



High Piled Storage Requirements

(Based on the 2013 California Fire Code)

Anytime materials that can burn are stacked or stored in a high pile, the fire danger increases, just as a bonfire is more powerful and more potentially dangerous than a small warming fire. For that reason, the California Fire Code has special requirements anytime high piled storage is found.

What is considered to be High-Piled Storage?

“High-Piled Storage” exists when storing things that have the potential to burn at a height of greater than 12 feet, where the total footprint of the storage is greater than 500 square feet. For certain highly flammable materials, “High-Piled Storage” is considered to exist when the storage is greater than 6 feet. (Specific definitions from the California Fire Code are presented at the end of this information sheet).

For example, you have a storage area of 25 feet by 25 feet, with storage up to 15 feet high, and the material has the possibility of burning, it would be considered to be “High Piled Storage”, because it takes up more than 500 square feet of floor space ($25' \times 25' = 625$ square feet), and is greater than 12 feet in height.

If you have storage in that same area of nothing but metal parts that can't burn, it would not be considered “High Piled Combustible Storage”.

If your storage of combustible items is over 12 feet high, and is placed in an area 20 feet by 20 feet, it would NOT be considered as “High Piled Storage” as it takes up less than 500 square feet ($20' \times 20' = 400$ square feet).

What if I have high piled storage, but don't want to be regulated as “high piled storage”?

You have several options. You could:

1. Reduce your storage height to 12 feet or less (or 6 feet or less for highly flammable materials).
2. Reduce your high piled storage to an area that takes up less than 500 square feet of floor space.
3. Only store materials that can't burn.

If none of these options will work for your business, then you MUST:

1. Submit plans for high piled storage, and
2. Obtain a High Piled Combustible Storage Permit from the Fire District.

What is required on the plans for High Piled Storage?

Remember that the job of the Fire District is to help keep the community safe from fire. Since all high piled storage over 500 square feet requires a sprinkler system, and since the sprinkler system must be of high enough capacity to put out the fire, we need to know what kinds of material will be stored, where they are to be stored, and how flammable they are. For this reason, the Fire Code classifies what you store as various classifications of commodities. Simple descriptions of these

classes are presented below. More detailed descriptions are found in Chapter 32 of the California Fire Code:

- Class I Commodities – These are essentially non-combustible items stored on wooden or plastic pallets. Basically, it's the pallets that are the problem here.
- Class II Commodities – These are similar to Class 1 Commodities, except they are packaged in slatted wooden boxes or heavy paper or cardboard, which makes them more combustible.
- Class III Commodities – These are items made of wood, cloth, paper, Group C plastics, or limited amounts of Group A or B plastics. These are more combustible than Class II items.
- Class IV Commodities – These materials include Class I, II, or III items packaged in Group A plastics, Group B plastics, or free flowing Group A plastics. They are more combustible than Class III.
- High Hazard Commodities – These items are more combustible than Class I, II, III, or IV commodities. Many materials fall into this category, including Group A plastics not previously categorized into Classes I, II, III, or IV.
- Group A, B, & C plastics – These ratings are based on the “heat of combustion” for these plastics, where Group A plastics create the most heat when they burn and burn faster, and Group C plastics create the least heat when they burn and burn slower, and Group B plastics are between Groups A and C in heat of combustion and burn rate.

After you have classified your materials, you must show diagrams as to where these materials will be stored (both top view and side view diagrams), showing length, width, and height of storage, what commodity types are to be stored where, distances of storage to walls and doors, and ceilings, widths of aisles, locations of sprinkler heads, etc. You must also present hydraulic calculations that will show how much water your sprinkler system is able to put on a potential fire. By reviewing this information, we can then determine if your sprinkler and storage system is sufficient to keep your building safe. If it is, we will approve your plans and issue you a permit for high piled storage. If it is not, you must either change your plans to meet our requirements and carry out those plans, or you cannot have high piled storage at your building.

Because of the specialized knowledge involved, most businesses will hire a consultant familiar with high piled storage to develop the plans for them. If you would like a listing of qualified consultants, we can provide you with one.

Please note that the full requirements for high piled storage plans are found in Chapter 32 of the California Fire Code.

Additional Questions?

This information sheet is meant to provide you with a basic introduction to what is required for a High-Piled Combustible Storage Permit. If you have additional questions, please contact our office at (909) 902-5280.