



TOWN OF BRIGHTON
Office of the Fire Marshal
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High-Piled Combustible Storage Permit Survey

The property owner or occupant shall not make changes in the occupancy, the use or process, or the materials used or stored in the building without evaluation of the fire protection systems for their capability to protect the new occupancy, use, or materials.

Purpose

The intent of this guideline is to provide the requirements for the protection of high-piled combustible storage (HPCS) for a variety of commodities. The following requirements will ensure that the minimum measures required by code have been taken to provide for public safety and that the required protection of these commodities has been designed in accordance with Chapter 23 of the 2010 Fire Code of New York State (FCNYS), Chapter 12 of the 2007 NFPA 13, and other referenced standards.

The purpose of the permitting process is to assist the Office of the Fire Marshal in establishing a benchmark of current storage practices within a building or facility. The established benchmarks will be used as a comparison during tenant improvements and future inspections. The current storage practices will be reviewed for compliance with applicable fire codes and standards.

Scope

The commodity classification and storage parameters for the rack areas are required prior to issuing a construction permit in order to determine the adequacy of the existing fire sprinkler system. Provide an analysis by a qualified professional that classifies the commodities. The analysis shall specify the minimum criteria for both the overhead and rack sprinkler systems based on the type of commodity and storage height as per the Fire Code of New York State (FCNYS) and NFPA 13, 2007 edition.

This document is designed for use by responsible parties at existing and new tenant facilities utilizing high piled storage of combustible materials.

The Fire Code of New York State requires that all occupancies with high-piled storage (whether new or existing) obtain operational permits for such use; these operational permits are in addition to building permits. The granting of such operational permits is based on compliance with the applicable sections of the Fire Code of New York State.

It should be noted that if a change occurs in the commodity stored, the fire sprinkler system might not be capable of controlling the fire.

Examples of such changes are: a change in the commodity stored; introduction of flammable liquids; an increase in the amount of storage; an increase in the height of storage; a change in the storage arrangement; a reduction of aisle width; or use of solid shelves in racks. In such cases it may be necessary to reduce the hazard, or to increase the fire protection system.

Changes in Occupancy, Use, Process, or Materials

Sprinkler systems are engineered to cover a specific commodity classification in a specific storage configuration. Changes such as introducing a new product line, using a different packaging material, or changing from wood pallets to plastic pallets can increase your hazard classification and render your sprinkler system inadequate to control a fire. Also, changing the size of pallets or the way product is stacked in racking can infringe on flu space requirements, reducing the ability of the sprinkler system to control a fire. It's also a common misconception that sprinkler systems are designed to extinguish fires. Although they can be designed to extinguish fires, systems designed to meet minimum code requirements are only expected to help control the spread of the fire until the fire department arrives to extinguish it. The fact is, every year buildings with inadequate sprinkler systems burn to the ground.

Please refer to the National Fire Protection Association – Chapter 25 - Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems - 2008 Edition

The property owner or occupant shall not make changes in the occupancy, the use or process, or the materials used or stored in the building without evaluation of the fire protection systems for their capability to protect the new occupancy, use, or materials.

The evaluation shall consider factors that include, but are not limited to, the following:

- (1) Occupancy changes such as converting office or production space into warehousing
- (2) Process or material changes such as metal stamping to molded plastics
- (3) Building revisions such as relocated walls, added mezzanines, and ceilings added below sprinklers
- (4) Removal of heating systems in spaces with piping subject to freezing

Where changes in the occupancy, hazard, water supply, storage commodity, storage arrangement, building modification, or other condition that affects the installation criteria of the system are identified, the property owner or occupant shall promptly take steps, such as contacting a qualified contractor, consultant, or engineer, and the authority having jurisdiction, to evaluate the adequacy of the installed system in order to protect the building or hazard in question.

Where the evaluation reveals a deficiency causing a threat to life or property, the property owner shall make appropriate corrections. All requirements of the authority having jurisdiction shall be followed.

Application Process & Submittal Requirements

A letter of intent containing a detailed description of the products to be stored and the description of all containers, pallets, and packaging materials. This letter must also include a detailed description of the storage methods (racks, shelves, pallets), the total storage area in square feet, maximum storage height, and aisle widths. An authorized officer of the company or business must sign this letter

A Commodity Analysis is required for warehouse projects that may need specialized fire protection equipment to meet fire protection equipment needs mandated by the fire code. The commodity analysis is needed for the proposed use of warehouse buildings that may have hazards that require in depth information for fire staff review and approval.

The applicant/developer shall assist in the preparation of this Survey or, under the direction of the Fire Marshal, provide a Fire Consultant (at the expense of the applicant) who specializes in fire protection for warehouse storage. The analysis survey presents questions, which must be answered pertaining to the identity and description of stored materials.

The evaluation of fire hazards in storage occupancies and the design of fire protection systems to protect them require special training and experienced judgment. Property owners are advised to consult a fire protection engineer or other qualified design professional having specialized training and experience in the field of fire protection of storage occupancies.

Definitions

For the purposes of this guideline, certain terms are defined as follows:

Commodity - A combination of products, packing materials and containers.

Encapsulated - A method of packaging consisting of a plastic sheet completely enclosing the sides and top of a pallet load containing a combustible commodity, a combustible package, a group of combustible commodities, or combustible packages. Totally noncombustible commodities on wood pallets enclosed only by a plastic sheet as described are not covered under this definition. *Banding* (i.e. stretch-wrapping around the sides only of a pallet load) is not considered to be encapsulated. Where there are holes or voids in the plastic or waterproof cover on the top of the carton that exceed more than half of the area of the cover, the term encapsulated does not apply. The term encapsulated does not apply to plastic-enclosed products or packages inside a large, non-plastic, enclosed container. (NFPA 13)

High-Piled Combustible Storage - The storage of combustible materials in closely packed piles, on pallets, in racks, or on shelves where the top of storage is greater than (12) twelve feet in height. High-piled combustible storage also includes certain high hazard commodities, such as rubber tires, Group A plastics, flammable and combustible liquids, idle pallets, and similar commodities where the top of storage is greater than (6) six feet in height.

High-Piled Storage Area - An area within a building that is designated, intended, proposed, or actually used for high-piled combustible storage. For purposes of selecting the applicable fire protection requirement row in Table 2306.2:

- This area shall include the "footprint" of the actual storage array (racks, shelves, fixtures, or pallets), inclusive of aisles within the storage area(s). When individual storage arrays are separated by less than 15 foot spaces, the spaces shall be considered aisles and shall be included in a single storage area footprint. When individual storage arrays are separated by more than 15 foot spaces, the individual arrays shall be considered separate storage areas with their own footprint calculation.
- Each storage area shall also include a 48 inch perimeter aisle calculated in the footprint. This additional perimeter aisle is not required for areas that abut to a wall.

- For multiple storage areas within a building, the aggregate of all high-piled storage areas shall be used for selecting the applicable row in Table 2306.2, unless such areas are separated from each other by a one hour rated fire barrier wall constructed in accordance with Section 706 of the Building Code of New York State (BCNYS). Openings in such walls shall be protected by fire assemblies having a one hour fire protection rating. FCNYS 2306.3.2.1.

Plastics, Free Flowing - Those plastics that, in their original state of flakes, powder, pellets, or random-packed small plastic objects (ex: razor blade dispensers), will fall out of their containers during a fire, fill the flue spaces, and create a smothering effect on a fire. (NFPA 13)

Plastics Expanded (Foamed or Cellular) - Those plastics, the density of which is reduced by the presence of numerous small cavities (cells), interconnecting or not, dispersed throughout their mass. Examples include styrofoam peanuts and cups. (IFC, NFPA 13)

Plastics, Non Expanded - Those plastics with high densities, solid, or not otherwise categorized as expanded, such as polyethylene film, polystyrene toys, polyester and polystyrene plastic tote bins, polyethylene 55-gallon drums or smaller containers, etc.

Rack Storage - A combination of vertical, horizontal, and diagonal members that support stored materials. Racks can be fixed or portable.

Rack, Single Row - Racks with no longitudinal flue space, and having a width up to 6 feet with aisles at least 3½ feet from other storage. (NFPA 13)

Rack, Double Row - Two single row racks placed back to back, creating a flue space, having a combined width up to 12 feet with aisles at least 3½ feet on each side. (NFPA 13)

Racks, Multiple Row - Racks greater than 12 feet wide or single- or double-row racks separated by aisles less than 3½ feet wide having an overall width greater than 12 feet. (NFPA 13)

Shelf Storage - Storage on shelves less than 30 inches deep with the distance between shelves not exceeding three feet vertically. For larger shelves and other storage arrangements see Rack Storage.

Solid Shelving - Shelving that is solid, slatted, mesh, or grated located within racks that obstructs sprinkler water penetration through the racks.

Classification of Commodities

Commodities shall be classified as Class I, II, III, IV, or high-hazard. The materials listed within each of these commodity classifications are assumed to be unmodified for improved combustibility characteristics. The use of flame-retarding modifiers, or the physical form of the material could change the classifications.

Class I Commodities

Class I commodities are essentially noncombustible products on wooden or nonexpendable polyethylene solid deck pallets, in ordinary corrugated cartons with or without single-thickness dividers, or in ordinary paper wrappings with or without pallets. Class I commodities are allowed to contain a limited amount of Group A plastics in accordance with the Fire Code.

Examples of Class I commodities include, but are not limited to, the following:

Alcoholic beverages not exceeding 20% alcohol Appliances-noncombustible, electrical

Cement in bags Ceramics

Dairy products in nonwax-coated containers (excluding bottles) Dry insecticides

Foods in noncombustible containers

Fresh fruits and vegetables in non-plastic trays or containers Frozen foods

Glass

Glycol in metal cans Gypsum board

Inert materials, bagged Insulation, noncombustible

Non-combustible liquids in plastic containers having less than a 5-gallon capacity Non-combustible metal products

Class II Commodities

Class II commodities are Class I products in slatted wooden crates, solid wooden boxes, multiple-thickness paperboard cartons or equivalent combustible packaging material with or without pallets. Class II commodities are allowed to contain a limited amount of Group A plastics in accordance with the Fire Code.

Examples of Class II commodities include, but are not limited to the following:

Alcoholic beverages not exceeding 20% alcohol, in combustible containers;

Foods I combustible containers;

Incandescent or fluorescent light bulbs in cartons; thinly coated fine fire on reels or in cartons

Class III Commodities

Class III Commodities are commodities of wood, paper, natural fiber cloth, or Group C plastics or products thereof, with or without pallets. Products are allowed to contain limited amounts of Group A or B plastics, such as metal bicycles with plastic handles, pedals, seats, and tires. Group A plastics shall be limited in accordance with the Fire Code.

Examples of Class III commodities include, but are not limited to, the following:

Aerosol Level 1 (See Chapter 51 of Fire Code)

Combustible fiberboard

Cork, baled Feed, bagged

Food in plastic containers

Furniture: wood, natural fiber, upholstered, non-plastic, wood or metal with plastic-padded and covered arm rests

Glycol in combustible containers not exceeding 25%

Lubricating or hydraulic fluid in metal cans

Lumber

Mattresses, excluding foam rubber and foamed plastics

Non-combustible liquids in plastic containers having a capacity of more than 5 gallons

Paints, oil base, in metal cans

Paper and pulp, horizontal storage

Paper, waster, baled

Paper and pulp, horizontal storage, or vertical storage that is banded or protected with approved wrap

Paper in cardboard boxes

Pillows, excluding foamed rubber and foamed plastics

Plastic coated paper food containers

Plywood

Rags, baled

Rugs, without foamed backing

Sugar, bagged

Wood, baled

Wood doors, frames and cabinets

Yarns of natural fiber

Class IV Commodities

Class IV commodities are Class I, II, III products containing Group A plastics in ordinary corrugated cartons and Classes I, II, III products, with Group A plastic packaging, with or without pallets. Group B plastics and free-flowing Group A plastics are also included in this class. The total amount of non-free flowing Group A plastics shall be in accordance with the Fire Code.

Examples of Class IV commodities include, but are not limited to, the following:

Aerosol, Level 2 (see Chapter 51 of the Fire Code)

Alcoholic beverages, exceeding 20% but less than 80% alcohol, in cans or bottles in cartons Clothing, synthetic or non-viscous

Combustible metal products (solid)

Furniture, plastic upholstered

Furniture, wood or metal with plastic covering and padding

Glycol in combustible containers (greater than 25% and less than 50%) Linoleum products

Paints, oil base in combustible containers

Pharmaceuticals, alcoholic elixirs, tonics, etc. Rugs, foamed back

Shingles, asphalt

Thread or yarn, synthetic or non-viscous

High-hazard – Commodities

High-hazard commodities are high-hazard products presenting special fire hazards beyond those of Class I, II, III, or IV. Group A plastics not otherwise classified are included in this class.

Examples of high-hazard commodities include, but are not limited to, the following:

Aerosol, Level 3 (see Chapter 51 of the Fire Code)

Alcoholic beverages, exceeding 80% alcohol, in bottles in cartons

Commodities of any class in plastic containers in carousel storage

Flammable solids (except solid combustible metals)

Glycol in combustible containers (50% or greater)

Mattresses, foamed rubber or foamed plastic

Pallets and flats which are idle combustible Paper, asphalt, rolled, horizontal storage

Paper, asphalt, rolled, vertical storage

Paper and pulp, rolled, in vertical storage which is unbanded or not protected with approved wrap

Pillows, foamed rubber and foamed plastics

Pyroxylin

Rubber tires

Vegetable oil and butter in plastic containers

Classification of Plastic Products

There are two large groupings of plastic: Thermoplastic and thermosetting. Thermoplastics become soft when exposed to sufficient heat and harden when cooled, no matter how often the process is repeated. Thermoset sets into permanent shape when heat and pressure are applied to them during forming. Reheating will not soften these materials.

Group "A" Plastic

Group A plastic products are those which incorporate plastic materials having a heat of combustion (Btu/lb or J/kg) that is much higher than that of ordinary combustibles, and a burning rate (lb/min. or kg/min.) higher than that of Group B plastics. Plastics that would normally fall into this category are thermoplastic polystyrene and acrylonitrile-butadiene-styrene. These materials become soft when exposed to heat and harden when cooled, regardless of how often the process is repeated.

Group "B" Plastic:

Group B plastic products are those which incorporate plastic materials having a heat of combustion and a burning rate higher than those of ordinary combustibles, but not as high as those of Group A plastics. Plastic materials that would normally fall into this category are thermosetting polyesters and thermoplastics, such as polyethylene, polycarbonate, acrylics, cellulose, nylon, and plasticized polyvinyl chloride.

Group "C" Plastic

Group C plastic products are those which incorporate plastic materials having a heat of combustion and a burning rate similar to those of ordinary combustibles. Plastic materials that would normally fall into this category are thermoplastic fluorocarbons, lightly plasticized (rigid) PVC, and most thermosets such as alkyd, amino, phenolics, and silicones. When these materials are combined with other materials that would change the burning characteristics of the commodity, careful analysis is needed to determine if the product still belongs in this classification.

High Piled Combustible Storage Survey - General Storage (Class I-IV Commodities)

The following is a breakdown of each section of the survey and commentary explaining the information being sought.

Business Name. Please provide the name of the tenant/business which will be occupying the space intended for stocking of high piled combustible materials.

Business Address. The correct and complete street address must be provided to insure the correct information is in our database and on the high piled combustible storage permit.

Business Telephone. Provide at least one daytime phone number for the business that can be used as a contact for any questions or concerns. If possible, include a fax number and a secondary number or email address.

Item 1 - Commodity Classifications.

Identifying commodity classifications is the first step in determining applicable fire code requirements. Fire protection measures such as fire sprinkler designs are also based on commodity classifications. If a commodity is misclassified and fire sprinkler systems are designed for the incorrect classification, a resulting fire may easily overtax the sprinkler system to where the sprinkler system is ineffective. Therefore accurately classifying commodities is imperative. It is understood that difficulties may arise in trying to determine appropriate classifications. Commodity Classifications provides a comprehensive listing of various commodities with their classifications. If difficulties are still being experienced, please contact the Office of the Fire Marshal for assistance.

Item 2 - Description of Storage.

Provide an accurate and detailed description of all current storage practices in the facility. If commodity classifications are known, provide descriptions of where and how each classification is being stored. For example, Class I commodities being stored throughout the facility on racks and in piles; Class IV commodities being stored on racks 1-5 to heights of 22ft. and Class III commodities being stored on racks 5-10 to heights of 15ft.

Note: If plastics are being stored, identify this in the description and also complete the Plastics Survey.

Item 3 - Maximum Storage Height.

Provide the maximum height(s), in feet, of the storage within the facility. This measurement is taken from the floor to the top of the stored commodity, not to the highest shelf or rack.

Item 4 - Clear Ceiling Height.

This is the measurement, in feet, from the floor of the high piled storage areas to the bottom of the roof deck.

Item 5 - Clear Height.

The measurement, in feet from the floor of the high piled storage areas to the bottom of the structural supports of the roof deck. This may be the bottom of the roof joists, twin "T's", rafters, etc.

Item 6 - Method of Storage.

Indicate all methods in which commodities are currently being stored. Photographs, specification sheets and other information may be submitted to provide a better understanding of how commodities are being stored.

Item 7 - Rack Storage Information.

Provide detailed and accurate information as possible.

Type of Racks. Single row racks are those racks in which commodities may be reached from either side of the rack. No flue space is located in the middle of single row racks. Double row racks allow access from a single side of the individual rack with a flue space in between the racks. See Figure 2. Multiple row racks are similar to double row racks but incorporate more than two racks. Multiple row racks will be more than two pallets deep.

Height of Racks. Indicate if racks are "x" ft high in one area and "y" ft high in other areas or a constant height throughout. This measurement is from the floor level to the highest possible level or shelf the racks are capable of. Rack specification sheets may be submitted as well.

Depth of Racks. This measurement is from the front of the rack or aisle, to the back of the rack either aisle (for single row racks) or flue space (for double and multiple row racks). If different width racks are present, indicate all widths of all racks. For double or multiple row racks, indicate the total widths (depths) of each double or multiple rows.

Width of Racks. This is the side-to-side measurement of the racks. Provide the total width of the racks for each row. The width measurement is measured parallel to the aisles.

Aisle Widths between Racks. Typically the aisle widths will be either four or eight feet wide. However other aisle widths are definitely possible. Indicate the smallest dimension on the survey but ensure to show all aisle widths on the drawings. See Figure 1.

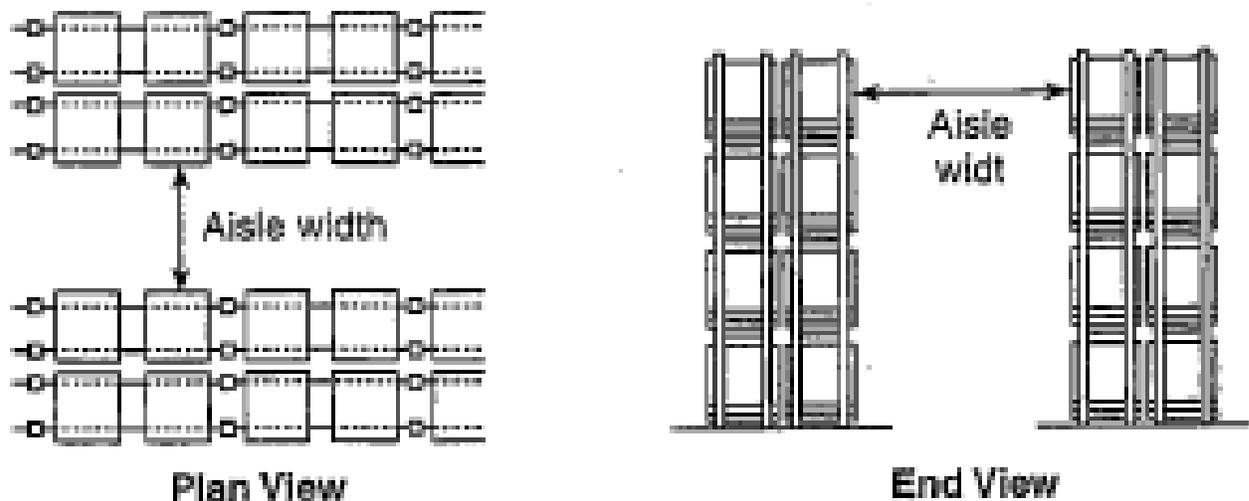


Figure 1 - Illustration of Aisle Width

Longitudinal and Transverse Flue Spaces. - Indicate both of these flue spaces in inches for the current storage practices in the facility. See Figure 2.

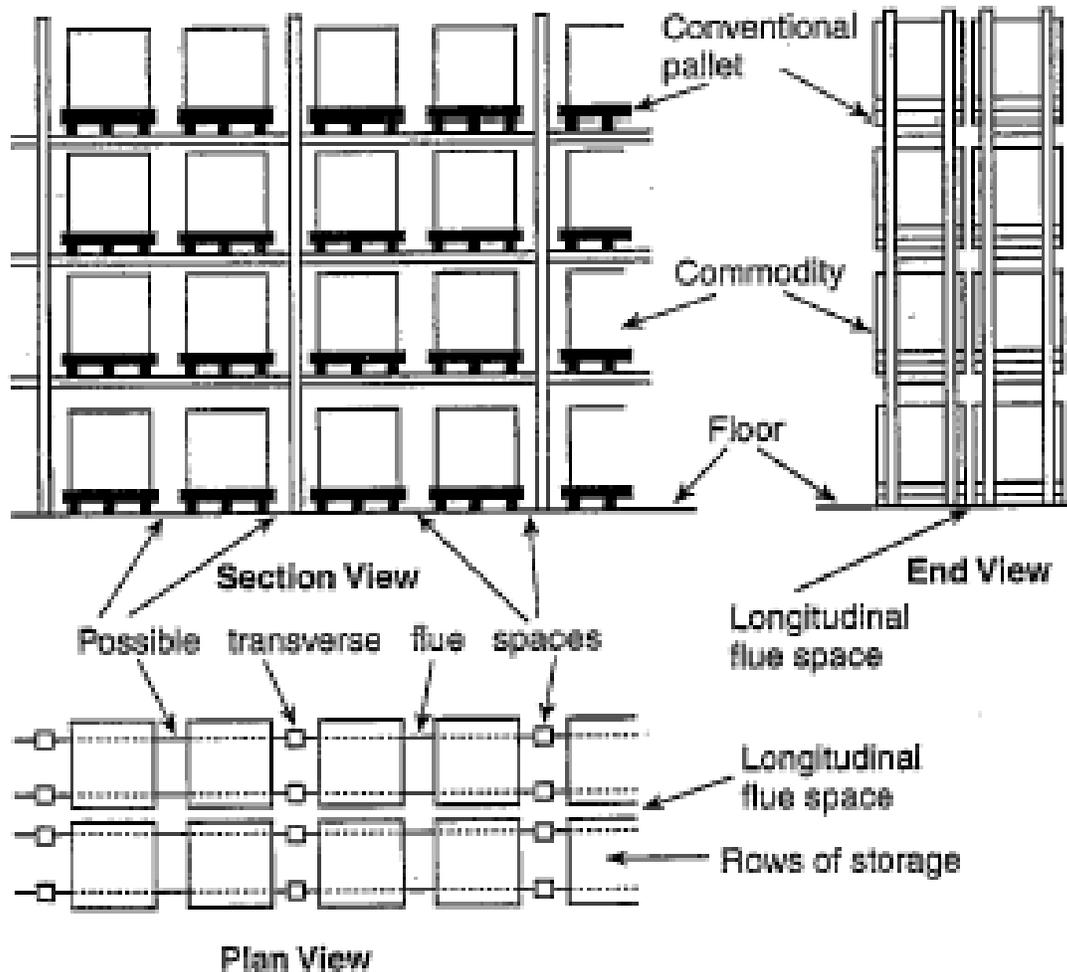


Figure 2 - Typical Double Row Rack with Flues

Item 8 - Mechanical Smoke Removal Systems.

Mechanical refers that smoke is forcibly removed out of the facility or air is forcibly pushed into the facility to pressurize the facility. These systems may include fans either positioned on the roof or towards the tops of exterior walls. Mechanical smoke removal systems are not smoke vents.

Item 9 - Smoke Vents.

Smoke vents are passive smoke removal systems. Smoke vents are located on the roof. The vents open and the natural buoyancy of the smoke escape the facility via the vents.

Number of Vents. Indicate the total number of vents for each high piled storage area.

Size of Vents. Provide the dimensions for the vents. If more than one type of vent is present in the facility, indicate the dimensions for each type of vent.

Item 10 - Draft/Curtain Boards.

Indicate if draft or curtain boards are present in the facility. These are barriers a few feet deep located along the ceiling. They are used to compartmentalize the ceiling space. Typically they are found in unsprinklered buildings but may be found in sprinklered buildings.

Item 11 - Gross Square Footage of Entire Structure.

Provide the gross square footage of the entire facility. This figure includes all portions of the structure, as well as each individual floor, mezzanines, etc.

Item 12 - Square Footage of High Piled Storage Areas Only.

Provide the square footage for all areas used for the high piled storage of combustibles. If more than one area is present and the areas are separated in some fashion (either by distance or barrier) indicate the sizes for each area. If more than one area is present and not separated in some manner, sum all areas into one area. For those areas that are separated, indicate with a number in the check box next to the appropriate size for each area. Otherwise check the appropriate box. The areas used in this measurement are all floor spaces being used by racks and/or piles plus the required aisles for each area. A general rule of thumb for numerous rows of racks or piles is to include all aisles between the racks and piles as well as any applicable required aisles elsewhere throughout the storage.

Item 13 - Fire Sprinklers in High Piled Areas.

Facilities may be sprinklered throughout all areas, over the high piled storage areas only or not at all. Some requirements for high piled combustible storage dictate the presence of fire sprinkler systems.

Item 14 - Fire Alarm System.

Indicate whether a fire alarm system is present in the facility or not. A security and/or burglar system that may incorporate a few smoke detectors does not count. The fire alarm system will incorporate, smoke detection, heat detection, manual fire alarm pull stations, horns, strobes, etc.

Item 15 - Piled Storage Information.

Provide as detailed and accurate information as possible. This section only refers to commodities being stored on the floor (with or without the use of pallets) and stacked atop each other. No racks or shelves are used for pile storage.

Cubic Feet Per Pile. Provide the cubic feet for each high piles of combustible storage.

Maximum Pile Dimension. This measurement represents the longest side of a pile.

Maximum Pile Height. As measured from the floor to the top of storage in feet. If multiple piles with different heights are present, provide information for all piles.

Aisle Widths Between Piles. Typically the aisle widths will be either four or eight feet wide. However other aisle widths are definitely possible. Indicate the smallest dimension on the survey but ensure to show all aisle widths on the drawings. See Figure 1.

Item 16- Access Doors Present.

Those access doors that provide access from the exterior roadways and/or driveways directly into the high piled storage areas may be considered for this item. An exterior door that provides direct access into the high piled storage areas from a sidewalk does not meet this criterion. An access door from a roadway into an office which is adjacent to the high piled storage areas does not meet this criterion either.

Item 17- Access Doors Keyed for Fire Department Use.

All access doors specifically into the high piled storage areas must have a method for gaining entry from the exterior of the facility. In the very least, a key lock must be present with the master key(s) located in the facilities Knox™ box.

Knox™ Box Note. All warehouse facilities with fire detection/alarm and suppression systems installed require a Knox™ Box system installed in a fire department approved location.

Names and Titles of Persons Responsible for Information Contained Within Survey.

Provide the names of the individuals that filled out these forms, along with all applicable phone/fax numbers to contact them for additional information, or to answer questions that may arise.



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High-Piled Combustible Storage Survey

The property owner or occupant shall not make changes in the occupancy, the use or process, or the materials used or stored in the building without evaluation of the fire protection systems for their capability to protect the new occupancy, use, or materials.

BUSINESS INFORMATION	NAME					
	ADDRESS					
	CITY		STATE		ZIP CODE	
	PHONE		FAX			
	EMAIL					

Please Check those that apply:

	NO		There will be no combustible storage on pallets, in racks or on shelves exceeding 12 feet in height of Class I - IV commodities
	NO		There will be no combustible storage on pallets, in racks or on shelves exceeding 6 feet in height of high hazard commodities
YES	NO		There will be storage exceeding 12 feet in height on pallets, in racks or on shelves of Class I – IV commodities
YES	NO		There will be storage exceeding 6 feet in height on pallets, in racks or on shelves oh high hazard commodities.

1	Commodity Classifications: (check all that apply)								
	I		II		III		IV		High Hazard

(If plastics are being stored, please fill out the plastics portion of this survey)

2	Description of type of storage / commodities:								

3	Maximum storage height		Feet
4	Clear ceiling height - Floor to bottom of roof deck:		Feet
5	Clear height - Floor to bottom of structural roof supports:		Feet

6	Method of storage: (check all that apply)								
		Encapsulated in plastic		Non encapsulated		Bin box			
		On wooden pallets		On plastic pallets		Solid pile			
		On racks with solid shelves		On racks without solid shelves					
		Other (describe)							

7	Rack Storage Information (Fill out following only if utilizing rack storage, check all that apply)										N/A	
	Type of racks											
	Single rows			Double Rows			Multiple Rows					
	Height of Racks		Feet	Depth of Racks		Feet	Width of Racks		Feet			
	Minimum aisle width between racks				INCHES							
	Longitudinal flue space:				INCHES							
	Transverse flue space:				INCHES							
	Detailed plan of facility with the rack layout is provided								YES	NO		
	If NO - Explain											

8	Is a mechanical smoke removal system present?										YES	NO		
9	Are smoke vents present?										YES	NO		
	If YES , What is the total number of vents present?													
	What are the dimensions for the vents?					L	X	W	TOTAL SQ. FT.					
10	Are draft/curtain boards present?										YES	NO		
11	Gross square footage of entire structure :										SQ. FEET			
12	Size of designated storage areas: (Actual floor space of all racks/piles plus required aisles)													
	Storage Area 1		Sq. Feet		Storage Area 4		Sq. Feet							
	Storage Area 2		Sq. Feet		Storage Area 5		Sq. Feet							
	Storage Area 3		Sq. Feet		Storage Area 6		Sq. Feet							
13	Are the high piled storage areas protected with fire sprinklers?										YES	NO		
	The following existing sprinkler information is required for proper evaluation.													
	If the existing sprinkler system design and density information is not located on the risers, an approved fire sprinkler contractor SHALL evaluate the system design and density.													
	Pipe Schedule Systems CANNOT be used for Protection of High-Piled Combustible Storage because NFPA 13 - Chapter 5, limits their uses to light or ordinary hazards occupancies.													
	Calculated density design type				GPM		FEET							
ESFR type				GPM		FEET								
Rack Sprinklers				YES		NO								

	Temp. Rating of Sprinkler Heads					CEILING		RACK	
	Type of sprinkler head installed (check one)								
	Upright		Pendant		Large drop		ESFR	Other	
	Brand name of sprinkler head installed								
	Model number of sprinkler head installed								
	Area of coverage in square feet as designed for each sprinkler head							SQ. FEET	
	K factor of sprinkler head installed								
14	Does the facility have a fire alarm system?						YES	NO	
15	Pile Storage Information (does not apply to rack storage)						N/A		
	Cubic feet per pile						CUBIC FEET		
	Maximum pile dimension (any direction)						FEET		
	Maximum height of pile(s)						FEET		
	Minimum aisle width between piles:						INCHES		
16	Are access doors provided every 100 lineal feet of all high piled storage area exterior walls which face roadways/driveways?						YES	NO	
17	If so, are these access doors keyed for fire department use during emergencies and keys provided in the facilities Knox™ box?						YES	NO	
18	Storage and Idle Pallets (check all which applies)								
	Wood Pallets					YES	NO		
	Plastic Pallets					YES	NO		
Names and titles of persons responsible for information contained within this survey: (please print)									
Name									
Address									
City				State			Zip Code		
Title									
Phone			Mobile			Fax			
Name									
Address									
City				State			Zip Code		
Title									
Phone			Mobile			Fax			

High Piled Combustible Storage Survey - Plastic Storage (High Hazard Commodities)

Completely and accurately fill out the Plastics Storage Survey. The survey should be completed and signed by a person qualified to answer these questions correctly. The following is a breakdown of each section of the survey and commentary explaining the information being sought.

Business Name. Please provide the name of the tenant/business which will be occupying the space intended for stocking of high piled combustible materials.

Business Address. The correct and complete address must be provided to insure the correct information is in our database and on the high piled combustible storage permit.

Business Telephone. Provide at least one daytime phone number for the business that can be used as a contact for any questions or concerns. If possible, include a fax number and a secondary number.

Item 1 - Plastic Group Type.

Much like the importance of correctly classifying commodities, plastics require correct grouping. For examples of plastic commodities, please refer to HPS Document 3 - Commodity Classifications. If difficulties still arise, contact the product manufacturer for the necessary information required to properly group the type of plastic the facility stores. Submit this information to the Office of the Fire Marshal for record.

Item 2 - Plastic characteristics.

Whether the plastics within the facility are Group A, B, or C, the characteristics of the plastics is required to aid in commodity classification.

Expanded, Non-Expanded and Free Flowing. Check all variations that apply and refer to the definitions section within this document for explanations for each variation. Plastics will be one of these variations, possibly all.

Packaging of Plastic. Check all variations present within the facility. Refer to the definitions section for assistance.

Plastic in Piles. Again, check all variations present within the facility. Refer to the definitions section for assistance. If the plastics are stored on racks, this subsection need not be answered.

Contact the Office of the Fire Marshal with any questions.

Items 3, 4 and 5 are completed for Group A plastics only. This information is not needed for Group B and C plastics. The percentage of plastics is a significant factor. The difference between percentages may be the difference in fire sprinklers within the facility or not. Therefore, an estimated percentage of plastic materials within the facility is required. Please note that this percentage of plastics is based on individual pallet loads or cartons and is a function of the volume or weight of the packaging method for both expanded and non-expanded plastics.

Item 3 - Percent by weight of expanded plastic.

Based on the pallet load or per carton, this is the percentage of weight of expanded plastics as compared to the total weight of the pallet or carton.

OR (either the percent by weight or volume of expanded plastic is needed)

Item 4 - Percent by volume of expanded plastic.

Based on the pallet load or per carton, this is the percentage of volume of expanded plastics as compared to the total volume of the pallet or carton.

For example a pallet load of bicycles, the amount of plastics (pedals, reflector, tires, handle bar grips, etc.) is actually a very limited as compared to the metal (non-combustible) portions of the bicycle. The percentage of plastics in the pallet load of bicycles may be 25% or ¼ of the total weight or volume of the pallet. In another example of storing computers, the percentage of plastics may be as high as 75%, due to computers being mostly plastic with some exceptions. Figure 2303.7.4 below is taken from the 2009 International Fire Code to assist in determining the percentage of Group A plastics being stored. Contact the Division of the Fire Marshal with any questions.

AND (Either Item 3 or 4 plus Item 5 are required.)

Item 5 - Percent by weight of unexpanded plastic.

Based on pallet load or per carton, this is the percentage of weight of unexpanded plastics as compared to the total volume of the pallet or carton.

It is important to note that Items 3, 4 and 5, must all be based on either the pallet load or per carton. This means that one percentage based on the pallet load and another percentage based on the carton is not acceptable. All percentages must have the same common denominator so to speak.

Names and Titles of Persons Responsible for Information Contained Within Survey.

Provide the names of the individuals that filled out these forms, along with all applicable phone/fax numbers to contact with them for additional information, or to answer questions that may arise.

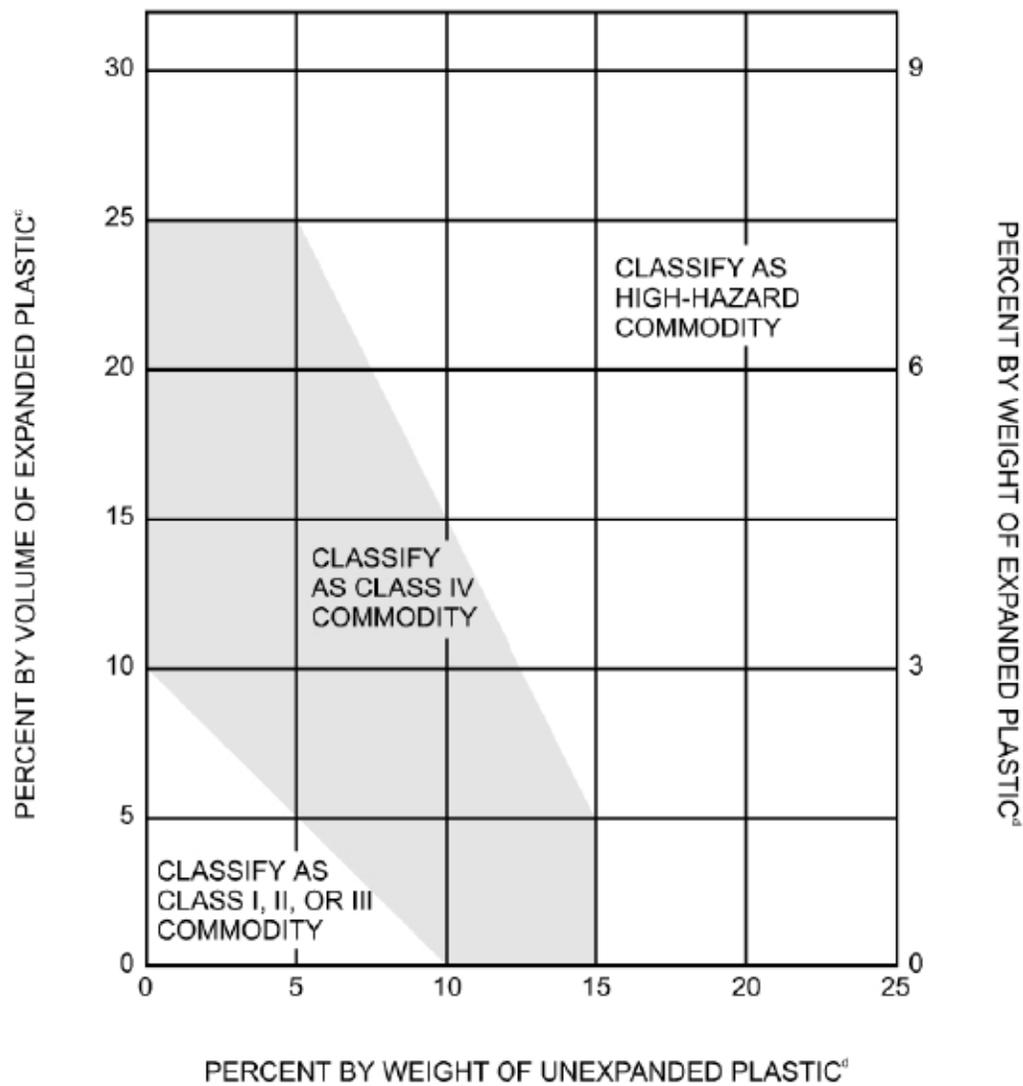


Figure 2304.7.4 MIXED COMMODITIES^{a,b}

- a. This figure is intended to determine the commodity classification of a mixed commodity in a package, carton or on a pallet where plastics are involved.
- b. The following is an example of how to apply the figure: A package containing a Class III commodity has 12-percent Group A expanded plastic by volume. The weight of the unexpanded Group A plastic is 10 percent. This commodity is classified as a Class IV commodity. If the weight of the unexpanded plastic is increased to 14 percent, the classification changes to a high-hazard commodity.
- c. Percent by volume =

$$\frac{\text{Volume of plastic in pallet load}}{\text{Total volume of pallet load, including pallet}}$$

- d. Percent by weight =

$$\frac{\text{Weight of plastic in pallet load}}{\text{Total weight of pallet load, including pallet.}}$$



TOWN OF BRIGHTON
Office of the Fire Marshal
 2300 Elmwood Avenue
 Rochester, New York 14618
 (585) 784-5220 Office
 (585) 784-5207 Fax

High-Piled Combustible Storage Plastics Survey

The property owner or occupant shall not make changes in the occupancy, the use or process, or the materials used or stored in the building without evaluation of the fire protection systems for their capability to protect the new occupancy, use, or materials.

BUSINESS INFORMATION	NAME												
	ADDRESS												
	CITY		STATE			ZIP CODE							
	PHONE		FAX										
	EMAIL												
1	Plastic group type		<input type="checkbox"/>	A	<input type="checkbox"/>	B	<input type="checkbox"/>	C	<input type="checkbox"/>	Unknown			
2	Plastic characteristics - (check all that apply)												
	Is the plastic		<input type="checkbox"/>	Expanded		<input type="checkbox"/>	Non expanded		<input type="checkbox"/>	Free flowing			
	How is the plastic packaged?			<input type="checkbox"/>	Exposed			<input type="checkbox"/>	Cartoned				
	How is the plastic piled?			<input type="checkbox"/>	Stable piles			<input type="checkbox"/>	Unstable piles				
Complete Items 3, 4, and 5 for Group A plastics ONLY													
3	Percent by weight of expanded plastic							% (either per pallet or per carton)					
	OR												
4	Percent by volume of expanded plastic							% (either per pallet or per carton)					
	AND												
5	Percent by weight of unexpanded plastic							% (either per pallet or per carton)					
	(all percentages above must be based either on the pallet load or carton)												
Names and titles of persons responsible for information contained within this survey: (please print)													
Name													
Address													
City		State			Zip Code								
Title													
Phone		Mobile			Fax								
Name													
Address													
City		State			Zip Code								
Title													
Phone		Mobile			Fax								

Please read the information below and sign before submitting your application

Your application shall be deemed complete only if this survey is completed and submitted along with the operational permit package.

Submittals not accompanied by a survey will not be accepted.

Accuracy of the submittal package, including this survey, is the responsibility of the applicant.

Failure to submit an accurate submittal package will be considered an incomplete application by the Plan Reviewer. An incomplete submittal will result in a **HOLD**.

The building owner or designated representative is required to sign below to indicate their agreement that the parameters and requirements reflected within this high piled combustible operational permit survey and will not be increased once a certificate of occupancy or storage racking permit is issued. The field set (or a copy) of the approved plans shall be kept on the premises and available for review by the Office of the Fire Marshal during future inspections.

It is the responsibility of the property owner or occupant to evaluate and maintain the adequacy of the installed fire safety system to protect the building or commodity classification in question.

I understand that the Office of the Fire Marshal will conduct a site inspection and, based on the information provided, a high piled combustible storage operational permit will be issued.

I also understand that I am responsible for providing the Office of the Fire Marshal with proper notification and documentation prior to making any modification to my building, tenant space, storage configuration, and storage methods within the annual operational permit cycle.

A follow-up evaluation will be conducted based on any new modification to verify compliance with the Fire Code of New York State (FCNYS). Failure to comply with these requirements will cause the high piled combustible storage operational permit to be immediately revoked.

I hereby apply for a High Piled Combustible Storage Operational Fire Code permit and I acknowledge that the information above is complete and accurate; that the storage and operations will be in conformance with the ordinances and codes of the Town of Brighton and the Building/Fire Codes of New York State and that I understand this is not a permit but only an application for an operational permit and; that the facilities and operations will be in accordance with the approved plans.

Print Name

Signature

Date