
WHAT IS HIGH-PILED COMBUSTIBLE STORAGE?

High-piled combustible storage is the *storage of combustible materials in closely packed piles or combustible materials on pallets, in racks or on shelves where the top of storage is greater than 12 feet in height. When required by the fire code official, high-piled combustible storage also includes certain high-hazard commodities, such as rubber tires, Group A plastics, flammable liquids, idle pallets and similar commodities, where the top of storage is greater than 6 feet in height.* [Ref. 202]

The provisions in IFC Chapter 32 become applicable when the goods are stored in piles, on pallets in racks or on shelves and the height of storage is greater than 12 feet. The 12-foot limit is based on fire testing that was performed in the 1960s and 1970s. The tests revealed that when goods were stored more than 12 feet in height, the rate of fire spread and heat release dramatically increased to the point that a sprinkler system designed for an ordinary hazard in accordance with NFPA 13 could not control the fire.

The threshold for application of Chapter 32 for commodities classified as high hazard is 6 feet. They include rubber tires, highly combustible and fast burning (termed “Group A”) plastics, flammable and combustible liquids, idle pallets, and alcohol or hydrocarbon formulated aerosols. NFPA 13, Chapters 15 through 20 contain automatic sprinkler design criteria for storage of high-hazard commodities including rubber tires, Group A plastics, idle wood and plastic pallets and rolled paper. High-hazard commodities almost always require a specialized automatic sprinkler system that is designed to control or suppress fires involving these goods (see Figure 14-1). [Ref. 903.3.1.1]



FIGURE 14-1 Hydrocarbon formulated aerosols represent a very significant challenge in the design of the automatic sprinkler system and are treated as a high-hazard commodity by the IFC.