

NFPA 13 density / area curves

NFPA 13

Design density and area of operation by hazard group for NFPA 13 control-mode systems (density/area method).

Reference table

Hazard group	Density (gpm/ft²)	Density (mm/min)	Area (ft²)	Area (m²)
Light	0.1	4.1	1500	139
Ordinary 1	0.15	6.1	1500	139
Ordinary 2	0.2	8.2	1500	139
Extra 1	0.3	12.2	2500	232
Extra 2	0.4	16.3	2500	232

Notes

- Area reduces by 40% for ESFR and CMSA systems with quick-response heads (per NFPA 13 §11.2.3.2).
- Hose stream allowance: 100 gpm (LH), 250 gpm (OH), 500 gpm (EH).

Source: NFPA 13 (2022) Figure 19.2.3.1.1 + Chapter 19.