

**Table 8.3: Installation and Spacing of Spot Type Smoke Detection**

ITEMS	REQUIREMENTS
<b>1. INSTALLATION AND SPACING OF SPOT TYPE SMOKE DETECTORS</b>	<b><u>3. UNDER RAISED FLOORS</u></b> <ul style="list-style-type: none"> <li>i. Under raised floors having void height of 300 cm or more, or with cable runs and service piping and cuts shall be provided with smoke detection system.</li> <li>ii. To minimize dust contamination, smoke detectors, where installed under raised floors, shall be mounted only in an orientation for which they have been listed.</li> <li>iii. Spaces beneath raised floors and above suspended ceilings shall be treated as separate rooms for smoke detector spacing purposes. Detectors installed beneath raised floors or above suspended ceilings, or both, including raised floors and suspended ceilings used for environmental air, shall not be used in lieu of providing detection within the room. Spacing shall be as per Smooth Ceiling requirements.</li> </ul>
	<b><u>4. CEILINGS WITH SOLID JOISTS AND BEAM CONSTRUCTION</u></b> <ul style="list-style-type: none"> <li>i. Solid joists shall be considered equivalent to beams for smoke detector spacing guidelines.</li> <li>ii. For ceilings with beam pockets formed by intersecting beams including waffle or pan type ceilings, of depths of less than 10% of ceiling or ceilings with beam depths of less than 10% of the ceiling height (<math>0.1 H</math>), smooth ceiling spacing shall be permitted. Spot-type smoke detectors shall be permitted to be located on ceilings or on the bottom of beams.</li> <li>iii. For ceilings with beam pockets formed by intersecting beams including waffle or pan type ceilings, of depths of equal to/more than 10% of ceiling height or ceilings with beam depths equal to or greater than 10% of the ceiling height (<math>0.1 H</math>), the following shall apply: <ul style="list-style-type: none"> <li>a. Where beam spacing is equal to or greater than 40 percent of the ceiling height (<math>0.4 H</math>), spot-type detectors shall be located on the ceiling in each beam pocket.</li> <li>b. Where beam spacing is less than 40 percent of the ceiling height (<math>0.4 H</math>), the following shall be permitted for spot detectors: <ol style="list-style-type: none"> <li>1. Smooth ceiling spacing in the direction parallel to the beams and at one-half smooth ceiling spacing in the direction perpendicular to the beams.</li> <li>2. Location of detectors either on the ceiling or on the bottom of the beams.</li> </ol> </li> </ul> </li> <li>iv. For corridors 4.6 m in width or less having ceiling beams or solid joists perpendicular to the corridor length, the following shall apply: a. Smooth ceiling spacing shall be permitted. b. Location of spot-type smoke detectors on ceilings, sidewalls, or the bottom of beams or solid joists.</li> <li>v. For rooms of <math>84 \text{ m}^2</math> or less, the following shall be permitted: <ul style="list-style-type: none"> <li>a. Use of smooth ceiling spacing</li> <li>b. Location of spot-type smoke detectors on ceilings or on the bottom of beams.</li> </ul> </li> </ul>