



Fire Department

HEADQUARTERS

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CODE SUMMARY

PERMITS – COMBUSTIBLE DUST

A code summary is a compilation of code sections related to a specific occupancy or permit. This code summary lists sections of code pertaining to occupancies and operations as defined by the **California Fire Code**. Under each heading you will find the correlating code language and the reference cited. These requirements pertain to existing buildings. New construction may be subject to additional requirements. Please feel free to direct any questions to the Fire Prevention Division at (805) 681-5500.

SCOPE:

This guideline is applicable to facilities and/or operations that produce combustible dust in sufficient quantities which could result in a possible dust explosion. These requirements shall apply to all dust producing or dust agitating machinery, such as grinding mills and separators, elevators, elevator legs, spouts, hoppers and other conveyors, in addition to wood product machinery and equipment.

Combustible Dust defined: finely divided solid material which is 420 microns or less in diameter and which, when dispersed in air in the proper proportions, could be ignited by a flame, spark or other source of ignition.

1. A permit is required for operations that produce combustible dust.

A permit is required to operate a grain elevator, flour starch mill, feed mill, or plant pulverizing aluminum, coal, cocoa, magnesium, spices or sugar, or other operations producing combustible dust. (CFC 105.6.6)

2. Dust control is required when combustible dust is generated inside buildings.

Equipment or machinery located inside buildings that generates or emits combustible dust shall be provided with an approved dust collection and exhaust system installed in accordance with Chapter 22 of the California Fire Code and the California Mechanical Code. Equipment or systems used to collect, process or convey combustible dust shall be provided with an approved explosion control system. (CFC 2803.2)

3. Accumulation of combustible dust shall be kept to a minimum in the interior of buildings.

Accumulated combustible dust shall be collected by vacuum cleaning or other means that will not place combustible dust into suspension in air. Forced air or similar methods shall not be used to remove dust from surfaces. (CFC 2203.2)

4. Explosion venting is required when combustible dust is generated inside buildings.

Where a dust explosion hazard exists in equipment rooms or buildings, such areas shall be provided with explosion (deflagration) venting complying with Section 911 of the *California Fire Code*. See Chapter 9 of the California Fire Code for additional requirements. (CFC 2803.2.1)

5. Electrical wiring and equipment shall comply with the *California Electrical Code*. (CFC 2803.4)

6. Protection from ignition sources shall be provided as follows:

- A. Cutting and welding shall take place in "Hot Work" areas only which meet the requirements of Chapter 35 of the *California Fire Code*. (2803.5.1)
- B. Static electricity shall be prevented from accumulating on machines and equipment subject to static electricity buildup by permanent grounding and bonding wires. (2803.5.2)
- C. Smoking is not allowed in areas where combustible dust is produced. No Smoking signs shall be posted. (CFC 2803.5.3)

7. Portable fire extinguishers or standpipes and hose shall be provided as follows:

- A. Portable fire extinguishers in accordance with Section 906 for extra-high hazards. (CFC 606.10)
 - 1) A minimum 4-A extinguisher is required for extra-high Class A hazards.
 - 2) Two 2 ½ gallon pressurized water-type extinguishers shall be deemed the equivalent of one 4-A rated extinguisher.
- B. Portable extinguisher shall be provided within 50 feet of travel distance to any machine producing shavings or sawdust.
- C. Standpipes with hose and nozzles supplied from an approved water system may be used in place of portable extinguishers but must also be within 50 feet of travel distance from machinery.