



Storage Practices: Part Two: “Commodity Examples”

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Learning Objective: The student shall be able to list some commodities that are classed in NFPA 13, Standard for the Installation of Sprinkler Systems.

In storage area fire protection, the commodities being stored must be categorized into groups according to their relative combustibility and rate of heat release in the event of a fire.

By definition, a “commodity” is the combination of products, packing material, and containers that determines commodity classification. Commodities are assigned a Roman numeral character “Class” based on the relative fire hazard. Class I is the lowest category and Class IV is the highest. The *International Fire Code*[®] includes a “high hazard” category.

The model fire codes and many insurance underwriters and research organizations have detailed lists of commodities and their classes based on live fire test results. Classifying a commodity can be a significant engineering challenge to ensure the appropriate level of fire protection is provided, and should not be taken lightly.

The examples provided in the following table are illustrative only and are not an exhaustive list. These examples could change based on packaging, the container in which they are stored, or the type of material handling method (i.e., pallets) on which they are stored. Any commodity classification and corresponding fire protection design should be done only by qualified personnel.



This mixed array includes Class III and IV commodities.

Commodity Class Examples

Class	Examples
I	Bagged cement, ceramics, dry insecticides, glass, gypsum board, noncombustible metal products
II	Alcoholic beverages not exceeding 20% alcohol in combustible containers, incandescent or fluorescent light bulbs in cartons
III	Wood, natural fiber, upholstered nonplastic furniture, lumber, baled waste paper, bagged sugar, viscose, and natural fiber yarn
IV	Combustible metal products (solid), plastic upholstered furniture, foam-backed rugs, asphalt shingles, pharmaceutical products
High Hazard*	Level 3 aerosols, lubricating or hydraulic fluid in combustible containers, foam rubber or plastic mattresses, rubber tires

* International Fire Code[®] only.

For additional information, refer to NFPA 13, *Standard for the Installation of Sprinkler Systems*.

