

SPRINKLER PROTECTION BASICS: PIPING SYSTEM AND MISCELLANEOUS NOMENCLATURE

UNDERGROUND (PIPING) - underground piping connects the system water supply to the system riser(s) located inside the building.

SYSTEM RISER - the vertical portion of the piping system which connects the underground piping to the bulk (or feed) mains which run overhead.

BULK (OR FEED) MAIN - the overhead piping which connects the system riser and the cross mains.

CROSS MAINS - overhead piping which supplies the branch lines.

RISER NIPPLE - most commonly, a small vertical piece of piping connecting the cross main and the branch line. The riser nipple is used to change the elevation of the branch line with respect to the cross main.

BRANCH LINE - the portion of the overhead piping which directly supplies the sprinklers or supplies drop nipples or sprigs.

DROP NIPPLE - a vertical piece of one inch piping which supplies pendent sprinklers located below the branch line.

SPRIG - a vertical piece of one inch piping which supplies an upright sprinkler located above the branch line.

SPRINKLER - a heat actuated water spray nozzle.

- **UPRIGHT SPRINKLER** is a sprinkler which is installed so that water is directed upwards at the sprinkler deflector.
- **PENDENT SPRINKLER** is a sprinkler which is installed so that water is directed downwards at the sprinkler deflector.
- **SIDEWALL SPRINKLER** is a sprinkler which is designed to be installed against a wall or other vertical surface and which sprays water in a direction perpendicular to the wall.

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MISCELLANEOUS NOMENCLATURE:

TREE SYSTEM - a piping system which consists of branch lines which are supplied with water from only one direction (i.e., a dead end piping system).

LOOPED SYSTEM - a piping system where cross mains are interconnected so that branch lines are supplied with water flowing from opposite directions within the cross main (i.e., the cross mains are “looped”).

GRIDDED SYSTEM - a piping system where there two or more cross mains which are interconnected by multiple branch lines so that sprinklers are supplied with water flowing from opposite directions within the branch lines.

PRIMARY CROSS MAIN - the cross main in a gridded piping system which is supplied directly by a feed (bulk) main.

SECONDARY CROSS MAIN - the cross main in a gridded piping system which is only supplied from branch lines. The secondary cross main is not supplied directly by a feed (bulk) main.

INTERMEDIATE CROSS MAIN - the cross main in a gridded piping system which is located between the primary cross main and the secondary cross main. Typically, gridded systems are only provided with a primary cross main and a secondary cross main, hence, most gridded systems will not be provided with an intermediate cross main.

VERTICAL SIDEWALL SPRINKLER - a sidewall sprinkler installed with the frame of the sprinkler parallel to the wall. A vertical sidewall may be mounted in either the upright or pendent position.

HORIZONTAL SIDEWALL SPRINKLER - a sidewall sprinkler installed with the frame of the sprinkler parallel to the ceiling.

CEILING SPRINKLER - special decorative sprinklers which intended to be installed in areas provided with suspended ceilings. There are three types of ceiling sprinklers- “flush” sprinklers, “recessed” sprinklers and “concealed” sprinklers.

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MISCELLANEOUS NOMENCLATURE:

FLUSH SPRINKLER - a pendent sprinkler designed such that the sprinkler deflector is located above the ceiling and only the operating mechanism of the sprinkler projects below the ceiling. When the activating mechanism of the sprinkler operates, the deflector of the sprinkler drops down below the ceiling.

RECESSED SPRINKLER - a pendent sprinkler installed in a two-piece adjustable escutcheon (canopy) which conceals a part of the frame of the sprinkler. The pipe fitting in which the sprinkler is screwed into is located above the ceiling. Recessed sprinklers are also referred to as “semi-recessed” sprinklers.

CONCEALED SPRINKLER - a sprinkler which is entirely located above the ceiling and is covered by a decorative plate connected to the sprinkler by solder. When the plate is heated, the solder connecting the plate and the sprinkler melts and the plate falls off the ceiling exposing the sprinkler located above the plate.

INTERMEDIATE-LEVEL SPRINKLER - a sprinkler which is intended to be utilized in locations where the sprinkler may be wetted by the operation of sprinklers located above. Intermediate-level sprinklers are utilized where multiple levels of in-rack sprinklers are provided and where sprinklers are installed under intermediate floor levels constructed with “grated” floors.

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