

REMOTE AREA CHEATSHEET

A quick-reference guide for remote area adjustments and minimum width under the Density/Area Method of Hydraulic Calculations in NFPA 13. This is not a cumulative document; refer to NFPA 13 for all the requirements. Originally posted March 2022 at MeyerFire.com. For more fire protection resources visit meyerfire.com/subscribe.

¹QUICK-RESPONSE REDUCTION:

The quick-response area reduction is a benefit for the earlier activation of quick-response sprinklers during a fire. Use the maximum ceiling height for this reduction. The quick-response reduction is only allowed for:

- Wet-pipe systems
- Light or Ordinary Hazard occupancies
- No unprotected ceiling pockets over 32 sqft
- No unprotected areas above cloud ceilings
- Maximum Ceiling Height of 20-ft

²MINIMUM REMOTE AREA WIDTH:

The minimum width of a remote area is determined by the formula $w = 1.2VA$, where w is the minimum required width of the remote area (in feet) and A is the remote area (in square feet). Any fractional sprinkler is required to round up to the next higher whole number. See NFPA 13 Section 22.4.4.1.1 (2007-2010 Editions), 23.4.4.1.1 (2013), 23.4.4.2 (2016), or 27.2.4.2 (2019), or 28.2.4.2 (2022).

³SLOPE, DRY-PIPE, AND D.I. PRE-ACTION SYSTEMS:

Sloped (over 2 in 12), dry-pipe, and double-interlock pre-action systems require an area increase of 30%. These adjustments are cumulative. See NFPA 13 Section 11.2.3.2 (2002-2016 Editions), or Section 19.3.3.2 (2019), or 19.2.3.2 (2022).

ORIGINAL SIZE	DRY/DI PRE-ACTION	SLOPED
sqft	(x 1.3) sqft	(x 1.3 ²) sqft
1,500	1,950	2,535
2,000	2,600	3,380
2,500	3,250	4,225
3,000	3,900	5,070
3,500	4,550	5,915
4,000	5,200	6,760
4,500	5,850	7,605
5,000	6,500	8,450

⁴HIGH-TEMPERATURE & COMBUSTIBLE-SPACES

Other adjustments, such as use of high-temperature sprinklers or combustible concealed spaces may affect remote area adjustment and minimum sizes. See NFPA 13 for detail.

	REDUCTIONS & MULTIPLIERS	REMOTE AREA SIZE (SQFT)	MIN. REMOTE AREA WIDTH (FT) ²
QUICK-RESPONSE REDUCTION ¹	10-ft ceiling (QR)	900	36.0
	11-ft ceiling (QR)	923	36.4
	12-ft ceiling (QR)	945	36.9
	13-ft ceiling (QR)	968	37.3
	14-ft ceiling (QR)	990	37.8
	15-ft ceiling (QR)	1,013	38.2
	16-ft ceiling (QR)	1,035	38.6
	17-ft ceiling (QR)	1,058	39.0
	18-ft ceiling (QR)	1,080	39.4
	19-ft ceiling (QR)	1,103	39.8
20-ft ceiling (QR)	1,125	40.2	
QUICK-RESPONSE + SLOPE	10-ft ceiling (QR + SLOPE)	1,170	41.0
	11-ft ceiling (QR + SLOPE)	1,199	41.6
	12-ft ceiling (QR + SLOPE)	1,229	42.1
	13-ft ceiling (QR + SLOPE)	1,258	42.6
	14-ft ceiling (QR + SLOPE)	1,287	43.0
	15-ft ceiling (QR + SLOPE)	1,316	43.5
	16-ft ceiling (QR + SLOPE)	1,346	44.0
	17-ft ceiling (QR + SLOPE)	1,375	44.5
	18-ft ceiling (QR + SLOPE)	1,404	45.0
	19-ft ceiling (QR + SLOPE)	1,433	45.4
20-ft ceiling (QR + SLOPE)	1,463	45.9	
		1,500	46.5
SLOPED ³ / DRY ³ / DOUBLE-INTERLOCK PRE-ACTION ³ / STORAGE ⁴	(1,500 x 1.3)	1,950	53.0
		2,000	53.7
		2,500	60.0
	(1,500 x 1.3 ²)	2,535	60.4
	(2,000 x 1.3)	2,600	61.2
		3,000	65.7
	(2,500 x 1.3)	3,250	68.4
	(2,000 x 1.3 ²)	3,380	69.8
		3,500	71.0
	(3,000 x 1.3)	3,900	74.9
		4,000	75.9
	(2,500 x 1.3 ²)	4,225	78.0
		4,500	80.5
	(3,500 x 1.3)	4,550	80.9
		5,000	84.9
	(3,000 x 1.3 ²)	5,070	85.4
	(4,000 x 1.3)	5,200	86.5
		5,500	89.0
	(4,500 x 1.3)	5,850	91.8
	(3,500 x 1.3 ²)	5,915	92.3
	6,000	93.0	
(5,000 x 1.3)	6,500	96.7	
	(4,000 x 1.3 ²)	6,760	98.7
	(4,500 x 1.3 ²)	7,605	104.6
	(5,000 x 1.3 ²)	8,450	110.3