



Fire Training Toolbox "Free Training for Firefighters"

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## Ordinary Construction (Part 1 of 3)

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### **"IS YOUR SMALL DEPARTMENT READY FOR FIRES IN ORDINARY CONSTRUCTION MIXED OCCUPANCY BUILDINGS?"**

If you work in an older community with many TYPE III (ordinary construction) buildings I am sure you pass them every day but do you ever think or preplan them in the event of a fire? Typical mixed-use occupancy buildings will usually have some type of mercantile establishment on the ground floor with multiple apartments above on the upper floors. Many smaller departments have these types of buildings in their respective towns they protect. The need to think about and train on these career defining fires is obviously before they happen. We will break these types of buildings down so you can effectively review and come up with a game plan before you are faced with one at 0300 hours on a cold night.



*A typical mixed-use ordinary construction building in author's response area, these two buildings were once separate now have interior walls on the second and third floors which house apartments have been removed making a single continuous structure above the still separate businesses on the first floor. (Photo by author)*

### **What exactly is Ordinary Construction?**

A general definition of ordinary construction: a building featuring exterior masonry walls and combustible interior beams or trusses. Although it's not the most often used building type today, Type III construction has been used a great deal for commercial buildings built in the last 100 plus years.

Most of these buildings will be two to at the most four stories in height.

### **Typical Concerns when combating a fire in a mixed-use ordinary construction building.**

While not an all-encompassing list, the following three items should find their way to any ICs checklist when arriving at a fire in one of these buildings.

1. Life Safety- As shown in the photo above, most ordinary mixed-use buildings will undergo some type of renovation in their lifespan; large apartments that served well forty or fifty years ago may be divided into several smaller units to meet the needs or desires of a landlord who wants to provide cheap affordable housing in today's struggling economic times. Arriving firefighters can find a plethora life safety hazards to include: single room occupancies, heavy fire loading of apartments, and run down fire escapes in need of maintenance just to name a few.

2. Void Spaces-When renovation takes place void spaces are usually created that allow for hidden fire travel, these include horizontal voids created by dropped ceilings and vertical voids through new utility chases. The large open cockloft areas are also a concern for rapid fire spread.

3. Collapse Issues-The age and continuous renovation cycles of these buildings will make them prone to rapid fire spread and structural collapse. In today's economy; many times you will find vacant store fronts and occupied apartments on the upper floors. Don't be tricked into believing that the entire building is vacant if the store fronts are empty. The best way to determine this is to be familiar with your response area.

This article is not meant to cover everything related to fires in ordinary construction, as the late Francis Brannigan stated: "Beware the building, the building is your enemy" firefighters need to have a sound knowledge of building construction there are many great pieces of literature available for further study. A well respected Chief on the East Coast has been quoted as saying that no one has any business inside a burning building without proper knowledge of building construction and fire spread. I totally agree with him on this point and it would behoove every firefighter to make this his/her career objective.

### **Learning to "B.A.G." the fire in mixed use ordinary constructed occupancy:**



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There are several well-known acronyms firefighters utilize when sizing up a fire, one that I enjoy using and will serve you well is known as B.A.G.

**Where did the fire BEGIN - Where is it AT currently - Where is it GOING**

Where did the fire begin? - As a rule, the worst case scenario a firefighter or incident commander can face in these structures is a basement fire. As stated earlier many buildings go through renovations throughout their lives just as upper story walls are removed and single structures are merged together to form larger ones basement can undergo the same renovations basically making an underground cockloft if you will where fire can spread from building to building eventually taking out an entire block.

A good rule to remember is if you are called for a smell of smoke in an ordinary constructed building in a continuous block of similar type buildings and cannot find anything be sure to check surrounding buildings especially the basements.

Accessing the basement can be difficult under smoke and heat conditions and the hazards can be tremendous to firefighters crawling over top of a raging basement fire. Many of the store fronts on the ground floor will have multiple basement entrances, especially is there is a service alley to the rear of the structure.



*Basements in continuous ordinary construction occupancies could be interconnected. This photo shows a flimsy piece of wood paneling covering an opening between two basements. (Photo by author)*



*Missing or damaged tiles on this basement ceiling will severely expose the first floor rafters in the event of a basement fire. (Photo by Author)*



*Many basements will have an exterior entrance which will make for a much more effective attack on a basement fire. (Photo by Author)*



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Basement forcible entry concerns: The photo on the left shows an interior shot of the exterior basement door, after you force these doors you are faced with another fortified door. These are two common security obstacles you may face; the key is to get into your buildings prior to the fire and see what you will face at 0200 when the fire call comes in.

Be aware that just as in modern strip malls, the rear of the ordinary mixed-use will probably heavily fortified. Regardless, these must be opened up for safety of interior crews. This particular building has a locked gate on the interior side of rear door.

### First Floor Fires

A first floor fire will cause just as many headaches as a basement fire with the lone exception of easier access to the building; this by no means will eliminate the hazard to any occupants above the fire in living areas. When confronted with a working fire on the first floor commercial with apartments above consider using a "big line". The power of the 2 ½" hand line with a 1 ¼" tip will put out a ton of fire in a short period of time. Many small departments like mine say that the 2 ½" line is too manpower intensive, I say that is an excuse and those departments need to get out of the recliners and train on its deployment, there is a ton of excellent websites and training blogs that are available to help your department train. Consideration should even be given to "pairing up" companies to get the big line in service; remember once you get water on the fire things should get better. Even if taking the second engine away from another assignment such as a backup line to assist in stretching the original 2 ½" attack line may pay dividends to those whose lives are in peril above the fire.

In Part II we will look at fires on the upper floors of these buildings and how to stop the fire from taking out the block (Where is the fire GOING)