

**NATIONAL
FIRE CODES®**

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3.1 General.

3.1.1

The definitions contained in this chapter shall apply to the terms used in this standard.

3.1.2

Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used.

3.1.3

Merriam-Webster's Collegiate Dictionary, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1 * Approved.

Acceptable to the authority having jurisdiction.

3.2.2 * Authority Having Jurisdiction (AHJ).

An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3 * Listed.

Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.4 Shall.

Indicates a mandatory requirement.

3.2.5 Should.

Indicates a recommendation or that which is advised but not required.

3.2.6 Standard.

An NFPA standard, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and that is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions are not to be considered a part of the requirements of a standard and shall be located in an appendix, annex, footnote, informational note, or other means as permitted in the NFPA manuals of style. When used in a generic sense, such as in the phrases "standards development process" or "standards development activities," the term "standards" includes all NFPA standards, including codes, standards, recommended practices, and guides.

3.3 General Definitions.

3.3.1 A-Class Boundary.

See 3.3.130.1.

3.3.2 Air Receiver.

A chamber, compatible with an air compressor, that can store air under pressure that is higher in pressure than that in the dry pipe or preaction system piping. (AUT-SSI)

3.3.3 Air Reservoir.

A chamber that can store air at the same pressure that is in the wet pipe system piping. (AUT-SSI)

3.3.4 * Aisle Width.

The horizontal dimension between the face of the loads in racks under consideration. (AUT-SSD)

3.3.5 * Alcove.

An area in a compartment or corridor that is set back from the rest of the wall it is located along. (AUT-SSI)

3.3.6 Antifreeze Sprinkler System.

See 3.3.224.1.

3.3.7 Appurtenance.

An accessory or attachment that enables the private fire service main to perform its intended function. [24, 2025] (AUT-PRI)

3.3.8 Area of Discharge.

The floor area covered by a sprinkler that takes into account any walls or obstructions whose summation determines the remote area. (See Figure A.28.2.4.2.1.) (AUT-SSD)

3.3.9 Arm-Over.

A horizontal pipe that extends from the branch line to a single sprinkler or a sprinkler above and below a ceiling. (AUT-SSI)

3.3.10 Array.

3.3.10.1 Closed Array (*Palletized, Solid-Piled, Bin Box, and Shelf Storage*).

A storage arrangement where air movement through the pile is restricted because of 6 in. (150 mm) or less vertical flues. (AUT-SSD)

3.3.10.2 Closed Array (*Rolled Paper*).

A vertical storage arrangement in which the distances between columns in both directions are short [not more than 2 in. (50 mm) in one direction and 1 in. (25 mm) in the other]. (AUT-SSD)

3.3.10.3 * Open Array (*Palletized, Solid-Piled, Bin Box, and Shelf Storage*).

A storage arrangement where air movement through the pile is enhanced because of vertical flues larger than 6 in. (150 mm). (AUT-SSD)

3.3.10.4 Open Array (*Rolled Paper*).

A vertical storage arrangement in which the distance between columns in both directions is lengthy (all vertical arrays other than closed or standard). (AUT-SSD)

3.3.10.5 * Standard Array (*Rolled Paper*).

A vertical storage arrangement in which the distance between columns in one direction is short [1 in. (25 mm) or less] and is in excess of 2 in. (50 mm) in the other direction. (AUT-SSD)

3.3.11 Automated Inspection and Testing.

The performance of inspections and tests at a distant location from the system or component being inspected or tested through the use of electronic devices or equipment installed for the purpose. (AUT-SSI)

3.3.12 Automatic Sprinkler.

See 3.3.223.1.

3.3.13 Automotive Components on Portable Racks.

All automotive components with or without expanded Group A plastic dunnage; excludes the storage of air bags, tires, and seats on portable racks. (AUT-SSD)

3.3.14 Average Roof Height.

See 3.3.24, Building Height. (AUT-HBS)

3.3.15 * Back-to-Back Shelf Storage.

Two solid or perforated shelves up to 30 in. (750 mm) in depth each, not exceeding a total depth of 60 in. (1.5 m), separated by a longitudinal vertical barrier such as plywood, particleboard, sheet metal, or equivalent, with a maximum 0.25 in. (6 mm) diameter penetrations and no longitudinal flue space and a maximum storage height of 15 ft (4.6 m). (AUT-SSD)

3.3.16 * Baled Cotton.

A natural seed fiber wrapped and secured in industry-accepted materials, usually consisting of burlap, woven polypropylene, or sheet polyethylene, and secured with steel, synthetic or wire bands, or wire; also includes linters and motes. (AUT-SSD)

3.3.17 Banded Roll Paper Storage.

See 3.3.197.1.

3.3.18 Banded Tires.

A storage method in which a number of tires are strapped together. (AUT-SSD)

3.3.19 * Bathroom.

Within a dwelling unit, any room or compartment dedicated to personal hygiene, containing a toilet, sink, or bathing capability such as a shower or tub. (AUT-SSI)

3.3.20 B-Class Boundary.

See 3.3.130.2.

3.3.21 Bin Box Storage.

Storage in five-sided wood, metal, or cardboard boxes with open face on the aisles in which boxes are self-supporting or supported by a structure so designed that little or no horizontal or vertical space exists around boxes. (AUT-SSD)

3.3.22 * Blocking.

A means by which the horizontal spread of flame or heat during a fire event is stopped by the installation of materials that will stay in place before and during sprinkler operation to limit the channeling of heat between structural members. (AUT-SSD)

3.3.23 Branch Lines.

The pipes supplying sprinklers, either directly or through sprigs, drops, return bends, or arm-overs. (AUT-SSI)

3.3.24 Building Height.

For the purposes of seismic protection, the vertical distance from the grade plane to the average elevation of the highest roof surface. (AUT-HBS)

3.3.25 Bulkhead.

A vertical barrier across the rack. (AUT-SSI)

3.3.26 * Carton Records Storage.

A Class III commodity consisting predominantly of paper records in cardboard cartons. (AUT-SSD)

3.3.27 Cartoned.

A method of storage consisting of corrugated cardboard or paperboard containers fully enclosing the commodity. (AUT-SSD)

3.3.28 Catwalk.

For the purposes of carton records storage, a storage aid consisting of either open metal grating or solid horizontal barriers supported from a rack storage system that is utilized as a walkway for access to storage at elevated levels. Catwalks are accessed using stairs and are not separate floors of a building. (AUT-SSD)

3.3.29 Ceiling Height.

The distance between the floor and the underside of the ceiling above (or roof deck) within the area. (AUT-SSD)

3.3.30 * Ceiling Pocket.

An architectural ceiling feature that consists of a bounded area of ceiling located at a higher elevation than the attached lower ceiling. (AUT-SSI)

3.3.31 Ceiling Types.

3.3.31.1 Flat Ceiling.

A continuous ceiling in a single plane. (AUT-SSI)

3.3.31.2 Horizontal Ceiling.

A ceiling with a slope not exceeding 2 in 12 (16.7 percent). (AUT-SSI)

3.3.31.3 Sloped Ceiling.

A ceiling with a slope exceeding 2 in 12 (16.7 percent). (AUT-SSI)

3.3.31.4 Smooth Ceiling.

A continuous ceiling free from irregularities, lumps, or indentations greater than 4 in. (100 mm) in depth. (AUT-SSI)

3.3.32 Central Safety Station.

See 3.3.130.3.

3.3.33 Check Valve.

See 3.3.243.1.

3.3.34 Clearance to Ceiling.

The distance from the top of storage to the ceiling above. (AUT-SSD)

3.3.35 Closed Array (Palletized, Solid-Piled, Bin Box, and Shelf Storage).

See 3.3.10.1.

3.3.36 Closed Array (Rolled Paper).

See 3.3.10.2.

3.3.37 Cloud Ceiling.

Any ceiling system, not including sloped ceilings, installed in the same plane with horizontal openings to the structure above on two or more sides. (AUT-SSI)

3.3.38 Column (Rolled Paper).

A single vertical stack of rolls. (AUT-SSD)

3.3.39 Combined Dry Pipe Preaction Sprinkler System.

See 3.3.224.2.

3.3.40 Commodity.

The combination of products, packing material, and container that determines commodity classification. (AUT-SSD)

3.3.41 Compact Storage.

Storage on solid shelves not exceeding 36 in. (900 mm) in total depth, arranged as part of a compact storage module, with no more than 30 in. (750 mm) between shelves vertically and with no internal vertical flue spaces other than those between individual shelving sections. (AUT-SSD)

3.3.42 Compact Storage Module.

A type of shelving unit consisting of compact storage whereby the units move to allow for storage to be pushed together creating a storage unit with no flues or minimal spaces between units. Aisles are created by moving the shelving unit. Compact storage modules can be manual or electric in operation. (AUT-SSD)

3.3.43 Compartment.

A space completely enclosed by walls and a ceiling. Each wall in the compartment is permitted to have openings to an adjoining space if the openings have a minimum lintel depth of 8 in. (200 mm) from the ceiling and the total width of the openings in each wall does not exceed 8 ft (2.4 m). A single opening of 36 in. (900 mm) or less in width without a lintel is permitted where there are no other openings to adjoining spaces. (AUT-SSI)

3.3.44 * Compartmented.

The rigid separation of the products in a container by dividers that form a stable unit under fire conditions. (AUT-SSD)

3.3.45 Concealed Sprinkler.

See 3.3.223.3.1.

3.3.46 Construction Definitions.**3.3.46.1 * Obstructed Construction.**

Panel construction and other construction where beams, trusses, or other members impede heat flow or water distribution in a manner that materially affects the ability of sprinklers to control or suppress a fire. (AUT-SSI)

3.3.46.2 * Unobstructed Construction.

Construction where beams, trusses, or other members do not impede heat flow or water distribution in a manner that materially affects the ability of sprinklers to control or suppress a fire. Unobstructed construction has horizontal structural members that are not solid, where the openings are at least 70 percent of the cross-section area and the depth of the member does not exceed the least dimension of the openings, or all construction types, with the exception of panel construction, where the spacing of structural members exceeds $7\frac{1}{2}$ ft (2.3 m) on center. (AUT-SSI)

3.3.47 * Container (Shipping, Master, or Outer Container).

A receptacle strong enough, by reason of material, design, and construction, to be shipped safely without further packaging. (AUT-SSD)

3.3.48 Continuous Obstruction.

See 3.3.147.1.

3.3.49 Control Mode Density/Area (CMDA) Sprinkler.

See 3.3.223.4.1.

3.3.50 Control Mode Specific Application (CMSA) Sprinkler.

See 3.3.223.4.2.

3.3.51 Control Valve.

See 3.3.243.3.

3.3.52 Conventional Pallet.

See 3.3.161.1.

3.3.53 Core (Rolled Paper).

The central tube around which paper is wound to form a roll. (AUT-SSD)

3.3.54 Corrosion-Resistant Piping.

Piping that has the property of being able to withstand deterioration of its surface or its properties when exposed to its environment. [24, 2025] (AUT-PRI)

3.3.55 Corrosion-Resistant Sprinkler.

See 3.3.223.4.3.

3.3.56 Corrosion-Retarding Material.

A lining or coating material that when applied to piping or appurtenances has the property of reducing or slowing the deterioration of the object's surface or properties when exposed to its environment. [24, 2025] (AUT-PRI)

3.3.57 Cross Mains.

The pipes supplying the branch lines, either directly or through riser nipples. (AUT-SSI)

3.3.58 Deluge Sprinkler System.

See 3.3.224.3.

3.3.59 Design Spectral Response Acceleration at Short Periods, S_{DS} .

The spectral response acceleration at short periods for the site of the building or structure being designed to satisfy the seismic requirements of ASCE/SEI 7 *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*, based on ASCE/SEI 7 Chapter 22 seismic ground motion maps and Chapter 11 seismic design criteria, or directly from the ASCE/SEI 7 Hazard Tool, or by using the site-specific ground motion procedures of ASCE/SEI 7 Chapter 21. (AUT-HBS)

3.3.60 Differential Dry Pipe Valve.

See 3.3.243.5.1.

3.3.61 Distance Monitoring.

The monitoring of various conditions of a system or component from a distant location from the system or component through the use of electronic devices, meters, or equipment installed for the purpose. (AUT-SSI)

3.3.62 Double-Row Racks.

Racks less than or equal to 12 ft (3.7 m) in depth or single-row racks placed back to back having an aggregate depth up to 12 ft (3.7 m), with aisles having an aisle width of at least 3.5 ft (1.1 m) between loads on racks. (AUT-SSD)

3.3.63 * Draft Curtain.

A fixed or deployable barrier that protrudes downward from the ceiling to channel, contain, or prevent the migration of smoke and/or heat. (AUT-SSD)

3.3.64 Drop.

A vertical pipe supplying one sprinkler from above. (AUT-SSI)

3.3.65 Drop-Out Ceiling.

A suspended ceiling system, which is installed below the sprinklers, with listed translucent or opaque panels that are heat sensitive and fall from their setting when exposed to heat. (AUT-SSI)

3.3.66 Dry Barrel Hydrant (Frostproof Hydrant).

See 3.3.112.1.

3.3.67 Dry Pipe Sprinkler System.

See 3.3.224.4.

3.3.68 Dry Sprinkler.

See 3.3.223.4.4.

3.3.69 * Dwelling Unit (for sprinkler system installations).

One or more rooms arranged for the use of one or more individuals living together, as in a single housekeeping unit normally having cooking, living, sanitary, and sleeping facilities that include, but are not limited to, hotel rooms, dormitory rooms, apartments, condominiums, sleeping rooms in nursing homes, and similar living units. (AUT-SSI)

3.3.70 Early Suppression Fast-Response (ESFR) Sprinkler.

See 3.3.223.4.5.

3.3.71 Electrically Operated Sprinkler.

See 3.3.223.4.6.

3.3.72 * Encapsulation.

A method of packaging that either consists of a plastic sheet completely enclosing the sides and top of a pallet load containing a combustible commodity, a combustible package, or a group of combustible commodities or combustible packages, or consists of combustible commodities individually wrapped in plastic sheeting and stored exposed in a pallet load. (AUT-SSD)

3.3.73 Expanded (Foamed or Cellular) Plastics.

Those plastics, the density of which is reduced by the presence of numerous small cavities (cells), interconnecting or not, dispersed throughout their mass. (AUT-SSD)

3.3.74 Exposed Group A Plastic Commodities.

Those plastics not in packaging or coverings that absorb water or otherwise appreciably retard the burning hazard of the commodity. (Paper wrapped or encapsulated, or both, should be considered exposed.) (AUT-SSD)

3.3.75 Extended Coverage Sprinkler.

See 3.3.223.4.7.

3.3.76 Extension Fitting.

A male by female adapter intended to be used with a sprinkler to adjust the final fit where the sprinkler is installed in a finished ceiling or wall. (AUT-SSI)

3.3.77 Exterior Projection.

An extension beyond an exterior wall capable of collecting heat below. (AUT-SSI)

3.3.78 Extra Hazard (Group 1) (EH1).

See 3.3.148.1.

3.3.79 Extra Hazard (Group 2) (EH2).

See 3.3.148.2.

3.3.80 * Face Sprinklers.

Standard sprinklers that are located in transverse flue spaces along the aisle or in the rack, are within 18 in. (450 mm) of the aisle face of storage, and are used to oppose vertical development of fire on the external face of storage. (AUT-SSD)

3.3.81 Feed Mains.

The pipes supplying cross mains, either directly or through risers. (AUT-SSI)

3.3.82 Fire Control.

Limiting the size of a fire by distribution of water so as to decrease the heat release rate and pre-wet adjacent combustibles, while controlling ceiling gas temperatures to avoid structural damage. (AUT-SSD)

3.3.83 Fire Department Connection.

A connection through which the fire department can pump supplemental water into the sprinkler system, standpipe, or other water-based fire protection systems, furnishing water for fire extinguishment to supplement existing water supplies. [24, 2025] (AUT-PRI)

3.3.84 Fire Pump.

A pump that is a provider of liquid flow and pressure dedicated to fire protection. [20, 2025] (AUT-SSI)

3.3.85 Fire Suppression.

Sharply reducing the heat release rate of a fire and preventing its regrowth by means of direct and sufficient application of water through the fire plume to the burning fuel surface. (AUT-SSD)

3.3.86 Flat Ceiling.

See 3.3.31.1.

3.3.87 Flexible Coupling.

A listed coupling or fitting that allows axial displacement, rotation, and at least 1 degree of angular movement of the pipe without inducing harm on the pipe. For pipe diameters of 8 in. (200 mm) and larger, the angular movement is permitted to be less than 1 degree but not less than 0.5 degree. (AUT-HBS)

3.3.88 Flow Hydrant.

See 3.3.112.2.

3.3.89 Flow Test.

A test performed by the flow and measurement of water from one hydrant and the static and residual pressures from an adjacent hydrant for the purpose of determining the available water supply at that location. [24, 2025] (AUT-PRI)

3.3.90 Flush Sprinkler.

See 3.3.223.3.2.

3.3.91 Flushing Test.

A test of a piping system using flowrates intended to remove debris from the piping system prior to it being placed in service. [24, 2025] (AUT-SSI)

3.3.92 * Four-Way Bracing.

Adjacent sway braces or a sway brace assembly intended to resist differential movement of the system piping in all horizontal directions. (AUT-HBS)

3.3.93 * Free-Flowing Plastic Materials.

Those plastics that fall out of their containers during a fire, fill flue spaces, and create a smothering effect on the fire. (AUT-SSD)

3.3.94 Fuel-Fired Heating Unit.

An appliance that produces heat by burning fuel. (AUT-SSI)

3.3.95 General Sprinkler Characteristics.

See 3.3.223.2.

3.3.96 Grade Plane.

A reference plane upon which vertical measurements of a building are based representing the average of the finished ground level adjoining the building at all exterior walls. [See also 3.3.222, *Finished Ground Level (Grade)*, of NFPA 5000.] [5000, 2024] (AUT-HBS)

3.3.97 Gridded Sprinkler System.

See 3.3.224.5.

3.3.98 Hanger.

A device or assembly used to support the gravity load of the system piping. (AUT-HBS)

3.3.99 Heat-Sensitive Material.

See 3.3.130.4.

3.3.100 Heel.

See 3.3.130.5.

3.3.101 Heel Angle.

See 3.3.130.6.

3.3.102 High Volume Low Speed Fan.

A ceiling fan that is approximately 6 ft (1.8 m) to 24 ft (7.3 m) in diameter with a rotational speed of approximately 30 to 70 revolutions per minute. (AUT-SSD)

3.3.103 High-Challenge Fire Hazard.

A fire hazard typical of that produced by fires in combustible high-piled storage. (AUT-SSD)

3.3.104 * High-Piled Storage.

Solid-piled, palletized, rack storage, bin box, and shelf storage of Class I through Class IV commodities more than 12 ft (3.7 m) in height and solid-piled, palletized, rack storage, bin box, and shelf storage of Group A plastic commodities more than 5 ft (1.5 m) in height. (AUT-SSD)

3.3.105 Horizontal Barrier.

A solid barrier in the horizontal position covering the rack at certain height increments to prevent vertical fire spread. (AUT-SSD)

3.3.106 Horizontal Ceiling.

See 3.3.31.2.

3.3.107 Horizontal Channel.

Any uninterrupted space in excess of 5 ft (1.5 m) in length between horizontal layers of stored tires. Such channels can be formed by pallets, shelving, racks, or other storage arrangements. (AUT-SSD)

3.3.108 Horizontal Force, F_{pw} .

The horizontal force due to seismic load acting on a sprinkler system at working stress levels. (AUT-HBS)

3.3.109 Horizontal Roll Paper Storage.

See 3.3.197.2.

3.3.110 Hose House.

An enclosure located over or adjacent to a hydrant or other water supply designed to contain the necessary hose nozzles, hose wrenches, gaskets, and spanners to be used in firefighting in conjunction with and to provide aid to the local fire department. [24, 2025] (AUT-PRI)

3.3.111 Hose Station.

A combination of a hose rack or reel, hose nozzle, hose, and hose connection. [14, 2024] (AUT-SSI)

3.3.112 Hydrant.

An exterior valved connection to a water supply system that provides hose connections. [24, 2025] (AUT-PRI)

3.3.112.1 Dry Barrel Hydrant (Frostproof Hydrant).

A type of hydrant with the main control valve below the frost line between the footpiece and the barrel. [24, 2025] (AUT-PRI)

3.3.112.2 Flow Hydrant.

The hydrant that is used for the flow and flow measurement of water during a flow test. [24, 2025] (AUT-PRI)

3.3.112.3 Private Fire Hydrant.

A valved connection on a water supply system having one or more outlets and that is used to supply hose and fire department pumpers with water on private property. [24, 2025] (AUT-PRI)

3.3.112.4 Public Hydrant.

A valved connection on a water supply system having one or more outlets and that is used to supply hose and fire department pumpers with water. [24, 2025] (AUT-PRI)

3.3.112.5 Residual Hydrant.

The hydrant that is used for measuring static and residual pressures during a flow test. [24, 2025] (AUT-PRI)

3.3.112.6 Wet Barrel Hydrant.

A type of hydrant that is intended for use where there is no danger of freezing weather, where each outlet is provided with a valve and an outlet. [24, 2025] (AUT-PRI)

3.3.113 Hydrant Butt.

The hose connection outlet of a hydrant. [24, 2025] (AUT-PRI)

3.3.114 Hydraulically Calculated Water Demand Flow Rate.

The waterflow rate for a system or hose stream that has been calculated using accepted engineering practices. [24, 2025] (AUT-PRI)

3.3.115 Hydraulically Designed System.

A calculated sprinkler system in which pipe sizes are selected on a pressure loss basis to provide a prescribed water density, in gallons per minute per square foot (mm/min), or a prescribed minimum discharge pressure or flow per sprinkler, distributed with a reasonable degree of uniformity over a specified area. (AUT-SSD)

3.3.116 Hydrostatic Test.

A test of a closed piping system and its attached appurtenances consisting of subjecting the piping to an increased internal pressure for a specified period of duration to verify system integrity and leak rates. [24, 2025] (AUT-PRI)

3.3.117 Indicating Valve.

See 3.3.243.4.

3.3.118 Installation Orientation.

See 3.3.223.3.

3.3.119 Institutional Sprinkler.

See 3.3.223.4.8.

3.3.120 Intermediate-Level Sprinkler/Rack Storage Sprinkler.

See 3.3.223.4.9.

3.3.121 International Shore Connection.

See 3.3.130.7.

3.3.122 Laced Tire Storage.

Tires stored where the sides of the tires overlap, creating a woven or laced appearance. [See Figure A.3.3.200(g).] (AUT-SSD)

3.3.123 Lateral Brace.

A sway brace intended to resist differential movement perpendicular to the axis of the system piping. (AUT-HBS)

3.3.124 Light Hazard.

See 3.3.148.3.

3.3.125 * Limited-Combustible Material.

See Section 4.9.

3.3.126 Longitudinal Brace.

A sway brace intended to resist differential movement parallel to the axis of the system piping. (AUT-HBS)

3.3.127 * Longitudinal Flue Space.

The space between rows of storage perpendicular to the direction of loading with a width not exceeding 24 in. (600 mm) between storage. (AUT-SSD)

3.3.128 Looped Sprinkler System.

See 3.3.224.6.

3.3.129 * Low-Piled Storage.

Solid-piled, palletized, rack storage, bin box, and shelf storage of Class I through Class IV commodities up to 12 ft (3.7 m) in height and solid-piled, palletized, rack storage, bin box, and shelf storage of Group A plastic commodities up to 5 ft (1.5 m) in height. (AUT-SSD)

3.3.130 Marine Definitions.

These definitions apply to Chapter 31 only. (AUT-SSI)

3.3.130.1 A-Class Boundary.

A boundary designed to resist the passage of smoke and flame for 1 hour when tested in accordance with ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or UL 263, *Fire Tests of Building Construction and Materials*. (AUT-SSI)

3.3.130.2 B-Class Boundary.

A boundary designed to resist the passage of flame for $\frac{1}{2}$ hour when tested in accordance with ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or UL 263, *Fire Tests of Building Construction and Materials*. (AUT-SSI)

3.3.130.3 Central Safety Station.

A continuously manned control station from which all of the fire control equipment is monitored. If this station is not the bridge, direct communication with the bridge must be provided by means other than the ship's service telephone. (AUT-SSI)

3.3.130.4 * Heat-Sensitive Material.

A material whose melting point is below 1700°F (927°C). (AUT-SSI)

3.3.130.5 Heel.

The inclination of a ship to one side. (AUT-SSI)

3.3.130.6 Heel Angle.

The angle defined by the intersection of a vertical line through the center of a vessel and a line perpendicular to the surface of the water. (AUT-SSI)

3.3.130.7 * International Shore Connection.

A universal connection to the vessel's fire main to which a shoreside firefighting water supply can be connected. (AUT-SSI)

3.3.130.8 * Marine System.

A sprinkler system installed on a ship, boat, or other floating structure that takes its supply from the water on which the vessel floats. (AUT-SSI)

3.3.130.9 * Marine Thermal Barrier.

An assembly that is constructed of noncombustible materials and made intact with the main structure of the vessel, such as shell, structural bulkheads, and decks; meets the requirements of a B-Class boundary; and is insulated such that, if tested in accordance with ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or UL 263, *Fire Tests of Building*

Construction and Materials, for 15 minutes, the average temperature of the unexposed side does not rise more than 250°F (139°C) above the original temperature, nor does the temperature at any one point, including any joint, rise more than 405°F (225°C) above the original temperature. (AUT-SSI)

3.3.130.10 Marine Water Supply.

The supply portion of the sprinkler system from the water pressure tank or the sea suction of the designated sprinkler system pump up to and including the valve that isolates the sprinkler system from these two water sources. (AUT-SSI)

3.3.130.11 Supervision.

A visual and audible alarm signal given at the central safety station to indicate when the system is in operation or when a condition that would impair the satisfactory operation of the system exists. Supervisory alarms must give a distinct indication for each individual system component that is monitored. (AUT-SSI)

3.3.130.12 Survival Angle.

The maximum angle to which a vessel is permitted to heel after the assumed damage required by stability regulations is imposed. (AUT-SSI)

3.3.130.13 Type 1 Stair.

A fully enclosed stair that serves all levels of a vessel in which persons can be employed. (AUT-SSI)

3.3.131 Marine System.

See 3.3.130.8.

3.3.132 Marine Thermal Barrier.

See 3.3.130.9.

3.3.133 Marine Water Supply.

See 3.3.130.10.

3.3.134 Mechanical Dry Pipe Valve.

See 3.3.243.5.2.

3.3.135 * Miscellaneous Storage.

Storage that does not exceed 12 ft (3.7 m) in height, is incidental to another occupancy use group, does not constitute more than 10 percent of the building area or 4000 ft² (370 m²) of the sprinklered area, whichever is greater, does not exceed 1000 ft² (93 m²) in one pile or area, and is separated from other storage areas by at least 25 ft (7.6 m). (AUT-SSD)

3.3.136 * Miscellaneous Tire Storage.

The storage of rubber tires that is incidental to the main use of the building; storage areas do not exceed 2000 ft² (185 m²), and on-tread storage piles, regardless of storage method, do not exceed 25 ft (7.6 m) in the direction of the wheel holes. Acceptable storage arrangements include (a) on-floor, on-side storage up to 12 ft (3.7 m) high; (b) on-floor, on-tread storage up to 5 ft (1.5 m) high; (c) double-row or multirow fixed or portable rack storage on-side or on-tread up to 5 ft (1.5 m) high; (d) single-row fixed or portable rack storage on-side or on-tread up to 12 ft (3.7 m) high; and (e) laced tires in racks up to 5 ft (1.5 m) in height. (AUT-SSD)

3.3.137 Movable Racks.

Racks on fixed rails or guides that can be moved back and forth only in a horizontal, two-dimensional plane. A moving aisle is created as abutting racks are either loaded or unloaded, then moved across the aisle to abut other racks. (AUT-SSD)

3.3.138 Multicycle System.

See 3.3.224.7.

3.3.139 Multiple-Row Racks.

Racks greater than 12 ft (3.7 m) in depth or single- or double-row racks separated by aisles less than 3.5 ft (1.1 m) wide having an overall width greater than 12 ft (3.7 m). (AUT-SSD)

3.3.140 Net Vertical Force.

The vertical reaction due to the angle of installation of sway braces on system piping resulting from earthquake motion. (AUT-HBS)

3.3.141 Noncombustible Material.

See Section 4.9.

3.3.142 Noncontinuous Obstruction.

See 3.3.147.2.

3.3.143 * Non-Flat Obstruction.

An obstruction where the underside of the obstruction is not in the same plane and not capable of collecting heat. (AUT-SSI)

3.3.144 * Non-Solid Obstruction.

An obstruction that consists of openings that constitute at least 30 percent of the footprint of the obstruction. (AUT-SSI)

3.3.145 Nozzle.

See 3.3.223.4.10.

3.3.146 Obstructed Construction.

See 3.3.46.1.

3.3.147 Obstruction.**3.3.147.1 Continuous Obstruction.**

An obstruction located at or below the level of sprinkler deflectors that affect the discharge pattern of two or more adjacent sprinklers. (AUT-SSI)

3.3.147.2 Noncontinuous Obstruction.

An obstruction at or below the level of the sprinkler deflector that affects the discharge pattern of a single sprinkler. (AUT-SSI)

3.3.148 Occupancies.**3.3.148.1 Extra Hazard (Group 1) (EH1).**

Occupancies or portions of other occupancies where the quantity and combustibility of contents are very high or dust, lint, or other materials are present, introducing the probability of rapidly developing fires with high rates of heat release but with little or no combustible or flammable liquids. (AUT-SSD)

3.3.148.2 Extra Hazard (Group 2) (EH2).

Occupancies or portions of other occupancies with moderate to substantial amounts of flammable or combustible liquids or occupancies where shielding of combustibles is extensive. (AUT-SSD)

3.3.148.3 Light Hazard.

Occupancies or portions of other occupancies where the quantity and/or combustibility of contents is low and fires with relatively low rates of heat release are expected. (AUT-SSD)

3.3.148.4 Ordinary Hazard (Group 1) (OH1).

Occupancies or portions of other occupancies where combustibility is low, quantity of combustibles is moderate, stockpiles of contents do not exceed 8 ft (2.4 m), and fires with moderate rates of heat release are expected. (AUT-SSD)

3.3.148.5 Ordinary Hazard (Group 2) (OH2).

Occupancies or portions of other occupancies where the quantity and combustibility of contents are moderate to high, stockpiles of contents with moderate rates of heat release do not exceed 12 ft (3.7 m), and stockpiles of contents with high rates of heat release do not exceed 8 ft (2.4 m). (AUT-SSD)

3.3.149 Old-Style/Conventional Sprinkler.

See 3.3.223.4.11.

3.3.150 On-Side Tire Storage.

Tires stored horizontally or flat. (AUT-SSD)

3.3.151 On-Tread Tire Storage.

Tires stored vertically or on their treads. (AUT-SSD)

3.3.152 Open Array (Palletized, Solid-Piled, Bin Box, and Shelf Storage).

See 3.3.10.3.

3.3.153 Open Array (Rolled Paper).

See 3.3.10.4.

3.3.154 Open Rack.

Racks without shelving or with shelving in racks that are fixed in place with shelves having a solid surface and a shelf area equal to or less than 20 ft² (1.9 m²) or with shelves having a wire mesh, slatted surface, or other material with openings representing at least 50 percent of the shelf area including the horizontal area of rack members and where the flue spaces are maintained. (AUT-SSD)

3.3.155 Open Sprinkler.

See 3.3.223.4.12.

3.3.156 * Open-Top Container.

A container of any shape that is entirely or partially open on the top and arranged so as to allow for the collection of discharging sprinkler water cascading through the storage array. (AUT-SSD)

3.3.157 Ordinary Hazard (Group 1) (OH1).

See 3.3.148.4.

3.3.158 Ordinary Hazard (Group 2) (OH2).

See 3.3.148.5.

3.3.159 Ornamental/Decorative Sprinkler.

See 3.3.223.4.13.

3.3.160 Packaging.

A commodity wrapping, cushioning, or container. (AUT-SSD)

3.3.161 Pallet.**3.3.161.1 * Conventional Pallet.**

A material-handling aid designed to support a unit load with openings to provide access for material-handling devices. (See Figure A.3.3.161.1.) (AUT-SSD)

3.3.161.2 Plastic Pallet.

A pallet having any portion of its construction consisting of a plastic material. (AUT-SSD)

3.3.161.3 * Reinforced Plastic Pallet.

A plastic pallet incorporating a secondary reinforcing material (such as steel or fiberglass) within the pallet. (AUT-SSD)

3.3.161.4 Slave Pallet.

A special pallet captive to a material-handling system. (See Figure A.3.3.161.1.) (AUT-SSD)

3.3.161.5 Wood Pallet.

A pallet constructed entirely of wood with metal fasteners. (AUT-SSD)

3.3.162 Palletized Storage.

Storage of commodities on pallets or other storage aids that form horizontal spaces between tiers of storage. (AUT-SSD)

3.3.163 Palletized Tire Storage.

Storage on portable racks of various types utilizing a conventional pallet as a base. (AUT-SSD)

3.3.164 Panel Construction.

Ceiling panels formed by members capable of trapping heat to aid the operation of sprinklers and limited to a maximum of 300 ft² (28 m²) in area. See A.3.3.46.1(4). (AUT-SSI)

3.3.165 Paper (General Term).

The term for all kinds of felted sheets made from natural fibrous materials, usually vegetable but sometimes mineral or animal, and formed on a fine wire screen from water suspension. (AUT-SSD)

3.3.166 Pendent Sprinkler.

See 3.3.223.3.3.

3.3.167 * Pile Stability, Stable Piles.

Those arrays where collapse, spillage of content, or leaning of stacks across flue spaces is not likely to occur soon after initial fire development. (AUT-SSD)

3.3.168 * Pile Stability, Unstable Piles.

Those arrays where collapse, spillage of contents, or leaning of stacks across flue spaces occurs soon after initial fire development. (AUT-SSD)

3.3.169 Pilot Line Detector.

See 3.3.223.4.14.

3.3.170 Pipe Schedule System.

See 3.3.224.8.

3.3.171 Plastic Pallet.

See 3.3.161.2.

3.3.172 Portable Racks.

Racks that are not fixed in place and can be arranged in any number of configurations. (AUT-SSD)

3.3.173 * Post-Installed Anchors.

A device used for fastening pipe to the building structure, installed in hardened concrete. (AUT-HBS)

3.3.174 Preaction Sprinkler System.

See 3.3.224.9.

3.3.175 Premixed Antifreeze Solution.

A mixture of an antifreeze material with water that is prepared and factory-mixed by the manufacturer with a quality control procedure in place that ensures that the antifreeze solution remains homogeneous and that the concentration is as specified. (AUT-SSI)

3.3.176 Pressure Regulating Device.

A device designed for the purpose of reducing, regulating, controlling, or restricting water pressure. [24, 2025] (AUT-PRI)

3.3.177 Private Fire Hydrant.

See 3.3.112.3.

3.3.178 * Private Fire Service Main.

Private fire service main, as used in this standard, is that pipe and its appurtenances on private property (1) between a source of water and the base of the system riser for water-based fire protection systems, (2) between a source of water and inlets to foam-making systems, (3) between a source of water and the base elbow of private hydrants or monitor nozzles, and (4) used as fire pump suction and discharge piping, (5) beginning at the inlet side of the check valve on a gravity or pressure tank. [24, 2025] (AUT-PRI)

3.3.179 * Prying Factor.

A factor based on fitting geometry and brace angle from vertical that results in an increase in tension load due to the effects of prying between the upper seismic brace attachment fitting and the structure. (AUT-HBS)

3.3.180 Public Hydrant.

See 3.3.112.4.

3.3.181 Pumper Outlet.

The hydrant outlet intended to be connected to a fire department pumper for use in taking supply from the hydrant for pumpers. [24, 2025] (AUT-PRI)

3.3.182 Pyramid Tire Storage.

On-floor storage in which tires are formed into a pyramid to provide pile stability. (AUT-SSD)

3.3.183 Qualified Personnel.

Competent and capable individual(s) having met the requirements and training for a given field acceptable to the AHJ. [25, 2023] (AUT-SSI)

3.3.184 Quick-Response Extended Coverage Sprinkler.

See 3.3.223.4.15.

3.3.185 Quick-Response (QR) Sprinkler.

See 3.3.223.4.16.

3.3.186 * Rack.

Any combination of vertical, horizontal, and diagonal members that supports stored materials. [1, 2024] (AUT-SSD)

3.3.187 Rack Shelf Area.

The area of the horizontal surface of a shelf in a rack defined by perimeter aisle(s) or nominal 6 in. (150 mm) flue spaces on all four sides, or by the placement of loads that block openings that would otherwise serve as the required flue spaces. (AUT-SSD)

3.3.188 Rated Capacity.

The flow available from a hydrant at the designated residual pressure (rated pressure) either measured or calculated. [24, 2025] (AUT-PRI)

3.3.189 * Raw Water Source.

A water supply that has not been treated and could contain foreign material that could enter the sprinkler system. (AUT-SSD)

3.3.190 Recessed Sprinkler.

See 3.3.223.3.4.

3.3.191 Reinforced Plastic Pallet.

See 3.3.161.3.

3.3.192 Residential Sprinkler.

See 3.3.223.4.17.

3.3.193 Residual Hydrant.

See 3.3.112.5.

3.3.194 Residual Pressure.

The pressure that exists in the distribution system, measured at the residual hydrant at the time the flow readings are taken at the flow hydrants. [24, 2025] (AUT-PRI)

3.3.195 Riser Nipple.

A vertical pipe between the cross main and branch line. (AUT-SSI)

3.3.196 Risers.

The vertical supply pipes in a sprinkler system. (AUT-SSI)

3.3.197 Roll Paper Storage.**3.3.197.1 Banded Roll Paper Storage.**

Rolls provided with a circumferential steel strap [$\frac{3}{8}$ in. (10 mm) or wider] at each end of the roll. (AUT-SSD)

3.3.197.2 Horizontal Roll Paper Storage.

Rolls stored with the cores in the horizontal plane (on-side storage). (AUT-SSD)

3.3.197.3 * Roll Paper Storage Height.

The maximum vertical distance above the floor at which roll paper is normally stored. (AUT-SSD)

3.3.197.4 Vertical Roll Paper Storage.

Rolls stored with the cores in the vertical plane (on-end storage). (AUT-SSD)

3.3.197.5 * *Wrapped Roll Paper Storage.*

Rolls provided with a complete heavy kraft covering around both sides and ends. (AUT-SSD)

3.3.198 Roll Paper Storage Height.

See 3.3.197.3.

3.3.199 Roof Height.

The distance between the floor and the underside of the roof deck within the storage area. (AUT-SSD)

3.3.200 * *Rubber Tire Rack Illustrations.*

See Figure A.3.3.200(a) through Figure A.3.3.200(g).

3.3.201 Rubber Tires.

Pneumatic tires for passenger automobiles, aircraft, light and heavy trucks, trailers, farm equipment, construction equipment (off-the-road), and buses. (AUT-SSD)

3.3.202 Seismic Coefficient, C_p .

The seismic coefficient that combines ground motion and seismic response factors from ASCE/SEI 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*. (AUT-HBS)

3.3.203 * *Seismic Separation Assembly.*

An assembly of fittings, pipe, flexible pipe, and/or couplings that permits movement in all directions to accommodate seismic differential movement across building seismic separation joints. (AUT-HBS)

3.3.204 * *Shadow Area.*

The floor area within the protection area of a sprinkler created by the portion of sprinkler discharge that is blocked by a wall, partition, or other obstruction. (AUT-SSI)

3.3.205 * *Shelf Storage.*

Storage on structures up to and including 30 in. (750 mm) deep and separated by aisles at least 30 in. (750 mm) wide. (AUT-SSD)

3.3.206 Shop-Welded.

Materials welded in a sprinkler contractor's or fabricator's premise or in an area specifically designed or authorized for welding, such as a detached outside location, maintenance shop, or other area. (AUT-SSI)

3.3.207 Sidewall Sprinkler.

See 3.3.223.3.5.

3.3.208 * *Single-Row Racks.*

Racks that have no longitudinal flue space and that have a depth up to 6 ft (1.8 m) with aisles having a width of at least 3.5 ft (1.1 m) between loads on racks. (AUT-SSD)

3.3.209 Site Class.

A classification assigned to a site based on the types of soils present and their engineering properties as defined in Chapter 20 of ASCE/SEI 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*. [ASCE/SEI 7:11.2] (AUT-HBS)

3.3.210 Slatted Shelf Rack.

A rack where shelves are fixed in place with a series of narrow individual solid supports used as the shelf material and spaced apart with regular openings. (AUT-SSD)

3.3.211 Slave Pallet.

See 3.3.161.4.

3.3.212 Sloped Ceiling.

See 3.3.31.3.

3.3.213 * *Small Openings.*

Openings in the ceiling or construction features of a concealed space that allow limited amounts of heat to enter the concealed space. (AUT-SSI)

3.3.214 Small Room.

A compartment of light hazard occupancy classification having unobstructed construction and a floor area not exceeding 800 ft² (74 m²). (AUT-SSI)

3.3.215 Smooth Ceiling.

See 3.3.31.4.

3.3.216 Solid Shelf Rack.

A rack that is not defined as an open rack where shelves are fixed in place with a solid, slatted, or wire mesh barrier used as the shelf material and having limited openings in the shelf area. (AUT-SSD)

3.3.217 * Solid Shelving.

Shelving that is fixed in place, slatted, wire mesh, or other type of shelves located within racks. The area of a solid shelf is defined by perimeter aisle or flue space on all four sides or by the placement of loads that block openings that would otherwise serve as the required flue spaces. Solid shelves having an area equal to or less than 20 ft² (1.9 m²) are defined as open racks. Shelves of wire mesh, slats, or other materials more than 50 percent open and where the flue spaces are maintained are defined as open racks. (AUT-SSD)

3.3.218 Solid Unit Load of Nonexpanded Plastic (Either Cartoned or Exposed).

A load that does not have voids (air) within the load and that burns only on the exterior of the load; water from sprinklers might reach most surfaces available to burn. (AUT-SSD)

3.3.219 Solid-Piled Storage.

Storage of commodities stacked on each other. (AUT-SSD)

3.3.220 Special Sprinkler.

See 3.3.223.4.18.

3.3.221 Spray Sprinkler.

See 3.3.223.4.19.

3.3.222 Sprig.

A pipe that rises vertically and supplies a single sprinkler. (AUT-SSI)

3.3.223 Sprinkler Definitions.

3.3.223.1 Automatic Sprinkler.

A fire suppression or control device that operates automatically when its heat-activated element is heated to its thermal rating or above, allowing water to discharge over a specified area. (AUT-SSI)

3.3.223.2 * General Sprinkler Characteristics.

The following are characteristics of a sprinkler that define its ability to control or extinguish a fire. (1) Thermal sensitivity. A measure of the rapidity with which the thermal element operates as installed in a specific sprinkler or sprinkler assembly. One measure of thermal sensitivity is the response time index (RTI) as measured under standardized test conditions. (a) Sprinklers defined as fast response have a thermal element with an RTI of 50 (meters-seconds)^{1/2} or less. (b) Sprinklers defined as standard response have a thermal element with an RTI of 80 (meters-seconds)^{1/2} or more. (2) Temperature rating. (3) K-factor (*see Chapter 7*). (4) Installation orientation (*see 3.3.223.3*). (5) Water distribution characteristics (i.e., application rate, wall wetting). (6) Special service conditions. (AUT-SSI)

3.3.223.3 Installation Orientation.

The following sprinklers are defined according to orientation. (AUT-SSI)

3.3.223.3.1 Concealed Sprinkler.

A recessed sprinkler with cover plate. (AUT-SSI)

3.3.223.3.2 Flush Sprinkler.

A sprinkler in which all or part of the body, including the shank thread, is mounted above the lower plane of the ceiling. (AUT-SSI)

3.3.223.3.3 Pendent Sprinkler.

A sprinkler designed to be installed in such a way that the water stream is directed downward against the deflector. (AUT-SSI)

3.3.223.3.4 Recessed Sprinkler.

A sprinkler in which all or part of the body, other than the shank thread, is mounted within a recessed housing. (AUT-SSI)

3.3.223.3.5 Sidewall Sprinkler.

A sprinkler having special deflectors that are designed to discharge most of the water away from the nearby wall in a pattern resembling one-quarter of a sphere, with a small portion of the discharge directed at the wall behind the sprinkler. (AUT-SSI)

3.3.223.3.6 Supplemental Sprinkler.

A sprinkler that is installed below an obstruction. (AUT-SSI)

3.3.223.3.7 Upright Sprinkler.

A sprinkler designed to be installed in such a way that the water spray is directed upwards against the deflector. (AUT-SSI)

3.3.223.4 Sprinkler Types.

The following sprinklers are defined according to design and/or performance characteristics. (AUT-SSI)

3.3.223.4.1 * Control Mode Density/Area (CMDA) Sprinkler.

A type of spray sprinkler intended to provide fire control in storage applications using the design density/area criteria described in this standard. (AUT-SSI)

3.3.223.4.2 * Control Mode Specific Application (CMSA) Sprinkler.

A type of spray sprinkler that is capable of producing characteristic large water droplets and that is listed for its capability to provide fire control of specific high-challenge fire hazards. (AUT-SSI)

3.3.223.4.3 Corrosion-Resistant Sprinkler.

A sprinkler fabricated with corrosion-resistant material, or with special coatings or platings, to be used in an atmosphere that would normally corrode sprinklers. (AUT-SSI)

3.3.223.4.4 * Dry Sprinkler.

A sprinkler secured in an extension nipple that has a seal at the inlet end to prevent water from entering the nipple until the sprinkler operates. (AUT-SSI)

3.3.223.4.5 * Early Suppression Fast-Response (ESFR) Sprinkler.

A type of fast-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)^{1/2} or less and is listed for its capability to provide fire suppression of specific high-challenge fire hazards. (AUT-SSI)

3.3.223.4.6 Electrically Operated Sprinkler.

A sprinkler equipped with an integral means of activation using electricity. (AUT-SSI)

3.3.223.4.7 Extended Coverage Sprinkler.

A type of spray sprinkler with maximum coverage areas as specified in Sections 11.2 and 11.3. (AUT-SSI)

3.3.223.4.8 Institutional Sprinkler.

A sprinkler specially designed for resistance to load-bearing purposes and with components not readily converted for use as weapons. (AUT-SSI)

3.3.223.4.9 Intermediate-Level Sprinkler/Rack Storage Sprinkler.

A sprinkler equipped with integral shields to protect its operating elements from the discharge of sprinklers installed at higher elevations. (AUT-SSI)

3.3.223.4.10 Nozzle.

A device for use in applications requiring special water discharge patterns, directional spray, or other unusual discharge characteristics. (AUT-SSI)

3.3.223.4.11 Old-Style/Conventional Sprinkler.

A sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent. (AUT-SSI)

3.3.223.4.12 Open Sprinkler.

A sprinkler that does not have actuators or heat-responsive elements. (AUT-SSI)

3.3.223.4.13 Ornamental/Decorative Sprinkler.

A sprinkler that has been painted or plated by the manufacturer. (AUT-SSI)

3.3.223.4.14 Pilot Line Detector.

A standard spray sprinkler or thermostatic fixed-temperature release device used as a detector to pneumatically or hydraulically release the main valve, controlling the flow of water into a fire protection system. (AUT-SSI)

3.3.223.4.15 Quick-Response Extended Coverage Sprinkler.

A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meter-seconds)^{1/2} or less and complies with the extended protection areas defined in Chapter 11. (AUT-SSI)

3.3.223.4.16 * Quick-Response (QR) Sprinkler.

A type of spray sprinkler that has a thermal element with an RTI of 50 (meter-seconds)^{1/2} or less and is listed as a quick-response sprinkler for its intended use. (AUT-SSI)

3.3.223.4.17 Residential Sprinkler.

A type of fast-response sprinkler having a thermal element with an RTI of 50 (meters-seconds)^{1/2} or less that has been specifically investigated for its ability to enhance survivability in the room of fire origin and that is listed for use in the protection of dwelling units. (AUT-SSI)

3.3.223.4.18 Special Sprinkler.

A sprinkler that has been tested and listed as prescribed in Section 15.2. (AUT-SSI)

3.3.223.4.19 Spray Sprinkler.

A type of sprinkler listed for its capability to provide fire control for a wide range of fire hazards. (AUT-SSI)

3.3.223.4.20 Standard Spray Sprinkler.

A spray sprinkler with maximum coverage areas as specified in Sections 10.2 and 10.3. (AUT-SSI)

3.3.224 * Sprinkler System.

A system that is commonly activated by heat from a fire and discharges water over the fire area, that consists of an integrated network of piping designed in accordance with fire protection engineering standards, and that includes a water supply source, a control valve, a waterflow alarm (where required), and a drain. The portion of the sprinkler system above ground is a network of specifically sized or hydraulically designed piping installed in a building, structure, or area, generally overhead, and to which sprinklers are attached in a systematic pattern. (AUT-SSI)

3.3.224.1 Antifreeze Sprinkler System.

A wet pipe system using automatic sprinklers that contains a liquid solution to prevent freezing of the system, intended to discharge the solution upon sprinkler operation, followed immediately by water from a water supply. (AUT-SSI)

3.3.224.2 Combined Dry Pipe Preaction Sprinkler System.

A sprinkler system employing automatic sprinklers attached to a piping system containing air under pressure with a supplemental detection system installed in the same areas as the sprinklers. Operation of the detection system actuates tripping devices that open dry pipe valves simultaneously and without loss of air pressure in the system. The detection system also serves as an automatic fire alarm system. (AUT-SSI)

3.3.224.3 Deluge Sprinkler System.

A sprinkler system employing open sprinklers or nozzles that are attached to a piping system that is connected to a water supply through a valve that is opened by the operation of a detection system installed in the same areas as the sprinklers or the nozzles. When this valve opens, water flows into the piping system and discharges from all sprinklers or nozzles attached thereto. (AUT-SSI)

3.3.224.4 Dry Pipe Sprinkler System.

A sprinkler system employing automatic sprinklers that are attached to a piping system containing air, nitrogen, or other approved gas under pressure, the release of which (as from the opening of a sprinkler) permits the water pressure to open a valve known as a dry pipe valve, and the water then flows into the piping system and out the opened sprinklers. (AUT-SSI)

3.3.224.5 * Gridded Sprinkler System.

A sprinkler system in which parallel cross mains are connected by multiple branch lines, causing an operating sprinkler to receive water from both ends of its branch line while other branch lines help transfer water between cross mains. (AUT-SSD)

3.3.224.6 * Looped Sprinkler System.

A sprinkler system in which multiple cross mains are tied together so as to provide more than one path for water to flow to an operating sprinkler and branch lines are not tied together. (AUT-SSD)

3.3.224.7 Multicycle System.

A type of sprinkler system capable of repeated on–off flow cycles in response to heat. (AUT-SSI)

3.3.224.8 Pipe Schedule System.

A sprinkler system in which the pipe sizing is selected from a schedule that is determined by the occupancy classification and in which a given number of sprinklers are allowed to be supplied from specific sizes of pipe. (AUT-SSD)

3.3.224.9 * Preaction Sprinkler System.

A sprinkler system employing automatic sprinklers that are attached to a piping system that contains air that might or might not be under pressure, with a supplemental detection system installed in the same areas as the sprinklers. (AUT-SSI)

3.3.224.10 Vacuum Dry System.

A sprinkler system employing automatic sprinklers that are attached to a piping system containing air under negative gauge pressure, the release of which (as from the opening of a sprinkler) permits the air pressure detection to open the water flow valve, and the water then flows into the piping system and out the opened sprinklers. (AUT-SSI)

3.3.224.11 Vacuum Preaction System.

A sprinkler system employing automatic sprinklers that are attached to a piping system containing air under negative gauge pressure, with a supplemental detection system installed in the same areas as the sprinklers. (AUT-SSI)

3.3.224.12 Wet Pipe Sprinkler System.

A sprinkler system employing automatic sprinklers attached to a piping system containing water and connected to a water supply so that water discharges immediately from sprinklers opened by heat from a fire. (AUT-SSI)

3.3.225 Sprinkler Types.

See 3.3.223.4.

3.3.226 Standard Array (Rolled Paper).

See 3.3.10.5.

3.3.227 Standard Spray Sprinkler.

See 3.3.223.4.20.

3.3.228 Static Pressure.

The pressure that exists at a given point under normal distribution system conditions measured at the residual hydrant with no hydrants flowing. [24, 2025] (AUT-PRI)

3.3.229 Storage Aids.

Commodity storage devices, such as pallets, dunnage, separators, and skids. (AUT-SSD)

3.3.230 Supervision.

See 3.3.130.11.

3.3.231 Supervisory Device.

A device arranged to supervise the operative condition of automatic sprinkler systems. (AUT-SSI)

3.3.232 Survival Angle.

See 3.3.130.12.

3.3.233 Sway Brace.

An assembly intended to be attached to the system piping to resist horizontal earthquake loads in two directions. (AUT-HBS)

3.3.234 System Riser.

The aboveground horizontal or vertical pipe between the water supply and the mains (cross or feed) that contains a control valve (either directly or within its supply pipe), a pressure gauge, a drain, and a waterflow alarm device. (AUT-SSI)

3.3.235 System Working Pressure.

The maximum anticipated static (nonflowing) or flowing pressure applied to sprinkler system components exclusive of surge pressures and exclusive of pressure from the fire department connection. (AUT-SSI)

3.3.236 Thermal Barrier.

A material that limits the average temperature rise of the unexposed surface to not more than 250°F (139°C) above ambient for a specified fire exposure duration using the standard time–temperature curve of ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or UL 263, *Fire Tests of Building Construction and Materials*. (AUT-SSI)

3.3.237 * Tiered Storage (Baled Cotton).

An arrangement in which bales are stored directly on the floor, two or more bales high. (AUT-SSD)

3.3.238 Transverse Flue Space.

The space between rows of storage parallel to the direction of loading. (See Figure A.3.3.127.) (AUT-SSD)

3.3.239 Type 1 Stair.

See 3.3.130.13.

3.3.240 Unit Load.

A pallet load or module held together in some manner and normally transported by material-handling equipment. (AUT-SSD)

3.3.241 Unobstructed Construction.

See 3.3.46.2.

3.3.242 Upright Sprinkler.

See 3.3.223.3.7.

3.3.243 Valve.

A device for controlling the passage of fluid or gas through a pipe.

3.3.243.1 Check Valve.

A valve that allows flow in one direction only. [24, 2025] (AUT-PRI)

3.3.243.2 * Automatic Breach Control Valve.

A hydraulic sensing device that detects abnormal water flow conditions and automatically isolates portions of a piping system when a catastrophic downstream breach or line break occurs. (AUT-SSI)

3.3.243.3 * Control Valve.

A valve capable of stopping the flow of water to water-based fire protection systems and devices. (AUT-SSI)

3.3.243.4 * Indicating Valve.

A valve that has components that provide the valve operating position, open or closed. [24, 2025] (AUT-PRI)

3.3.243.5 * Water Control Valve.

A valve that activates to allow water flow to a water-based fire protection system. (AUT-SSI)

3.3.243.5.1 Differential Dry Pipe Valve.

A water control valve that is held in the closed position by the system pneumatic pressure exposed to the surface area on the system side of the clapper where such surface area is larger than the surface area on the water supply side, with an intermediate chamber between the two surface areas that is open to atmosphere. (AUT-SSI)

3.3.243.5.2 Mechanical Dry Pipe Valve.

A water control valve that uses a series of mechanical devices such as levers, springs, diaphragms, and latches to hold the valve in the closed position with pneumatic pressure and without using the clapper surface areas to provide a differential between system pneumatic and water pressures. (AUT-SSI)

3.3.243.5.3 Deluge Valve.

A water control valve, used for deluge and preaction systems, that is held in the closed position by hydraulic pressure operating on a series of mechanical devices such as levers, pistons, springs, diaphragms, and latches, wherein the loss of hydraulic pressure due to automatic or manual operation of a releasing device or devices results in operation of the deluge valve. (AUT-SSI)

3.3.244 * Vapor Corrosion Inhibitor (VCI).

A chemical compound (substance) that emits rust-inhibiting vapor to protect ferrous and nonferrous metals against corrosion in air-filled dry pipe or preaction sprinkler systems. (AUT-SSI)

3.3.245 Vertical Roll Paper Storage.

See 3.3.197.4.

3.3.246 Water Control Valve.

See 3.3.243.5.

3.3.247 Waterflow Alarm Device.

An attachment to the sprinkler system that detects a predetermined water flow and is connected to a fire alarm system to initiate an alarm condition or is used to mechanically or electrically initiate a fire pump or local audible or visual alarm. (AUT-SSI)

3.3.248 Wet Barrel Hydrant.

See 3.3.112.6.

3.3.249 Wet Pipe Sprinkler System.

See 3.3.224.12.

3.3.250 Wood Pallet.

See 3.3.161.5.

3.3.251 Wrapped Roll Paper Storage.

See 3.3.197.5.