



# IBC SPRINKLER CHEATSHEET (2018, 2021, 2024)

## MEYERFIRE AUGUST 2025

	Where	Max Fire Area	Max Occ.	Other Requirement(s)	Basis	Changes
<b>By Occupancy</b>						
A: All	S <sup>1</sup>	-	300 +	· Where an occupied roof has assembly occupancy over 300 (or 100 for Group A-2) <sup>2</sup>	903.2.1.6	
A: All	B <sup>3</sup>	-	300 +	· Where multiple A-1, A-2, A-3, or A-4 Areas share exit access and the combined occupant load is 300 or more	903.2.1.7	
A: Smoke-Protected Seating	A <sup>4</sup>	-	-	· Where area is used as smoke-protected seating	1029.6.2.3	
A-1	S <sup>1</sup>	12,000 ft <sup>2</sup>	300 +	· Where A-1 Area is on a floor other than level of exit discharge, or · Contains multi-theater complex	903.2.1.1	
A-2	S <sup>1</sup>	5,000 ft <sup>2</sup>	100 +	· Where A-2 is located on a floor other than a level of exit discharge · Where an occupied roof has assembly occupancy over 100	903.2.1.2 903.2.1.6	
A-3	S <sup>1</sup>	12,000 ft <sup>2</sup>	300 +	· Where A-3 is located on a floor other than a level of exit discharge	903.2.1.3	
A-4	S <sup>1</sup>	12,000 ft <sup>2</sup>	300 +	· Where A-4 is located on a floor other than a level of exit discharge	903.2.1.4	
A-5	O <sup>5</sup>	1,000 ft <sup>2</sup>	-	· Space under grandstands required if over 1,000 sqft or is not constructed in accordance with 1029.1.1.1.	903.2.1.5	
B: Ambulatory Care	F <sup>6</sup>	-	-	· 4 + incapable of self-preservation, or · 1 + incapable of self-preservation that is not on the level of exit discharge	903.2.2	
E	B <sup>3</sup>	12,000 ft <sup>2</sup>	300 +	· If E area is located on floor other than level of discharge <sup>7</sup>		
F-1	B <sup>3</sup>	2,500 ft <sup>2</sup> (upholstered furniture / mattresses) <sup>8</sup> 12,000 ft <sup>2</sup> (single) 24,000 ft <sup>2</sup> (combined F-1)	-	· If Group F-1 is: (1) more than 3 stories above grade plane, (2) is used to manufacture lithium-ion or lithium metal batteries <sup>9</sup> , or (3) is used to manufacture vehicles, ESS or equipment containing lithium-ion or lithium metal batteries <sup>9</sup> · Throughout all F-1 fire areas: (1) containing wood-working operations > 2,500 ft <sup>2</sup> that generate finely divided combustible waste or material, (2) used for manufacturing of distilled spirits <sup>10</sup> , and (3) > 2,500 ft <sup>2</sup> used for the manufacture of upholstered furniture or mattresses <sup>11</sup>	903.2.4 903.2.4.1 903.2.4.2 903.2.4.3	2021 2024

<sup>1</sup> S: System Required on floor containing occupancy, level of exit discharge, and all floors in-between

<sup>2</sup> Except Type I or Type II Open Parking Garages, per 903.2.1.6

<sup>3</sup> B: System Required Throughout Building

<sup>4</sup> A: System Required Throughout Enclosed Areas, except floor area where roof is more than 50 feet above floor level, press boxes less than 1,000 sqft, and outdoor seating where means of egress in seating area are essentially open to the outside

<sup>5</sup> O: System Required Throughout all enclosed A-5 accessory use areas in excess of 1,000 sqft

<sup>6</sup> F: System Required Throughout Entire Floor containing the occupancy

<sup>7</sup> Except sprinklers are not required on the level below classrooms if every classroom has an exterior exit at ground level

<sup>8</sup> Requirement revised in 2021. See footnote 11

<sup>9</sup> New in IBC 2024

<sup>10</sup> New in IBC 2021

<sup>11</sup> Revised in IBC 2021. Sprinklers now only required in the F-1 fire area



H	O <sup>12</sup>	0 ft <sup>2</sup>	-	· Throughout any high-hazard occupancy · Provided where nitrate film or pyroxylin plastics are manufactured, stored, or handled above 100 lbs	903.2.5.1 903.2.5.3	
H-5	B <sup>3</sup>	0 ft <sup>2</sup>	-	· Throughout buildings containing H-5 Occupancy	903.2.5.2	
I	B <sup>3</sup>	0 ft <sup>2</sup>	-	· Throughout buildings with Group I <sup>13</sup>	903.2.6	
I-2	-	-	-	· Through any smoke compartment with sleeping room · Where more than 3 stories above grade plane	407.7	
M	B <sup>3</sup>	5,000 ft <sup>2</sup> (upholstered furniture / mattresses) <sup>14</sup> 12,000 ft <sup>2</sup> (single) 24,000 ft <sup>2</sup> (combined)	-	· Where storage of merchandise is in high-piled or rack storage array · Throughout all M fire areas > 5,000 ft <sup>2</sup> used for the display and sale of upholstered furniture or mattresses <sup>15</sup> · Rooms or spaces as required for storage of lithium-ion or lithium metal batteries <sup>16</sup>	903.2.7 903.2.7.1 903.2.7.2	2021 2024
R	B <sup>3</sup>	0 ft <sup>2</sup>	-	· Throughout all buildings with Group R fire area	903.2.8	
S-1	B <sup>3</sup>	2,500 ft <sup>2</sup> (upholstered furniture / mattresses) <sup>17</sup> 5,000 ft <sup>2</sup> (commercial motor vehicles) 12,000 ft <sup>2</sup> (single area) 24,000 ft <sup>2</sup> (combined) 500 ft <sup>2</sup> (lithium-ion, lithium metal powered vehicles) <sup>18</sup>	-	· Where located more than 3 stories above grade plane · Throughout all S-1 fire areas: (1) used for the bulk storage of distilled spirits or wine <sup>19</sup> , and (2) > 2,500 ft <sup>2</sup> used for the storage of upholstered furniture or mattresses <sup>20</sup>	903.2.9 903.2.9.4	2021 2024
S-1 Repair Garage	B <sup>3</sup>	0 ft <sup>2</sup> (if in basement) 5,000 ft <sup>2</sup> (comm. repair) 10,000 ft <sup>2</sup> (2+ story) 12,000 ft <sup>2</sup> (1 story) 500 ft <sup>2</sup> (lithium-ion, lithium metal powered vehicles) <sup>18</sup>	-	Two or more stories above grade plane with fire area containing repair garage over 10,000 ft <sup>2</sup>	903.2.9.1	2024
S-1 Tire Storage	B <sup>3</sup>	20,000 cubic ft	-	-	903.2.9.2	
S-2 Parking Garages	B <sup>3</sup>	12,000 ft <sup>2</sup> (enclosed) 48,000 ft <sup>2</sup> (open) <sup>19</sup> 5,000 ft <sup>2</sup> (commercial)	-	· Where located beneath other groups (except R-3) · Mechanical-access enclosed parking garage. <sup>21</sup>	903.2.10	2021

<sup>12</sup> O: System Required Throughout the Occupancy

<sup>13</sup> Except where I-4 care are at level of exit discharge and where every room has at least one exterior door, per 903.2.6. For I-4 day care areas on a level other than exit discharge, sprinkler systems are only required on the I-4 floor, exit discharge floor, all floors in-between, and all floors below the discharge level.

<sup>14</sup> Requirement revised in 2021. See footnote 15

<sup>15</sup> Revised in IBC 2021. Sprinklers now only required in the M fire area

<sup>16</sup> Refer to IFC Section 320 and Chapter 32 for threshold requirements

<sup>17</sup> Requirement revised in 2021. See footnote 20

<sup>18</sup> New requirement in IBC 2024.

<sup>19</sup> New requirement in IBC 2021.

<sup>20</sup> Revised in IBC 2021. Sprinklers now only required in the S-1 fire area. Except self-storage facilities not greater than 1 story above grade place where all storage spaces access directly from exterior.

<sup>21</sup> New requirement in IBC 2021. The portion of the building that contains the mechanical-access enclosed parking garage shall be protected with a specially engineered automatic sprinkler system.



Other					
Aircraft Hangers	B <sup>3</sup>	-	-	· Designed under NFPA 409 based on classification	412.3.6
Atriums	B <sup>3</sup>	-	-	· Throughout entire building, except where atrium is separated per 707, or 711, or in atrium where atrium is 55 ft or taller	404.3
Commercial Cooking	Hood	-	-	· Installed where sprinkler system is used to comply with IBC Section 904.	903.2.11.5
Drying Rooms	-	-	-	· In any high-hazard drying room	417.4
Energy Storage Systems <sup>22</sup>	-	-	-	· Installed in areas with energy storage systems as required by IFC 1207.	903.2 2024
Hazardous Duct Exhaust	Duct	-	-	· Where required by IMC for ducts conveying hazardous exhaust or flammable/combustible materials, except where duct is under 10-inches.	903.2.11.4
High-rise	B <sup>3</sup>	-	-	· Installed throughout high-rise buildings	403.3
Lab Suites	-	-	-	· Throughout Higher-Ed laboratory suites	428.3.9
Laboratories	-	-	-	· Throughout fire areas utilized for the research and development or testing of lithium-ion or lithium metal batteries <sup>22</sup>	903.2.2.2 2024
Live/Work Units	-	-	-	· Throughout the unit	419.5
Mall	B <sup>3</sup>	-	-	· Installed throughout covered and open mall buildings	402.5
Play Structures	-	-	-	· Play structures shall be provided the same level of approved fire suppression required for other structures in the same occupancy <sup>23</sup>	424.3 2021
Special Amusement	B <sup>3</sup>	1,000 ft <sup>2</sup>	-	· Throughout, except when < 1,000 ft <sup>2</sup> and exit access travel distance is < 50 feet	411.4
Spray Booths	-	-	-	· In all spray rooms and spray booths	416.5
Stages	T <sup>24</sup>	-	-	· See footnote <sup>24</sup>	410.6
Stories w/o Openings	B <sup>3</sup>	1,500 ft <sup>2</sup>	-	· See 903.2.11.1 for minimum opening dimension & access	903.2.11.1
Tall Buildings	B <sup>3</sup>	-	-	· Where 1+ stories with occupant load of 30+ with finished floor ≥ 55-ft above lowest level of FD access, except open parking structures and occupancies in Group F-2	903.2.11.3
Traffic Control	B <sup>3</sup>	-	-	· Occupied floor level over 35 ft above FD vehicle access	412.2.4
Trash/Linen Chutes	Chute	-	-	· Where trash and linen chutes are provided: required at top of chute, in rooms, and alternate floors. See ref.	903.2.11.2
Underground Structures	S <sup>1</sup>	-	-	· Where floor level is > 30-ft below finished floor of the lowest level of exit discharge	405.3

Inclusion of sprinkler systems may also be mandated by insurance companies, local code ordinances, or preferred by the building owner.

Where applicable, see the International Fire Code Table 903.2.11.6 for additional required fire protection applications. These include energy storage systems<sup>23</sup>, dry cleaning, fuel-dispensing areas, dip tanks, HPM facilities, lumber production, recycling facilities, ovens, storage of flammable and combustible liquids, gas rooms, exhaust enclosures, hazardous materials, aerosol product warehouses, medical gas storage, propellant storage, toxic gases, and pyroxylin plastics.

Aside from many documented life-safety and building protection benefits for fire sprinkler systems, their inclusion can also offer the following code benefits: Increased Allowable Building Height, Increased Allowable Number of Stories, Increased Allowable Building Area, Egress Width & Exit Discharge Decreases, Travel Distance Increases, Rating Reductions for Separated Occupancies, Rating Reductions for Fire Partitions, Rating Reductions for Corridor Walls, Rating Reductions for Incidental Uses, Draftstopping Reductions, Removal of Manual Pull Stations, Hazardous Material Storage Increases, Atrium Use Allowances, Unlimited Area Buildings, Allowable Area of Openings, Vertical Separation of Openings, Interior Finish Reductions, and Floor Finish Reductions

<sup>22</sup> New requirement in IBC 2024.

<sup>23</sup> New requirement in IBC 2021.

<sup>24</sup> T: Required under roof, gridiron, catwalks, and galleries over the stage, in dressing rooms, performer lounges, shops, and storerooms accessory to stages. Exceptions for short separated stages, small stages, or portable orchestra enclosures. See 410.6.

