**Chapter 45 Combustible Fibers**

45.1 General

45.1.1

The storage, use, and handling of combustible fibers shall comply with the requirements of Chapter 45.

45.1.2\*

Chapter 45 shall not apply to buildings completely protected by an approved automatic fire-extinguishing system; however, this exclusion does not preclude the need for good housekeeping.

45.1.3

Chapter 45 shall not apply to biomass feedstock regulated by Chapter 31.

45.1.4 Permits

Permits, where required, shall comply with Section 1.12.

45.2 Electrical Wiring

45.2.1

Electrical wiring and equipment in any combustible fiber storage room or building shall be installed in accordance with the requirements of NFPA 70 for Class III hazardous locations.

45.2.2

The AHJ shall be responsible for designating the areas requiring hazardous location electrical classifications and shall classify the area in accordance with the classification system set forth in NFPA 70.

45.3 No Smoking

45.3.1

No smoking or open flame shall be permitted in any area where combustible fibers are handled or stored, nor within 50 ft (15 m) of any uncovered pile of such fibers.

45.3.2

NO SMOKING signs shall be posted.

45.4 Vehicles and Material Handling Equipment

Trucks or automobiles, other than mechanical handling equipment and approved industrial trucks complying with NFPA 505, shall not enter any fiber storage room or building but shall be permitted to be used at loading platforms.

45.5 Loose Storage of Combustible Fibers

45.5.1

Loose combustible fibers (not in bales or packages), whether housed or in the open, shall not be stored within 100 ft (30 m) of any building, except as hereinafter specified.

45.5.2

Quantities of loose combustible fibers up to 100 ft3 (2.8 m3) shall not be kept in any building unless stored in a metal or metal-lined bin that is equipped with a self-closing cover.

45.5.3 Rooms or Compartments for Quantities of Loose Combustible Fibers Ranging Between 100 ft3 (2.8 m3) and 500 ft3 (14.2 m3)

45.5.3.1

Quantities exceeding 100 ft3 (2.8 m3) of loose combustible fibers, but not exceeding 500 ft3 (14.2 m3), shall be permitted to be stored in rooms or compartments in which the floors, walls, and ceilings have a fire-resistance rating of not less than 3/4 hour.

45.5.3.2

Each opening into such rooms or compartments from other parts of the building shall be equipped with an approved self-closing fire door.

45.5.4 Storage Vaults for Quantities of Loose Combustible Fibers Ranging Between 500 ft3 (14.2 m3) and 1000 ft3 (28.3 m3)

45.5.4.1

Quantities exceeding 500 ft3 (14.2 m3) of loose combustible fibers, but not exceeding 1000 ft3 (28.3 m3), shall be permitted to be stored in storage vaults enclosed with floors, walls, and ceilings that are 2-hour fire-resistance-rated fire barriers.

45.5.4.2

Such storage vaults shall be located outside of buildings or, if located inside, shall be protected with approved safety vents to the outside.

45.5.4.3

If such storage vaults are located inside a building, each opening into the storage vault from other parts of the building shall be protected on each side of the wall by an approved opening protective assembly having a fire resistance rating of 11/2 hours.

45.5.4.4

If such storage vaults are located outside of buildings but have openings that expose other buildings (not sufficiently detached to be considered cutoff), each such opening shall be protected on each side of the wall by an approved opening protective assembly having a fire resistance rating of 11/2 hours.

45.5.4.5

Roofs of outside vaults shall be of noncombustible material, but shall be permitted to be constructed so as to readily give way in case of an internal explosion.

45.5.5 Storage Vaults for Quantities of Loose Combustible Fibers Exceeding 1000 ft3 (28.3 m3)

45.5.5.1

Quantities exceeding 1000 ft3 (28.3 m3) of loose combustible fibers shall be permitted to be stored in storage vaults as indicated in 45.5.4.

45.5.5.2

The storage vault shall also be protected by an approved automatic sprinkler system designed and installed in accordance with Section 13.3.

45.5.6 Loose House

45.5.6.1

Not more than 2500 ft3 (71 m3) of loose fibers shall be permitted to be stored in a detached loose house, with openings properly protected against the entrance of sparks.

45.5.6.2

The loose house shall be used for no other purpose.

45.6 Baled Storage

45.6.1 Blocks or Piles

45.6.1.1

No single block or pile shall contain more than 25,000 ft3 (708 m3) of combustible fibers, exclusive of aisles or clearances.

45.6.1.2

Blocks or piles of baled fiber shall be separated from adjacent storage by aisles not less than 5 ft (1.5 m) wide or by flash fire barriers consisting of continuous sheets of noncombustible material extending from the floor to a height of at least 1 ft (0.3 m) beyond the top of the piles and projecting not less than 1 ft (0.3 m) beyond the sides of the piles.

45.6.1.3

Baled cotton storage and combustibles shall be kept at least 4 ft (1.2 m) from fire door openings.

45.6.2 Sisal and Other Fibers

45.6.2.1

Sisal and other fibers in bales bound with combustible tie ropes or jute and other fibers that are liable to swell when wet shall be stored in a manner that allows for expansion in any direction without endangering building walls, ceilings, or columns.

45.6.2.2

Not less than 3 ft (0.9 m) of clearance shall be left between walls and sides of piles, except that in storage compartments not more than 30 ft (9 m) in width, 1 ft (0.3 m) clearance at side walls shall be sufficient, provided that a center aisle not less than 5 ft (1.5 m) wide is maintained.

45.7 Storage of Hay, Straw, and Other Similar Agricultural Products

45.7.1

Hay, straw, and other similar agricultural products shall not be stored adjacent to buildings or combustible material unless a cleared horizontal distance equal to the height of pile is maintained between such storage and combustible material and buildings.

Storage shall be limited to stacks of 100 tons (90,720 kg) each.

45.7.3

Either an approved 1-hour fire wall installed in accordance with NFPA 221 or a clear space of 20 ft (6.1 m) shall be maintained between such stacks.

45.7.4

Unlimited quantities of hay, straw, and other agricultural products shall be permitted to be stored in or near farm buildings located outside of closely built areas.

45.8 Hazardous Materials

Combustible fibers shall not be stored in rooms or buildings with hazardous gases, flammable liquids, dangerous chemicals, or other similar materials.