCE TO RELEVANT LAWS, CODES AND STATUTES BEYOND ANY RESOURCE PROVIDED BY THE ACDA IS REQUIRED TO BE DULY DILIGENT WHEN OPENING AND OPERATING A DISTILLERY.

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The National Building Code (NBC) and Fire Code (NFC) Alberta Edition (AE) provide significant detail on the requirements for a distillery constructed in Alberta. This document briefly reviews some of the requirements but does not replace the need for professional services (architects and engineers) whose expertise lies in these areas.

The intent of these codes is to guide the safe construction and operation of a building for its entire life. The codes are broken down into 3 Divisions: Division A describes what the codes apply to, and how to apply the codes to different types of buildings and also describes the objectives of the code and defines certain terms. Division B provides 'acceptable solutions' to specific building requirements in a pre-approved manner, and Division C describes additional administration related information.

Division B of the code covers the bulk of the code documents. Most relevant design requirements should be covered within these sections somewhere in one of the codes. Because of the complexity of the codes it's imperative to have a professional review any building plans you have to ensure it meets all code requirements. If an aspect of your design does not follow the 'acceptable solutions' listed in Division B, a code 'variance' or 'alternative solution' can be proposed to your Authority Having Jurisdiction (AHJ), and it will become their discretion to allow this to be permitted. It is imperative to understand that a variance must meet or exceed the requirements listed in the Acceptable Solutions.

#### **AFC Div B Section 4.10.2.1: Distilleries as F1**

The section of the codes with the most importance is the NFC (AE) Division B, Section 4.10. Section 4.10 is dedicated to distilleries. Note that there is no difference between any type of distillery in Alberta. The definition is clear and broad:

"Distillery means a process plant where distilled beverage alcohols are produced, concentrated or otherwise processed, and includes facilities on the same site where the concentrated products may be blended, mixed, stored or packaged" NFC (AE) 2019

This definition includes breweries or other facilities which buy bulk spirit and dilute it to make ready-to-drink (RTD) beverages. It is the current interpretation of most fire departments and building services departments to include all distilleries and RTD beverage manufacturers in this definition and hold them to the standards listed in Section 4.10.

Section 4.10.2.1. 1) states "... buildings or parts of buildings in which distilled beverage alcohol is distilled, processed or stored in bulk shall be classified as **high-hazard industrial occupancies.**" This statement has significant cost implications because a high-hazard industrial occupancy, typically known as an "F1", requires involved safety systems due to their perceived "special fire hazards".

This statement has particular implications for distilleries with tasting rooms, because an F1 occupancy can not exist in the same building as an Assembly occupancy. An Assembly occupancy would include a restaurant or bar. So based on these limitations, a distillery cannot have a tasting room or bar in the same building unless separated by a 4 hour firewall with a 900 mm high parapet extending through the

roof. Recently, many AHJs have allowed tasting rooms to exist pending they have an occupancy of fewer than 30 people, and can be considered a “mercantile” occupancy. This information can be found at the City of Calgary’s advisory:

<https://www.calgary.ca/PDA/pd/Documents/building/advisories/Advisory-Small-assembly-occupancies.pdf>. Additional engagement between the provincial Safety Codes Council and the ACDA is underway to achieve a reasonable solution to this problem for all parties.

### **Combustible Content Calculations**

Previously various building services divisions have allowed Combustible Content Calculations to determine whether a distillery poses a significant hazard. This is based on the definition of a low-hazard industrial occupancy contained in the ABC and AFC: “an *industrial occupancy* in which the *combustible* content is not more than 50 kg/m<sup>2</sup> or 1 200 MJ/m<sup>2</sup> of *floor area*.” Since 2018, these calculations have no longer been accepted as being sufficient reasoning for Alternative Solutions by most AHJs.

### **AFC Div 2 Section 4.10.3.2. 3): Storage Tanks**

As per a statement provided by the Calgary Fire Department in 2018, Section 4.10.3.2. 3) stating “the area underneath any storage tank greater than 1.2 m in diameter shall be protected by an automatic fire suppression system”, applies to all storage tanks, including stills. Therefore, any still with a diameter greater than 1.2 m (~4ft) must have a sprinkler head underneath it.

### **ABC Div C 2.4.2.1: Use of professionals**

The ABC Div C 2.4.2.1 suggests that it is very likely that a distillery project will require the stamp or seal of a registered professional (engineer, architect, etc.) due to its complexity and hazardous nature.

### **Electrical**

The NBC (AE) and NFC (AE) indicate that electrical requirements must comply with the Canadian Electrical Code (CEC). Due to the potentially hazardous nature of distilling, it is very likely that a portion of most distilleries require electrical hazardous area zoning. The task of appropriately zoning each area of a distillery normally is completed by an electrical engineer hired by the owner of the distillery during the phase of design preparation.

### **Building Construction, Sprinklers, and Fire Alarms**

Based on the general limitation of “F1” construction for distilleries, most F1 occupancies have to be sprinklered if the building is larger than 800 m<sup>2</sup>, as per NBC(AE) Div B Section 3.2.2.73. If required to have sprinklers, a fire alarm is also required. Depending on the number of storeys of the micro-distillery, a building may be required to be constructed using non-combustible materials.

**Additional Information**

Canadian and Alberta Building, Fire Codes and Plumbing Codes are available for purchase or free for download from the National Research Council of Canada:

<https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-guides-online-library>

Canadian Electrical Code is available from the CSA Group

<https://store.csagroup.org/>