



Ignite Awareness: Inspection Terminology

Introduction to Fire Life Safety Terminology

Understanding fire life safety terminology is crucial for business owners to ensure the safety of their properties, employees, and customers. This supplementary guide aims to clarify key terms and concepts related to fire safety, helping you stay informed and compliant with regulations. By familiarizing yourself with these terms, you will be better equipped to implement effective fire safety measures and respond appropriately in emergencies. Let's work together to maintain a safe environment and protect our community from fire hazards. **This is a live document, we will continue to update as new information becomes available.**

Contents

Acronyms	3
Abloy	4
Is an Abloy required in my building?	4
Where should an Abloy be installed?	4
Who has the key to open an Abloy?	4
Alternate Solutions	4
How do I know if my building has an alternate solution?	5
ASTTBC Certification	5
What equipment requires an ASTTBC fire protection technician?.....	5
How do I find an ASTTBC fire protection technician?	6
What is the difference between CFD and fire protection service providers completing an inspection?	6
Carbon Monoxide (CO) Alarms	6
Do I require a CO alarm?	7
Class A, B, C, D & K Fires.....	7



Emergency Exits	8
Why are there two different types of emergency exits signs?	8
Why do some doors have exits signs, and others don't?	8
Emergency Procedures / Evacuation Plans.....	9
I am being asked for a site plan – is that different?	9
Where do evacuation plans need to be posted?	9
Fire Department Connections (FDC)	10
Why are the caps so important?	10
Fire Extinguishers	11
How do I read an extinguisher label?	11
What maintenance is required for a fire extinguisher?	12
Fire Protection Systems	12
Fire Safety Plans	13
Who is the plan for?	13
Why is it locked?	13
Can I create my own fire safety plan?	13
Fire Separations	14
Occupancy Loads.....	14
What if I need help finding my occupancy load?	14
How do I get my occupancy load calculation reviewed for a liquor license application?	15
What information goes on my stamped architect's drawings/site plan?	15
Smoke Alarms	15
What's the difference between a smoke alarm, smoke detector and heat detector?	16
Can I have a dual CO / smoke alarm?	16



Acronyms

BCBC – BC Building Code

BCFC – BC Fire Code

CFD – Chilliwack Fire Department

NFPA – National Fire Protection Association



Abloy

Cylindrical locks, known as an Abloy, ensure secure emergency access. Without them, the fire department may face delays and might need to break windows or doors, which can be costly for building owners.



Figure 1 Abloy Sleeve

Is an Abloy required in my building?

Abloy's are required for new buildings under construction and recommended for all other buildings that did not have them installed during construction. The security key safe tube (sleeve) can be purchased from the building department. Once the sleeve is installed, contact the fire department to install the locking mechanism and provide keys. **At a minimum, keys are needed for the main entrance, mechanical room, and roof access if locked.**



Figure 2 Installed Abloy

Where should an Abloy be installed?

Ideally, the Abloy should be installed, as per the manufacturer's instructions, within the first 5 feet of the building's entrance, near an exterior annunciator panel, or near the mechanical room entrance. Please contact the fire department for the best location. A hidden Abloy will delay response and could result in firefighters forcing entry into the building if it cannot be found. **Please contact the fire department prior to installing an Abloy to confirm the best location for your building.**

Who has the key to open an Abloy?

Only fire department personnel have access to Abloy keys.

Alternate Solutions

While the BCBC & BCFC provide detailed guidelines and standards, there may be situations where strict adherence to these requirements is impractical or uneconomical. In such cases, building owners or designers can propose an alternative solution that they believe will achieve an equivalent level of safety and functionality.



The process of obtaining approval for an alternate solution often involves providing detailed documentation and justification, including technical reports, calculations, and expert opinions.

It's important to note **that if you are considering an alternate solution for your building renovation or new build you must first be in contact with the building department.** The building department will connect directly with the fire department on your behalf to engage us in the process as required.

How do I know if my building has an alternate solution?

First, review your fire safety plan. Next, check the plans for your fire protection equipment. You can also inquire at the building & fire department to see if they have any records on file.



Finally, you may need to consult with a qualified professional, such as a building engineer, architect, or fire safety consultant. They can review the building's plans and specifications to determine if any existing features or systems were implemented with an alternative solution.

ASTTBC Certification

ASTTBC Certification refers to the [Applied Science Technologists and Technicians of B.C.](#), a self-governing professional association that oversees fire protection technicians certified in installing, inspecting, and testing fire protection equipment in BC.

What equipment requires an ASTTBC fire protection technician?

In Chilliwack, as per Bylaw 2721, the following equipment must be certified by a fire protection technician:

- Fire alarm systems
- Automatic sprinkler systems
- Special extinguishing systems
- Portable extinguishers





- Water supplies for fire protection
- Standpipe and hose systems
- Fixed pipe fire suppression systems in commercial kitchen exhaust systems
- Smoke control measures
- Emergency power installations

For inspecting and testing fire alarm systems and emergency power installations, the technician must be a registered electrical contractor.

How do I find an ASTTBC fire protection technician?

To find an ASTTBC fire protection technician, you can:

1. Check the equipment tags for the last company that installed it.
2. Use an internet search engine and search for "fire protection companies Chilliwack."
3. Look in the Yellow Pages under "fire."

What is the difference between CFD and fire protection service providers completing an inspection?

Fire inspectors from CFD ensure regulatory compliance with fire safety codes, inspecting exits, alarms, sprinklers, and hazardous materials storage. They can issue citations and mandate corrections. Fire protection service providers, typically private contractors, focus on the functionality of fire protection equipment like alarms, sprinklers, and extinguishers, providing detailed reports and certifications. They conduct inspections based on manufacturer recommendations or service contracts but lack enforcement authority. Inspectors ensure overall fire safety compliance, while service providers maintain and verify specific systems. Both roles are essential for comprehensive fire safety.

Carbon Monoxide (CO) Alarms

Often called the invisible killer, CO is an odorless, colorless gas created when fuels (such as gasoline, wood, coal, natural gas, propane, oil, and methane) burn incompletely. In the home, heating and cooking equipment that burn fuel are potential sources of CO. Vehicles or generators running in an attached garage can also produce dangerous levels of CO.



Do I require a CO alarm?

The BCBC mandates CO alarms for new buildings. We highly recommend installing CO alarms in any building with fuel-burning appliances or attached garages, even if not explicitly required by code. This is especially crucial in areas used as sleeping quarters.

For general carbon monoxide alarm information, see this [NFPA resource](#).



For more information regarding dual smoke/CO alarms, see *Smoke Alarms* below.

Class A, B, C, D & K Fires

Class A fires involve ordinary combustibles like wood, paper, cloth, and plastics. These fires burn with a visible flame and produce smoke.



Figure 3 from *WeeklySafety.com*

Class B fires involve flammable liquids like gasoline, oil, and grease. These fires burn without a visible flame and produce black smoke.

Class C fires involve live electrical equipment. These fires can be dangerous due to the risk of electrocution.

Class D fires involve combustible metals or metallic alloy elements with combustible metal components. Some of the better-known combustible metals with a record of fire involvement include magnesium, titanium, zirconium, sodium, potassium, lithium and zinc.

Class K fires that involve combustible cooking materials such as vegetable oils that are used in cooking operations. These types of fires tend to spread rapidly and can result in injuries and massive building damage.



Emergency Exits

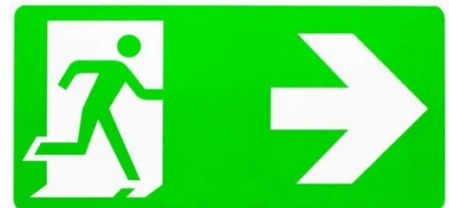
The safest buildings are those that allow occupants to evacuate quickly before they come to harm. The number of exits required in a building are based on the building size, type of occupancy, occupancy load, layout of the building and the travel distance between exits. This is determined by the BCBC and enforced through the BCFC.

Remember that it is important to ensure that:

- Pathways to exits are clear and accessible for all users
- Exit doors are inspected and maintained to ensure they function correctly
- Exit doors should open easily without the need for keys, tools, or special knowledge
- Emergency procedures / evacuation plans identify the exits clearly
- Exits are identified & illuminated

Why are there two different types of emergency exits signs?

In older buildings, you may find the older style “EXIT” sign in red lettering. In new construction, the “running man” exit signs are now required.



Why do some doors have exits signs, and others don't?

Primary exits, which lead directly outside or to a safe area are marked with exit signs to guide occupants to safety during an emergency. Secondary exits, such as doors leading to internal rooms or spaces that do not provide direct egress, typically do not have exit signs. Sometimes, through design, extra exits are added in to support the occupancy usage, these also may not be identified as primary exits.





Emergency Procedures / Evacuation Plans

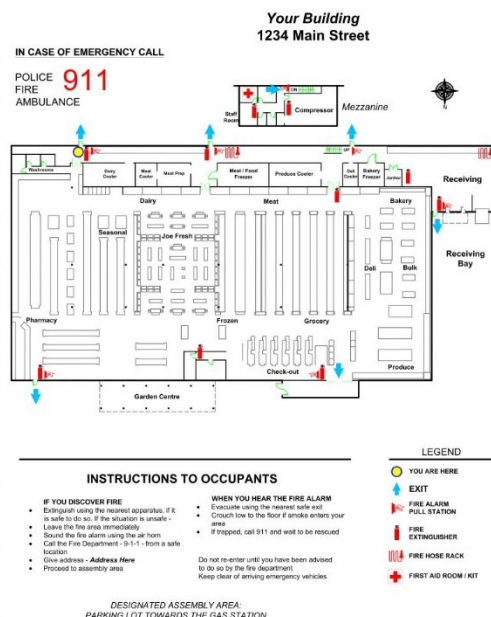


Figure 4 Sample from Bartec Fire Safety Systems Ltd.

BCFC calls them emergency procedures, but they are also often called “evacuation plans”. Posted emergency procedures are clear, easy-to-read instructions displayed in visible areas throughout a building. These procedures guide people on what to do in case of an emergency, such as a fire. They typically include:

- Evacuation routes and exits
- Locations of fire alarms and extinguishers
- Steps to take when discovering a fire (e.g., pull the alarm, call emergency services)
- Assembly points outside the building
- Contact information for emergency personnel

Having these procedures posted helps ensure everyone can quickly and safely respond during an emergency, reducing confusion and enhancing safety.

I am being asked for a site plan – is that different?

Yes. A site plan is an aerial view of a property and should include accessory buildings, hazardous material storage identification, fire lane / access routes, muster points etc.

Where do evacuation plans need to be posted?

These should be posted on every floor and in every hotel/motel room, near the main entrance.



Figure 5 Sample site plan from RealServe.com



Fire Department Connections (FDC)



If your building has a fire sprinkler system, it will also have an FDC. It is an inlet and pipe system that enables the fire department to supplement a fire sprinkler system's water supply. It's essentially a connection point located on the outside of a building that allows firefighters to connect their hoses to the building's internal water supply.

Here's how it works:

1. **Firefighters arrive:** When firefighters respond to a fire, they connect their hoses to the FDC.
2. **Water supply:** The FDC allows firefighters to pump additional water into the building's fire sprinkler system.
3. **Suppression:** This extra water helps to suppress the fire more effectively.

FDCs are crucial for ensuring adequate water supply to fight fires in larger buildings or when the existing water supply is insufficient. Please help ensure that the pathway to FDC's are clear, there and that the signage remains unobstructed.

Why are the caps so important?

Caps on fire department connections (FDCs) are crucial for several reasons:

- **Safety:** Caps prevent debris, insects, or other contaminants from entering the FDC and the building's water supply. This is important to ensure the proper functioning of the fire sprinkler system.
- **Prevention:** Caps help to prevent accidental water discharge, which can cause damage to the building or property.



- **Efficiency:** When firefighters need to access the FDC, the cap can be removed quickly and easily, allowing them to connect their hoses and begin fighting the fire without delay.

Fire Extinguishers

Fire extinguishers are crucial for controlling small fires before they become major emergencies. According to NFPA 10, the Standard for Portable Fire Extinguishers, it's essential to have the right type of extinguisher for different fire hazards. Selecting the appropriate extinguisher involves understanding the classes of fires (A, B, C, D, and K) and choosing a device rated for those specific threats. Regular maintenance and proper training on how to use extinguishers are also critical to ensure effectiveness during an emergency. Having well-placed, accessible, and adequately maintained fire extinguishers significantly enhances safety and fire preparedness.

How do I read an extinguisher label?

1. **Class of Fire:** The label will indicate the types of fires the extinguisher is designed to fight, marked by letters (A, B, C, D, K) and sometimes symbols.
2. **Rating Numbers:** For Class A and B extinguishers, there will be numbers preceding the letter. For example, 2A or 10B. Higher numbers indicate greater firefighting capacity.
 - a. **Class A:** Number indicates the equivalent gallons of water effectiveness (e.g., 2A = 2.5 gallons of water).
 - b. **Class B:** Number represents the area in square feet that the extinguisher can cover (e.g., 10B = 10 square feet).
3. **Instructions:** The label provides step-by-step instructions on how to operate the extinguisher, usually with diagrams for clarity.
4. **UL Mark:** Look for the Underwriters Laboratories (UL) mark, indicating the extinguisher meets safety standards.
5. **Maintenance Information:** Date of the last inspection or recharge, ensuring the extinguisher is up-to-date and functional.





6. **Capacity:** The weight or volume of the extinguisher, indicating how much extinguishing agent it contains.

Understanding these components helps ensure you are prepared to use the right extinguisher effectively in an emergency.

What maintenance is required for a fire extinguisher?

Fire extinguishers require regular maintenance to ensure functionality. Perform a monthly visual inspection to check placement, pressure gauge, pull pin, and for any damage. Annually, have a certified technician inspect all components. Every 5 years, conduct hydrostatic testing to ensure cylinder safety. At 6 years, the extinguisher must be emptied, internally inspected, and recharged. Typically, replace extinguishers every 12 years or as needed per manufacturer's guidelines.

Always refer to NFPA 10: Standard for Portable Fire Extinguishers for detailed guidelines and consult with a certified fire protection service provider for compliance and specific requirements.

Fire Protection Systems



A general term used in this document which includes sprinkler and fire alarm systems, smoke and carbon monoxide alarms, hose stations, portable fire extinguishers, fire dampers, emergency lights, exit signs, fire doors, smoke control equipment, and voice communication systems, as applicable.



Fire Safety Plans

A fire safety plan is a comprehensive document that outlines procedures for preventing and responding to fires within a building. It includes evacuation routes, emergency contacts, fire alarm and suppression system details, and responsibilities for staff and occupants. The plan ensures everyone knows what to do in case of a fire, minimizing risk and facilitating a quick, organized response. Regular drills and updates to the plan are essential to maintain its effectiveness.



Who is the plan for?

The plan is for everyone in the building, including business owners, employees, and customers or visitors.

Why is it locked?

The plan is locked up to protect confidential information, but it should be reviewed and practiced regularly. Firefighters may also use the Fire Safety Plan to locate fire protection equipment.

Can I create my own fire safety plan?

While it's possible to create a fire safety plan yourself, it's generally recommended to consult with a fire protection agency. They provide templates that are consistent, reliable, and meet all the requirements set out by the BCFC. This ensures the plan is accurate and effective, especially for complex buildings.

You can find sample Fire Safety Plans for home-based daycares on our website.



Fire Separations

Fire separations are barriers, such as walls and floors, designed to prevent the spread of fire and smoke between different areas of a building. During an inspection, fire inspectors check for the integrity of these barriers, ensuring there are no gaps, holes, or penetrations that could allow fire or smoke to pass through. They also verify that fire doors and dampers are properly installed and functioning. Inspectors ensure that all fire-rated materials are appropriately labeled and meet the required fire resistance ratings. The overall goal is to confirm that the building's fire separations will effectively contain a fire, providing crucial time for occupants to evacuate and for firefighters to respond.



Occupancy Loads

Occupancy loads refer to the maximum number of people allowed in a building or space at one time, ensuring safety during emergencies. Fire safety regulations determine these limits based on the size and layout of the area, as well as the type of occupancy (e.g., assembly, residential, commercial). Exceeding occupancy loads can hinder evacuation efforts and increase the risk of injury during a fire. Fire inspectors check that occupancy limits are posted (when required) and adhered to, and that exits are sufficient to accommodate the maximum number of occupants. Properly managed occupancy loads help ensure safe and efficient evacuations in case of fire.

Occupancy loads over 60 persons must be posted in conspicuous location near the main entrance to the room.

What if I need help finding my occupancy load?

If you need help finding your occupancy load, consider these steps:

1. **Check your fire safety plan:** Your plan may already include the occupancy load.
2. **Review building blueprints:** The architect may have pre-established the occupancy load.
3. **Contact the fire department:** If you can't find the occupancy load, reach out to the fire department. Depending on the complexity of the space, they may require a professional calculation by an architect.



How do I get my occupancy load calculation reviewed for a liquor license application?

Submit your architect-stamped drawings (if available) or, to-scale site plans (if appropriate) to fpo@chilliwack.com. An inspector will contact you to arrange a site visit. Ideally, all furnishings should be in place before the inspection for the most accurate calculation. We may review a space with provisional occupancy load numbers to start the liquor license application process, but a follow-up site visit will be required once the space is completed for final review.

For information on how to apply for a Liquor License, checkout their [website](#).

What information goes on my stamped architect's drawings/site plan?

Occupancy load drawings should be consistent with the existing space, to-scale, and include all fixed, non-fixed, and special event layouts, with defined lines between liquor and food primary spaces.

For more information on occupancy loads, see the [Office of the Fire Commissioner website](#).

Smoke Alarms



Smoke alarms are essential for businesses as they provide early warning of fire, helping to protect employees, customers, and property. Selecting the right type of alarm is crucial; options include ionization alarms for fast-flaming fires and photoelectric alarms for smoldering fires. Businesses should consider installing interconnected alarms, as this feature ensures that when one alarm detects smoke, all alarms sound simultaneously, providing a greater chance of early evacuation. Regular maintenance and testing of these

alarms are vital to ensure they function correctly. Overall, investing in the right smoke alarm system enhances fire safety and can save lives. **You are required to maintain, at minimum, the system that exists in your building unless the occupancy type changes (increases in fire hazard), in which case you will be asked to ensure that your system also increases.**



What's the difference between a smoke alarm, smoke detector and heat detector?

A smoke alarm, smoke detector, and heat detector each play unique roles in fire safety:

1. **Smoke Alarm:** This is a standalone device that both detects smoke and sounds an alarm. It's typically battery-operated or hardwired into a building's electrical system and is designed to alert occupants to the presence of smoke and potential fire.
2. **Smoke Detector:** Unlike a smoke alarm, a smoke detector is part of a larger fire alarm system. It detects smoke and sends a signal to a central fire alarm panel, which then activates the alarm throughout the building. Smoke detectors themselves do not sound an alarm.
3. **Heat Detector:** This device responds to high temperatures or a rapid rise in temperature, rather than smoke. It is used in environments where smoke detectors may produce false alarms, such as kitchens or garages. Heat detectors are typically part of a fire alarm system and signal the central panel when triggered.

Understanding these differences helps in selecting the right fire detection equipment for various areas within a building.

Can I have a dual CO / smoke alarm?

While dual CO/smoke alarms are often convenient, it's essential to understand how your existing fire alarm system functions before making this change. **Contact the fire department** for specific guidance.

A dual CO/smoke alarm is a single device that detects both smoke and carbon monoxide (CO), providing alerts for each hazard with distinct alarms. This integration reduces the number of devices needed, saving space and simplifying installation. It ensures comprehensive protection against fire and the dangerous, odorless gas produced by burning fossil fuels. Additionally, it can streamline maintenance, as there's only one device to check and replace batteries for.

Last Revised: December 02, 2024

16