

**Article 4. Thatched Material on Exterior of Building--
Protection Against Exposure Fires**

Sections:

- 16-4.1 Applicability.**
- 16-4.2 Fire-extinguishing systems.**
- 16-4.3 Sprinkler requirements.**
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Sec. 16-4.1 Applicability.

- (a) Thatched material on the exterior of buildings shall be permitted only upon buildings located in areas zoned for resort use which primarily service the tourist trade when approved by the building official.
- (b) The thatched material permitted in this article shall be used for decorative purposes on the roof or wall of buildings. The building, independent of the thatched material, shall comply with all applicable provisions of this chapter.
- (c) When thatched material is used as permitted in this article, and an appropriate permit is obtained therefor in accordance with Article 1 of this chapter, outside sprinklers for protection against exposure fires shall be required as hereinafter provided.

(Sec. 16-4.1, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 90-57)

Sec. 16-4.2 Fire-extinguishing systems.

- (a) General. Thatched materials used on the roof of a building shall be protected by manually operated sprinkler heads, with adequate water supply, pipe size and sprinkler head spacing in accordance with sprinkler system requirements set forth in this article.
- (b) Thatched materials used on the wall of a building shall be protected by manually operated outside sprinklers. Size and spacing of sprinklers and pipe size shall be in accordance with Chapter 6 of NFPA 13, Outside Sprinklers for Protection Against Exposure Fires, of the National Fire Codes of the National Fire Protection Association. Controls shall be as set forth in this article.

(Sec. 16-4.2, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 90-57)

Sec. 16-4.3 Sprinkler requirements.

- (a) General. Sprinklers shall be located at the high point of the roof. Upright or pendant sprinklers shall be used for gable roofs. Sidewall sprinklers shall be used for shed roofs.
- (b) Spacing of Sprinklers. The maximum width of roof with one row of sprinklers shall be as follows:

Roof Slope	Orifice Size	Width of Roof
1:3 or greater	3/8"	15'
1:3 or greater	1/2"	20'
1:3 or greater	17/32"	25'
Less than 1:3	3/8"	10'
Less than 1:3	1/2"	15'
Less than 1:3	17/32"	20'

Maximum spacing of sprinklers on branch lines (along ridge) shall be as follows: three-eighths-inch orifice -- six feet; one-half-inch orifice -- eight feet; 17/32-inch orifice -- 10 feet.

Conical roofs may be protected with one sprinkler at the apex if the diameter of the roof does not exceed the width of roof referred to above.

Where the width of a roof exceeds the width allowed for one row of sprinklers, as provided in the table above, two or more rows of sprinklers shall be required. The rows of sprinklers shall be placed such that the entire roof area is protected.

- (c) Areas Protected.

- (1) Each area (zone) of thatched material that is separated from another thatched area by an open space of 20 feet or more or by noncombustible construction of 20 feet or more shall be considered a separate area

- (zone).
- (2) Risers to each separate zone shall not be less than that shown in subsection (e) of this section, except as modified as follows:
- (A) More than one zone may be protected by one valve, if the supply is adequate.
- (B) If one area (zone) is larger than can be protected with the existing supply, the zones can be subdivided into subzones if the following criteria are met: An area of at least 800 square feet is protected by a subzone control valve; there is at least a 10 percent overlap in coverage of adjoining subzones; and operation of the manual control valves will automatically transmit an alarm to the fire department.
- (d) **Water Supply.** The sprinkler system shall have a separate connection to the water main in the street, to an approved automatic fire-extinguishing system supply line, to a wet standpipe supply line, or to a domestic supply of adequate size. The water supply required shall be determined from either of the following:
- (1) Flow per sprinkler for the largest zone, with residual pressure at the highest sprinkler at 15 pounds per square inch with all heads operating, shall be as follows:

Orifice Size	Gallons Per Minute
3/8"	15
1/2"	20
17/32"	25

- (2) The flow shall be hydraulically calculated so as to discharge at least 0.11 gallons per minute per square foot of surface area to be sprinklered.
- (e) **Riser And Pipe Size.** Pipe sizes shall be determined from the flow as calculated above. However, no pipe less than one inch in size shall be used. The following table may be used in conjunction with this flow calculation for the selection of pipe or riser sizes.

Orifice Size	Pipe or Riser Size							
	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
	No. of Sprinklers							
3/8"	3	4	7	11	21	37	40	40
1/2"	2	3	5	8	15	27	40	40
17/32"	1	2	4	6	11	19	30	38

- (f) **Number of Sprinklers Served.** The number of sprinklers on a branch line shall not exceed six. Center feed shall be used for six or more sprinklers. The number of sprinklers under control of each control valve shall not exceed 40. At the location of each valve, there shall be a drain connection and a one-fourth-inch valve outlet test connection to accommodate a pressure gauge.
- (g) **Material Installed Above Grade.**
- (1) Piping shall be galvanized steel schedule 40 with galvanized malleable iron fittings or hard drawn copper with silver solder fittings. Pipes shall be securely fastened to the structure.
- (2) Valves shall be the manual type approved and listed by the Underwriters' Laboratories or by other approved testing agencies. Valves shall be installed outdoors and so located as to be readily accessible in case of fire. Signs indicating the use of valves shall be conspicuously posted.
- (h) **Local Alarm.** Any one system with 20 or more sprinklers under control of one valve shall be complemented with a local fire alarm, either electrically or mechanically operated.

(Sec. 16-4.3, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 90-57, 97-16)

Sec. 16-4.4 Violation--Penalty.

For violation and penalty provisions, see Article 10 of this chapter. (Sec. 16-4.4, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 90-57)