LODHA Acme Housing Manpada

Acme Ozone Sales Gallary

Contract Ref: 4630027497
Material Approval Submittal
MAS No: 1

Contractor: G Engineers
To LODHA Group:

Date: 02.03.2022

Discipline ☐ Architectural ☐ Structural ☐ HVAC ☐ Electrical ☐ Plumbing ☐ Facade Others - **Fire Fighting**

MATERIAL DETAILS (One Item Only Per Form)
Item description :- Concealed Sprinkler & Side Wall Sprinkler

Name of material :- Concealed Sprinkler & Side Wall Sprinkler

Remarks ☐ As per specifications ☐ Alternate submission

- Attach all relevant technical literature marked to identify relevant descriptions, current test certificate, samples etc.
- Highlight any element of contractual non-compliance in this submittal

Drawing Ref: -	**Planned Date for applicable submittal for: -**	**Date:**
Specification Ref: - **15 mm dia.**	1. O & M Manual	
BOQ Ref: - **1.5 & 1.6**	2. Training Manual	
Indian/International Standards Ref: - **UL Listed**	3. Specified /recommended spare parts	
	4. Warranties and Guarantees	

Manufacturer / Supplier
Company Name: - **Newage Fire Protection Industries Ltd**
Address: **04, Champaklal Industrial Estate, Sion (E), Mumbai, Maharashtra 400022**

Local Agent:

Locally Manufactured :
Production Period :
Delivery Ex-works :
Total Delivery Time :
Total Delivery Time :

Programme: -
Date required on Site: -
Expected date of arrival on Site: -

For G ENGINEERS
Proprietor
Contractor's Authorized Signature

LODHA Engineer's Comments ☐ sign ☐ Mgmt (Civil). Con ☐ gmt (MEP) Con. M ☐ nt (Facade) QA/QC ☐

Name/ Signature/ Date	Name/ Signature/ Date	Name/ Signature/ Date	Name/ Signature/ Date	Name/ Signature/ Date
QE	CM	Commercial/Contracts	Store	Co-Ordination

Consultant's Comments.

Name/ Signature/ Date	Name/ Signature/ Date
Architect	RCC Consultant

Status	Code 1	Code 2	Code 3	Code 4
	Work may proceed	Conditionally approved. Work may proceed and resubmit incorporating comments indicated	Revise & Resubmit. Work may not proceed	For information and records only. Work may proceed.

Vice President **Date: -**

CC: VP (QA/QC), VP (Purchase)

Code 1 – Work may proceed
Code 2 – Conditionally approved. Work may proceed and resubmit incorporating comments
Code 3 – Revise & Resubmit. Work may not proceed
Code 4 – For information and records only. Work may proceed

RECEIVED ON
NAME :
DATE :
SIGN. :

Concealed Pendent Sprinklers

STANDARD SPRAY, STANDARD / QUICK RESPONSE, 5 / 3 mm BULB TYPE, K80 (5.6) , 1/2" CONNECTING THREAD





c UL us LISTED

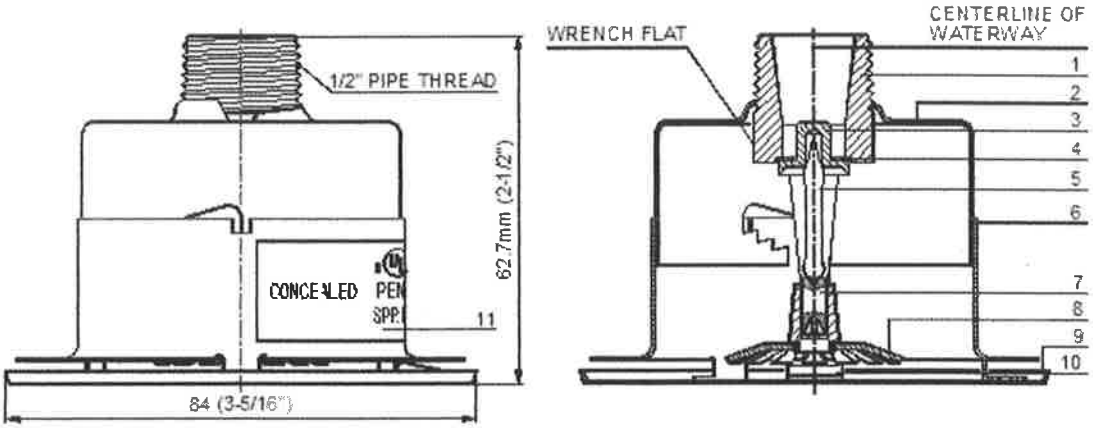
General description

The Standard/Quick Response Concealed Pendent Sprinklers (Ref. Figure A) are automatic sprinklers of the frangible bulb type. They are "standard/quick response – standard orifice spray sprinkler" intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on NFPA 13 requirements). The Concealed Pendent Sprinklers all produce a hemispherical water distribution pattern below the deflector.

This model sprinkler includes a Cover Plate Assembly that conceals the sprinkler operating components above the ceiling. The Cover Plate Assembly, which installs onto the Sprinkler/ Mounting Cup Assembly, consists of a Cover Plate that is soldered to an Enclosure at three equidistant locations around their peripheries. The Ejection Spring is located between the flange of the Enclosure and the Cover Plate, to ensure separation of the two pieces when the solder melts.
A Label located on the Cover Plate Assembly indicates the nominal temperature of the sprinkler and the nominal diameter of the Glass Bulb.

The small Cover Plate is flat with a low profile that blends in with the ceiling for an aesthetically pleasing appearance. Standard finishes for the Cover Plate are satin chrome plated and painted white. Other factory applied painted finishes for the Cover Plate is available on special order.

The separable two-piece design of the Cover Plate and Mounting Cup Assemblies allows installation of the sprinklers and pressure testing of the fire protection system prior to installation of a suspended ceiling or application of the finish coating to a fixed ceiling. The separable design also permits removal of suspended ceiling panels for access to building service equipment, without having to first shut down the fire protection system and remove sprinklers.
Also, the separable two- piece design of the Concealed Sprinkler provides for 1/6 inch (4.2mm) of vertical adjustment, to reduce the accuracy to which the length of fixed pipe drops to the sprinklers must be cut.



1. FRAME 2.MOUNTING CUP 3.BUTTON 4.SPRING SEAL 5.GLASS BULB 6.ENCLOSURE
7.SET SCREW 8.DEFLECTOR 9.COVER PLATE 10.EJECTION SPRING 11.LABEL

FIGURE A : CONCEALED PENDENT SPRINKLER

Sprinkler operation

During a fire conditions, the sufficient ambient temperature will fuse the solder between the Cover Plate and the Enclosure. The Cover Plate will fall away from the Enclosure, to expose the Sprinkler for operation. Then the thermal-sensitive liquid in the Sprinkler's Glass Bulb expands, causing the Bulb to shatter, releasing the Button and Spring Seal Assembly. Water flowing through the sprinkler orifice strikes the Sprinkler Deflector, forming a uniform spray pattern to extinguish or control the fire.

Coverage

For coverage area and sprinkler placement, refer to NFPA13 standards.

Technical specifications

Style	Concealed Pendent	
Response & Bulb Nominal Dia.	Standard Response, Ø5mm	Quick Response, Ø3mm
Thread Size [Optional]	NPT1/2 or R1/2	
Nominal Orifice Size	1/2 Inch	
Nominal K-Factor	5.6 (U.S.) / 80 (metric)	
Max. Working Pressure	175 psig / 1.2 MPa (12 bar)	
Factory Hydrostatic Test	100% @ 500psig (3.4 MPa)	
Min. Operating Pressure	7 psig / 0.048 MPa (0.48 bar)	
Sprinkler Finish [Optional]	Natural Brass or Chrome Plated	
Cover Plate Finish	Painted White or Chrome Plated or Colour Coated In Any Colour	
Listings and Approvals [2]	UL(United States).	

Available temperature rating

Temp. Classification	Ordinary	Ordinary
Nominal Temp. Rating	155°F / 57°C	155°F / 68°C
Max. Ambient Temp. Allowed	135°F / 57°C	135°F / 57°C
Max. Recommended Ambient Temp.	100°F / 38°C	100°F / 38°C
Glass Bulb Colour	Orange	Red

Footnotes:

[1] The pipe thread connections accord with ISO7/1.

[2] This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.

[3] UL and ULC Listed for both Light-Hazard and Ordinary-Hazard occupancies.

[4] Based on NFPA 13. Other limits may apply depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

[5] The temperature rating is stamped on the deflector or adjacent to orifice seat on frame.

Sprinkler materials

Frame	Bronze Forging UNS-C87400
Deflector	Brass UNS-28000
Set Screw	Brass UNS-28000
Button	Brass UNS-28000
Glass Bulb	Glass with Glycerin Solution, DI® G5 for NI072 DI® F3 for NI082
Spring	Stainless Steel
Seal	Teflon® Tape
Mounting Cup	Low Carbon Sheet Steel UNS-G10080
Enclosure	Brass UNS-C28000
Cover Plate	Brass UNS-C28000
Ejection Spring	Stainless Steel UNS-S30452
Label	Mylar (Sticky-back)

ACCESSORIES

Installation Wrench	
Type	T-1

Discharge coefficient

Concealed Pendent Sprinklers are rated for use at a maximum service pressure of 175 psig (12 bar). The nominal discharge curve plotted in Figure B represents the flow "Q" in GPM (LPM) as determined by the following formula:

$$Q = K(P)^{0.5}$$

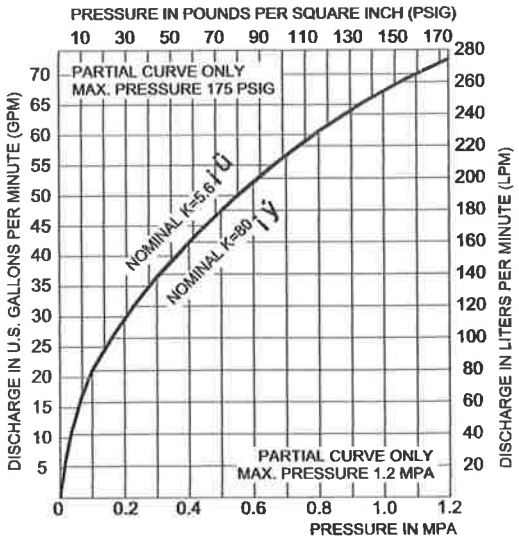
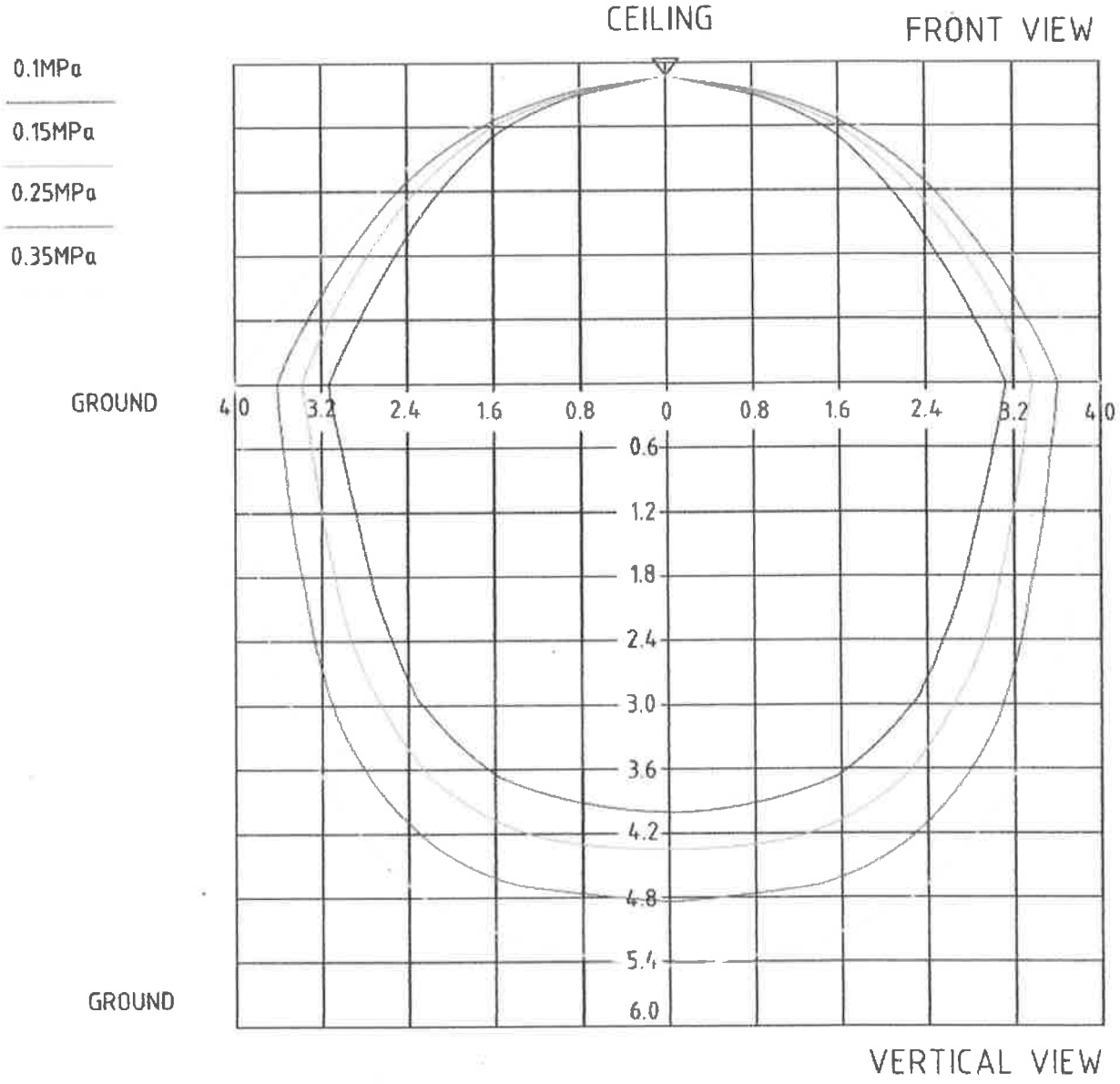


FIGURE B : NOMINAL DISCHARGE CURVE

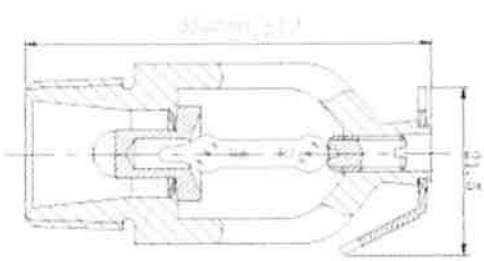
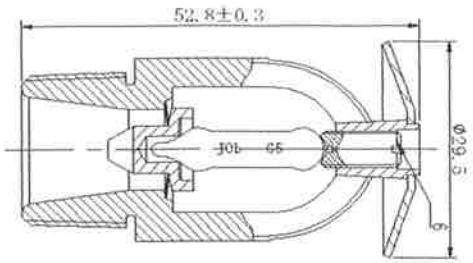
Q — Flow, GPM (LPM)
K — Discharge Coefficient, *K*=5.6 (80)
P — Discharge Pressure, psig (bar)

Listing standards permit the actual value of "K" to vary from 5.3 to 5.8 (76,4 to 83,6); however, for hydraulic calculations, a K-factor of 5.6 (80,7) is to be applied.



HORIZONTAL SIDEWALL SPRINKLER DISTRIBUTION

Head Office :-
4, Champaklal Kalyan Bhawan
Sion (East), Mumbai - 400 022
Tel. : + 91 22 2402 7421 / 4851 1502
Email : info@newagefireprotection.com
Web site : www.newagefireprotection.com

	
Horizontal Sidewall	**Conventional**

The sprinklers which are manufactured and tested in accordance with the rigid requirements of the Standard UL 199, also should be installed in accordance with the current Standard NFPA13.

The system piping must be properly sized to insure the minimum required flow rate at the sprinkler. Check for the proper model, style, orifice size and temperature rating prior to installation, install sprinkler after the piping is in place to avoid mechanical damage, replace any damage units, wet pipe systems must be protected from freezing.

Upon completion of the installation, the system must be tested per recognized standard. In case of a thread leak, remove the unit, apply new pipe joint compound or tape and re-install.

INSTALLATION

a. Pendent sprinkler must be mounted in a pendent position, and upright sprinkler must be mounted in upright position, the C U/P sprinkler may be mounted both in upright and pendent position, the horizontal sidewall sprinkler is install at horizontal position, to suit for field condition.

b. Hand tighten the sprinkler into the sprinkler fitting. It is recommended that a torque of 7 ~14 ft-lbs be used to obtain a thread 1/2 inch NPT Sprinkler joint. A radial force of 10 – 20 lbs.

c. For using only a non-hardening pipe joint compound or Teflon tape apply to the male thread only.

d. Hand tighten the sprinkler into fitting, use a 22mm open spanner or 8" (200mm) adjustable wrench on flat to tighten the unit into the fitting, do not use spanner on the frame arms, for it will cause the arms break and glass bulb burst.

8. SPRINKLER SYSTEM

i. General Specification

The scope of work shall include supply, commissioning, testing of the system as a whole. The System shall conform to NFPA13,CFO&TAC rules for the installation of sprinkler systems in respect of design, density and spacing of sprinkler heads.

The pipes shall be galvanized mild steel ERW conforming to the requirements of IS:1239 heavy class "C" up to 150mm dia and conforming to IS:3589 for pipe sizes above 150mm diameter shall be of minimum 6 mm thick . The Galvanizing shall conform to IS:4736. The Zinc coating shall be uniform, adherent, reasonably smooth and free from imperfections such as flux, ash and drops inclusions, bare patches, black spots, pimples, lumpiness, runs, rust stains, bulky white deposits and blisters. For further pipe details, fittings , supporting refer section 1 of this document.

Reduction in pipe sizes shall not be made by use of bushings. All piping shall be done by means of welding, screwed & flanged jointing as per codes.

Duecare shall be taken that sprinklers are not applied with paint at the time of applying paint to piping and fittings.

All control, drain, test and alarm valves shall be provided with signs to identify their purposes, functions, direction of flow the satisfaction of the Consultants.

ii. Quartzoid Bulb Automatic Sprinkler

Sprinkler heads shall be of gunmetal quartzoid bulb type containing liquid having high vapor pressure held in position by forged GM yoke and deflector.

Sprinkler heads shall be provided at appropriate spacing to cover 12 sqm per sprinkler for ordinary hazard and 21sqm per sprinkler for Light hazard areas except upright for which it shall be 9 sq.mt complying to NFPA-13/TAC/CFO. Side wall sprinkler coverage for light hazard shall be 17 sq.mt

Sprinkler heads shall be sufficiently strong, in compression to withstand any pressure, surge or hammer likely to occur in the system. The yoke & body shall be made of high quality gun metal brass with arms streamlined to ensure minimum interference with the spread of water. The deflector of suitable design shall be fitted to give even distribution of water over the area commanded by the sprinkler.

The bulb shall contain a liquid having a freezing point below any natural climatic figure and a high coefficient of expansion. The temperature rating of the sprinkler shall be stamped on the deflector & the colour of the liquid filled in the bulb shall be according to the temperature rating as per NFPA standard. The sprinkler heads shall be of type & quality approved by the local fire brigade authority. The inlet shall be screwed.

Spacing's shall be in conformity with the drawings and properly co-coordinated with electrical fixtures and air-conditioning ducts, diffusers and grills and other ceiling services.

Detailed shop drawings for sprinkler system shall be prepared by Contractor and submitted to Owner/ Architect/ Employer's Representative for approval before starting the work.

Temperature rating of sprinkler heads shall be 68 °C for conditioned areas and 79 °C for non-conditioned areas or as specifically mentioned. Sprinkler K-factor 80 for light hazard and K - factor 115 for ordinary hazard. The temperature rating of sprinkler should not be less than 30 °C greater than the highest anticipated zone temperature.

SR. No.	ITEM DESCRIPTION	HSN/SAC Code	UNIT	QTY	RATE	AMOUNT
1.4	FIRE FIGHTING SPRINKLER & HOSE REEL SYSTEM INSTALLATION, (CONT'D) Include for the complete supply, installation, Testing & Commissioning as detailed in the specifications and on the Drawings and to the complete satisfaction and approval of the Engineer/Client and all concerned Statutory Authorities and under the following sections. To be read in conjuction with the drawings no: FP-002 Standard response sprinkler head including fittings, fixtures, accessories, etc., complete Side wall type sprinkler- 68 Deg C	995468	NOS	10,000	410,00	4.100,00
1.5	Side wall type sprinkler- 79 Deg C	995468	NOS	1,000	460,00	460,00
1.6	Concealed type sprinklers- 68 Deg C	995468	NOS	45,000	770,00	34.650,00
1.7	Side wall type sprinkler- 68 Deg C	995468	NOS	2,000	170,00	340,00
1.8	Side wall type sprinkler- 79 Deg C	995468	NOS	1,000	200,00	200,00
1.9	PENDANT type sprinklers- 68 Deg C	995468	NOS	2,000	170,00	340,00
1.10	Pendent type sprinklers- 79 Deg C	995468	NOS	1,000	200,00	200,00
1.11	Concealed type sprinklers- 68 Deg C	995468	NOS	5,000	575,00	2.875,00

27	R.R.L. Hose IS:636 (Type-A) (marked) TAC	-CRC -Newage -Omex -Indian Rayon
28	Fire Extinguisher	-Safex -Newage -Firex -Safeguard
29	Anti vibration Mounting	- Dunlop -Easyflex -Resistoflex
30	Hose Cabinet (with Door)	-Safex -Newage -Superex -Minimax
31	Pressure Switch	-Danfoss -Honeywell -Switzer Instrument Co/Indfos
32	Sprinkler (UL/FM)	-HD-Globe -Tyco -Newage
33	Nozzle/ Curtain Nozzle (UL/FM)	-Viking -Newage -Tyco -Globe
34	Sprinkler SS flexible pipe	-Kanwal Industrial Corporation -Newage -HD -Safex
35	Expansion Bellows	-Easyflex -Flexionics -Resistoflex -System flex
36	Pressure Vessel	-Challenger -Nema -Aventura -Zilmet
37	Water Flow Switch	-Danfoss -Rapid control -Spray safe -System sensor
38	Water Flow Switch (UL/FM)	-System Sensor -Firelite -Globe vision -Notifier
39	Installation Control Valve - LPC / UL / FM / TAC marked	-HD-Newage -Kidde -Gem -Tyco