FIREHOUSE® Weekly Drill

Drill #126: Window/Door Glass

Introduction

Have you ever given any thought to the many different types of windows firefighters confront over their career? Keep in mind that windows can, and often, are used as an alternative means of entry into a structure when forcing a door becomes more complicated than normal.

Additionally, windows can be forced when ventilation is required. In both scenarios, the window glazing needs to be completely removed, especially if you are going to use the opening for entry and egress. In other words, make the window a door!

During a structure fire, time is critical, and if you are assigned to ventilation, the quickest means for conducting this task is to break out the glass window pane. However, if the fire is minor and there is no real emergency, windows should be opened to avoid any further damage to the building. Remember, property conservation is a key element in the services we provide.

Let's look at the four different types of glass we can be confronted with. The first type of glass is plate glass. Plate glass is generally easy to break, as its construction features make it a weak glazing. A problem we find when breaking plate glass is it produces very sharp shards that are very dangerous to our fireground operations. Firefighters need to think about their safety when removing this type of glass. Use a long-handled hook from an angle when breaking the panes so you are not directly under the pieces falling to the ground. Also, make sure you are wearing eye protection.

The second type of glass is tempered glass. Tempered glass is glass that has been heat treated to provide additional strength. This tempered glass is somewhat more difficult to break. The best method is to use a pointed tool such as the Halligan bar or pick-headed axe. Strike the pane near one of the corners. When the pane breaks, it will produce small fragments, unlike the shards that are produced by the plate glass.

Another type of glass firefighters are often confronted with is wire glass. This type of glass has wire mesh embedded in between two or more layers of glass. This wire is used to improve the fire resistance of the glass. During a fire, should the glass break, the wire will hold the glass in place and prevent the fire and products of combustion from spreading. When forcing this window glass, the best method is to chop through the wire and glass with an ax and then simply remove the piece you chopped away.

Another type of glass is laminated glass. Much like the wire glass's construction, here plastic is embedded between the different layers of glass. This plastic is used to hold the glass together to reduce the hazards associated with pieces of glass flying around. We generally find this type of laminated glass in vehicle windshields.

A final glass that is being used more in high crime areas and industrial setting is polycarbonate glass or better known by their proper names like Lexan or Plexiglas. They only way we are going to be successful in breaching this type of glass will be with a power saw.

When we start taking closer notice, it almost seems incredible how many times we are confronted with a different types of window and door glass.

–Prepared by Russell Merrick