

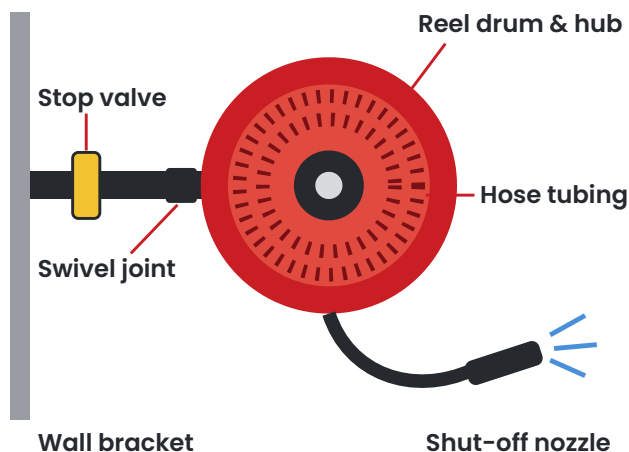


Fire Hose Reel Systems

Hose Reel Quick Guide

IS 884 (1985) · BS EN 671-1 (2012) / 671-3 · NBC 2016 Part 4 (India)
www.fireandsmokesystems.com

1 What a Hose Reel Is Made Of · IS 884 cl. 2.1 · EN 671-1



- **Hub, two side plates, swivel joint, pipe with fittings, wall bracket, hose tubing, shut-off nozzle and stop valve** (IS 884)
- **Type A:** swinging wall-mounted reel (needs a swivel to swing 180°). **Type B:** horizontal reel for fire engines
- Hose tubing: rubber (IS 444) or thermoplastic (IS 12585). EN 671-1 calls for **semi-rigid** hose (EN 694)
- Ferrous parts of IS 884 reels: epoxy-polyester powder coat $\geq 50 \mu\text{m}$ in **fire red** (IS 5 shade 536/538)
- EN 671-1: reel coloured **red**; drum $\geq 200 \text{ mm } \varnothing$ for 19/25 mm hose, $\geq 280 \text{ mm } \varnothing$ for 33 mm

2 Flow, Pressure & Throw · EN 671-1 Tables 1-2 · IS 884 cl. 5

Nozzle $\varnothing$ mm	Min. flow at 0.2 MPa (2 bar)	at 0.4 MPa	at 0.6 MPa	K
4	12 L/min	18	22	9
5	18 L/min	26	31	13
6	24 L/min	34	41	17
8	39 L/min	56	68	28
10	59 L/min	84	102	42

$Q = K\sqrt{(10P)}$, Q in L/min, P in MPa (EN 671-1 Table 1, extract)

$\geq 10 \text{ m}$
Jet throw

$\geq 6 \text{ m}$
Sheet spray

$\geq 3 \text{ m}$
Conical spray

Effective throw at 0.2 MPa (EN 671-1 cl. 4.2.3)

IS 884 PERFORMANCE TESTS

- Leak-free at **10 bar** max. working pressure
- Hydrostatic test **21 kgf/cm²** for 5 min (Amd. 1)
- Jet range $\geq 6 \text{ m}$ at 7 bar inlet, nozzle 1 m above floor

3 Hose Size & Ratings · EN 671-1 cl. 4.2.1 · 4.4.3 · Table 2 · NBC 2016

Hose bore	Max. working pressure	Test pressure	Min. burst pressure	Hose length
19 mm	1.2 MPa (12 bar)	1.8 MPa	3.0 MPa	One piece, $\leq 30 \text{ m}$
25 mm	1.2 MPa (12 bar)	1.8 MPa	3.0 MPa	
33 mm	0.7 MPa (7 bar)	1.05 MPa	1.75 MPa	

NBC 2016 India: first-aid hose reel bore **not less than 19 mm**, connected **directly to the riser/down-comer main**, and built to IS 884.

4 Location & Coverage · NBC 2016 Part 4 cl. 5.1.1 · BS 5306-1

- Where Table 7 calls for them, provide first-aid hose reels on **all floors, in addition to** the wet riser or down-comer
- Put hydrants and hose reels in the **firefighting shaft lobby**. Cabinets near an exit stair go **within 5 m** of the exit door
- Cabinet door marked **FIRE HOSE CABINET** in letters 75 mm high; locations shown on floor plans
- Put reels at each floor, **next to exits** on escape routes (BS 5306-1)
- The nozzle must reach every room and come **within 6 m of every part** of it, allowing for obstructions
- Commissioning: run the **two highest and most remote reels together** and measure the flow

Inspection & Maintenance · EN 671-3

- **Routine checks** by the responsible person: reel accessible, hose undamaged, valve and nozzle in place
- **Annual** inspection and maintenance by a **competent person**: full run-out, flow and pressure check, leaks, corrosion
- **Every 5 years**: pressurise every hose to its maximum working pressure
- Record each visit and fix a service label to the reel

COMMON DEFICIENCIES

- Reel blocked by storage or furniture
- Stop valve shut, or main supply valve not secured open
- Kinked, cracked or perished hose; missing nozzle
- Hose left pressurised or not drained before rewinding
- No operating instructions or signage at the reel