

Sub.: SOP for Installation of fire fighting system (FFS) and fire alarm system (FAS) for housing projects.

Keywords: FFS, FAS, fire, alarm, sprinklers, extinguishers.

1. As per terms of sanction the fire safety equipment has to be installed for projects with flats. Basic norms for buildings upto 30 mts height are the same. Details of installation of equipment are given herein. However, details of installation of sprinklers has not been specified here.
2. Fire safety equipment is of five types:
 - a. Down comer
 - b. Sprinkler system in basements
 - c. Fire alarm
 - d. Fire extinguishers
 - e. Fire static tank and sump
3. Down comer:
 - a. A down comer consists of 4" B class MS pipe running from the parking floor to the overhead fire static tank. At the fire static tank two butterfly valves and one non-return valve must be provided along with a booster pump of 12.5 HP capacity. Immediately after the booster pump provide a ½" valve on a branch line for connecting the pressure gauge. Also provide a air release valve. The booster pump can be connected to several down comers.
 - b. The down comer should have a provision for a 30 mtr hose reel and a 15 mtr 63 mm dia CP hose on each floor including parking floors. The hose reel should be connected on a branch using a 1" Zoloto valve. Similarly, the 63 mm CP hose must be connected on a branch of about 1 ft, using a 3" B class MS pipe connected to a 3" SS hydrant valve. The CP hose must be enclosed in a hose box along with a 63 mm SS branch pipe connected to one end. On the stilt floor provide a 4 way 100 mm fire brigade inlet.
 - c. An automatic control panel for starting the booster pump must be installed in the electrical panel room, connected to the power mains through a generator back-up. Connect the control panel to the booster pump using 3 core 2.5 mm copper armored cable. A pressure switch connected to the down comer must provide a feed back to the control panel. Use a similar size cable. The panel should be configured such that whenever the pressures drops to less than 7.5 kgs/cm² in the down comer the booster pump must switch on. As such whenever a valve is opened on the down comer the booster pump must switch on. Cabling should be done through a 2" PVC pipe neatly fastened with base-saddle. The pump must be on 24x7.

4. Sprinkler system in basements:

- a. A sprinkler system to be provided in the basement which is connected to the down comer. It consists of MS piping and sprinklers. One sprinkler has to be provided for each car parking and along the passages. The sprinkler system is attached to the down comer using B class MS pipes from 3/4" to 4" in size. Design for the sprinkler system must be made by consultant.

5. Fire alarm:

- a. It consists of a fire alarm control panel (use six zone panel for stilt + 5 floor buildings), hooters and manual call points. The system can be connected using good quality two pair telephone cables. The fire alarm panel should be placed in the electrical panel room. Manual call points with hooters should be provided on all floors including parking floors. Manual call points should be installed at a height of 6 ft and hooters above 7 ft. In general a set of hooters and call points should be provided for every down comer, a few feet away from the down comer. Ensure that the cabling is neatly done using a 1" PVC pipe appropriately fastened using base – saddle. The panel should have a battery back-up.

6. Fire extinguishers:

- a. Fire extinguishers are primarily of 3 types:
 - i. Dry type fire extinguisher – ABC – 6kgs – SKU FIRE7790- also referred to as powder type – use for electrical installation
 - ii. Dry type fire extinguisher – CO2 – 4.5 or 6kgs – SKU FIRE6733 – rarely use.
 - iii. Wet type fire extinguisher – 9ltrs – SKU FIRE 2009 – most often used.
- b. Use wet type 9 ltrs fire extinguisher at most places. Use ABC/dry type fire extinguisher near electrical installations. CO2 fire extinguishers to be used only at select places – to be determined by MEP.
- c. Guideline for usage /installation:
 - i. At transformer, each security kiosk, near generator, inside and outside panel room, outside lift machine room/top floor of machine room less lifts, ground floor of lift lobby – one ABC fire extinguisher to be installed. They may be installed at other places where electrical equipment are installed. Sites under construction – installation at security kiosk, electrical transformer and generator is mandatory.
 - ii. In staircase landings – install one ABC/dry type fire extinguishers in each landing.
 - iii. CO2 extinguishers may be sparingly used as per advice of MEP team.
 - iv. Total no. of fire extinguishers must be more than or equal to the number provided in the approved fire plan.
 - v. These extinguishers must be fixed at a height of 4ft from FFL.
- d. Along with fire extinguishers provide 3 nos fire buckets filled with sand on the stilt floor attached to a suitable stand.

7. Fire static tank and sump:
 - a. One 25,000 ltr overhead fire static tank should be provided to each block and one 25,000 ltr underground sump should be provided for each project. The borewater connection to the OHT/sump must be connected through the fire static tank.
 - b. However, these sizes must be matched with approved fire plans.
8. The bill of quantities along with indicative price and brand is enclosed herein. Items can be purchased and labour contract can be given for installation. Separate labour contract can be given for fire alarm to our electrical contractor.
9. Guideline rates for labour charges.
 - a. Installation of booster pump and down comer on terrace floor including fabrication, erection, painting and commissioning – Rs. 30,000/-
 - b. Installation of down comer – parking floors + 5 floors including fabrication, erection, painting and commissioning – Rs. 30,000/-
 - c. Installation of down comer – upper floors including fabrication, erection, painting and commissioning – Rs. 8,000/- per floor.
 - d. Installation of sprinkler system – basement floors including fabrication, erection, painting and commissioning – Rs. 1,000/- per sprinkler.
 - e. Payment terms: advance 20% with WO. Balance 65% in 4 to 6 weekly installments payable on progress of work. 15% on commissioning.
10. Mr. Mathur shall provide consultancy and drawings. He shall also help obtain NOC from fire department.
11. Specifications:
 - a. Painting: MS pipes, fire buckets, etc., should be painted with 2 coats primer and 2 coats red enamel.
 - b. Butterfly valve: Wafer type cast iron with all necessary mating flanges, nuts & bolts and 3 mm thick rubber gasket. Sandwich type, lever operated and bi-directional.
 - c. Air release valve: Gun metal single ball type with threaded male inlet.
 - d. CP Hose: 63 mm dia with medium duty end couplings (gun metal or SS) bound with 16 SWG GI wire.
 - e. Branch pipes: 63 mm dia short pipe with nozzle of 16 mm dia bore (gun metal or SS).
 - f. Hose reel: swinging wall mounted type with 16 mm internal dia. Isolation valve, screw type 25 mm dia.
 - g. Fire brigade inlet: Gun metal or SS instantaneous inlet male coupling. Header of mild steel.
 - h. Booster pump: 900 LPM at 35 meters head, mono block 12.5 HP 2900 RPM, 3 phase.
 - i. Non-return valve: Wafer type cast iron single plate sandwich type with flanges, nut bolts, 3 mm rubber gasket.

- j. Pressure gauge: Bourdens type, 0 to 10.5 kg/cm range bottom entry direct mounting, weather proof with over range protection with snudber /siphon tune and cork valve.
 - k. Pressure switch: Industrial pressure switch model, adjustable internals, 10-215 PSI range, single hold double through, die-cast aluminum alloy enclosure weather proof.
 - l. Battery: UPS or motorcycle battery 12 V capacity.
12. BOQ for FFS and FAS for a typical 5 floor apartment building is attached herein as Annexure -A with revised rates.
13. The details of SKUs to be used for FFS and FAS are given in internal memos 912/165 and 912/162. Both are attached herein for convenience.
14. The FAS and FFS system for commercial /lab space projects are similar to the above, however with the following changes:
- a. Fire pumphoom is required.
 - b. Sump sizes and OHTs to increase.
 - c. FAS – is addressable instead of non-addressable.
 - d. MEP consultant to give revised plan based on approved fire plans.
 - e. Execution of FAS and FFS inside the premises occupied is optional. However, FFS and FAS to be installed in common areas.
 - f. Yard hydrant is generally required.
 - g. MEP to make another internal memo for BOQ of a typical 2 stilts + 4 upper floors building along with details of fire pumps and panel.

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Circular no. 881(b) - SOP for Installation of fire fighting system (FFS) and fire alarm system (FAS) for housing projects.						
BOQ for fire safety equipment						
Date:	14-10-2025					
Sl. No.	Item Description	Brand	Qty	Units	Rate	Amount
A. BOQ for one down comer - stilt + 5 floors						
1	Labour - Fabrication, installation & painting (lumpsum)		1	LS	30,000	30,000
2	M.S. pipe- 3" - 80 mm - B class		2	Mts	542	1,084
3	M.S. pipe- 4" - 100 mm - B class		18	Mts	750	13,500
4	MS L angle 1.5" - 6 mm thick for brackets		10	Mts	117	1,170
5	C.P. Hose - 15 mtr - 63 mm dia	Atasee	6	Nos	3,600	21,600
6	SS Branch Pipes - 2" - 63 mm dia	Atasee	6	Nos	1,475	8,850
7	Hose Reels - 30 mtrs each	Queen fire/Atasee	6	Nos	4,307	25,842
8	Internal Hose Box - 4' x 2' x 1'		6	Nos	3,776	22,656
9	Fire Brigade Inlet - 4 way 100 mm dia -SS	Newton/Kartar	1	Nos	4,484	4,484
10	Structural support: Anchor bolts, U clamps, etc.		1	LS	1,000	1,000
11	MS Flanges 100 mm dia x 8 mm thick		1	Nos	270	270
12	MS Flanges 65 mm dia x 10mm thick		6	Nos	513	3,078
13	Gate Valve 1" brass	Zoloto	6	Nos	2,921	17,526
14	SS Hydrant Vavles 3"	Winco, Newage	6	Nos	4,071	24,426
	Sub total A					1,75,486
B. BOQ for one booster pump						
1	Non-return valve - 100 mm dia	Acme	1	Nos	5,664	5,664
2	Pressure guage 4" - 100 mm Dia	H- Guru, Gluck	1	Nos	2,094	2,094
3	Pressure switch	Danfoss	1	Nos	1,829	1,829
4	Cable - 3 core - 2.5 x 3 sq mm - armoured copper		80	Mts	93	7,440
5	MS Flanges 100 mm dia x 8 mm thick		6	Nos	270	1,620
6	Booster pump 12.5 HP	Kirloskar	1	Nos	57,997	57,997
7	Pump Control panel - automatic		1	Nos	12,744	12,744
8	Butterfly Valve - 100 mm dia	ACME	2	Nos	2,832	5,664
9	Air Release valve - 20 mm dia	Zoloto	1	Nos	1,868	1,868
10	MS pipe- 4" - 100 mm (length)		20	Mts	780	15,600
11	2" PVC pipe for cable	Sudhakar	20	Mts	70	1,400
12	Hardware: Base saddle, PVC bends, etc.		1	LS	200	200
13	Labour - Fabrication, installation & painting (lumpsum)		1	LS	30,000	30,000
	Sub total B					1,44,120
C. BOQ for fire extinguishers - one staircase (stilt + 5 floors) + one panel room						
1	Fire Extinguishers - Dry type-ABC-6 kg		5	Nos	1,239	6,195
2	Fire Extinguishers-Dry type -CO2-6 kg		5	Nos	1,534	7,670
3	Fire bucket 4 nos with stand		1	Set	1,180	1,180
	Sub Total C					15,045
D. BOQ for fire alarm system (Non-Addressable)						
1	Fire Alarm System - 8 Zone	Agni make	1	Nos	8,496	8,496
2	Manual Call points	Agni make	6	Nos	1,734	10,404
3	Hooters	Agni make	6	Nos	1,578	9,468
5	Copper cable Red FRLS - 2 Core x1.5 sq.mm		1	bundles	29,200	29,200
6	Hardware PVC beds, etc.		1	LS	300	300
8	Battery - small SMPS-24V		1	Nos	708	708
	Sub total D					58,576
	Grand total (A + B + C +D)					3,93,227

Subject: Fire fighting alarm system -Addressable &Non -Addressable

Keywords: Smoke detectors, Manual call points , Hooters , Fire alarm panel, FRLS cable

1. Sites to use:Purchase and installation of Addressable &Non Addressable fire fighting alarm system have been standardized . The details are given herein.

Sl. No.	Description of item	Details of use	SKU no.	Appx. Cost in Rs.
1.	Addressable multi detector	To detect smoke or heat and designed to work with addressable fire alarm panel. It is to be ordered for lab space project.	FIRE8325-Fire&Safety -Smoke Detector Addressable -No's	1,650/-
2.	Addressable Manual call points	To initiate an alarm signal and operate using a simple button or when glass is broken revealing a button. It is designed to work with addressable fire alarm panel. It is to be ordered for lab space project.	FIRE1057-Fire&Safety-Manual call point-Addressable-No's	2,655/-
3.	Addressable Hooter	It is designed to emit loud and distinct alarm tones to alert occupants of a building during a fire or other emergencies. It is designed to work with addressable fire alarm panel. It is to be ordered	FIRE5585-Fire&Safety-Hooters-Addressable-No's	1,475/-
4.	Addressable Control Module	It receives inputs from various detectors and MCP located in that zone. It is to be ordered for lab space project.	FIRE3099-Fire&Safety-Control module-Addressable-No's	2,566/-
6.	Addressable fire alarm panel	It is a 4 loop panel. These are fire protection systems that are able to swiftly detect and pin point an exact location when trouble arises. It is to be ordered for lab space project.	FIRE3869-Fire&safety -fire alarm panel 4 loop-No's	36,000/-
6.	FRLS cable	Fire resistant cables which are used at locations that are more prone to fire, like in electrical panel room. Also there is no need of conducting this cable. For both Addressable and non addressable will do	FIRE7603-Fire & Safety-Copper Cable-Red-FRLS--2coreX1.5sqm-Bundles	29,200/-per Bundle(500m)
7.	SMPS	To convert AC to DC, as our devices need DC	COMP7349-peripherals-SMPS-24v-3-6A -No's	708/-
8.	P clamps	To install FRLS cables	FIRE1616-Fire&Safety-Cable clamp- P type-15mm-No's	3/-

9.	Bosch Fishers	To install FRLS cables, smoke detectors	HARD7695-Hardware-Fischer plug-6mm-Boxes	194/-per packet(100pcs per packet)
10.	SS Screws Pan head	Used to install FRLS cable and detectors	HARD7590-Hardware-SS Screws Pan head-8x32mm-Pkts	153/-per packet-(100pcs per packet)
11.	Surface Box	To install smoke detectors when it has to be installed directly to ceiling.	ELEC8140- Electrical - PVC Surface box - 2 module-No's	41/-
12	Non-Addressable multi detector	To detect smoke or heat and designed to work with conventional fire alarm panel. Typically used in housing project	FIRE78555-Fire&Safety-Smoke Detector -Non-Addressable -No's	683/-
13	Non-Addressable Manual call points	Typically installed at fire escape routes and it allows occupants to manually activate the fire alarm system in case of emergency. Typically used in housing project	FIRE7360-Fire&Safety-Manual call point-Non-Addressable-No's	1,734/-
14	Non-Addressable Hooter	Typically installed at fire escape routes that produces loud noise with a frequency that reaches a large area to alert people regarding any hazardous conditions. Typically used in housing project.	FIRE2644-Fire&Safety-Hooters-Non-Addressable-No's	1,578/-
15	Non-Addressable fire alarm panel	This system have zones on them, which are basically just circuits. Typically used in housing project.	FIRE2531-Fire & Safety-Fire Alarm Panel- 8Zone-Nos.	8,496/-
	Non-Addressable fire alarm panel	This system have zones on them, which are basically just circuits. Typically used in housing project.	FIRE5145-Fire&safety-Fire Alarm panel-4 Zone-Nos.	11,623
16	Multi Sensor Detector	It combines multiple sensing technologies in one unit to improve detection accuracy and reduce false alarms.	FIRE1019-Fire& Safety-MultiSensor Detector---Nos.	1995/-
17	SingleLoop card-(Addressable)	Enables connection and communication of multiple addressable fire detection devices (smoke detectors, heat detectors, MCPs, sounders, etc.) on a single loop with unique device addressing and monitoring through the fire alarm control panel.	FIRE2205-Fire&safety-SingleLoopcard-Addressable--Nos.	25,500/-

18	Monitor module	Used to monitor the status of conventional fire alarm devices and transmit signals to the addressable fire alarm control panel.	FIRE3427-Fire & Safety-Monitor module---Nos.	2,125/-
19	Heat Detector	Detects temperature rise and activates fire alarm.	FIRE7431-Fire& Safety-Heat Detector---Nos.	1775/-
	Response Indicator	It helps in quick identification of which device has been triggered during a fire or emergency situation.	Fire & Safety-Response Indicator---Nos.	94/-

Notes:

1. Conventional fire alarm system is followed all housing projects and material ordered shall be of conventional/Non addressable fire alarm
2. Addressable fire alarm system is followed in Lab space projects and it is installed in common areas like lift lobby and central lobby areas . So accordingly addressable type of material should be ordered .
3. Same FRLS cable as mentioned above can be used for both fire alarm systems, cable is erected using 'P' type clamps using above fishers and screws and there is no requirement of PVC/Metal conduits for running the cable.

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FIRE5585-Fire&Safety-Hooters-Addressable-No



FIRE2644-Fire&Safety-Hooters-Non-Addressable-No's



COMP7349-peripherals-SMPS-24v-3-6A-No's



FIRE1057-Fire&Safety-Manual call point-Addressable-No's



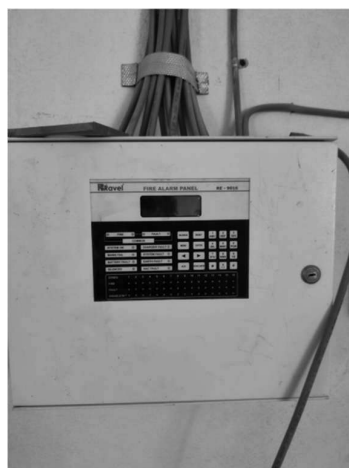
FIRE7360-Fire&Safety-Manual call point-Non-Addressable-No's



FIRE78555-Fire&Safety-Smoke Detector -Non-Addressable -No's



FIRE3509-Fire&safety -fire alarm panel single loop-No's



FIRE2531-Fire & Safety-Fire Alarm Panel-8Zone-Nos.



FIRE8325-Fire&Safety -Smoke Detector Addressable -No's



FIRE7603-Fire & Safety-Copper Cable-Red-FRLS-2coreX1.5sqm-Bundles



FIRE-Fire&safety-Cable clamp P- type-15mm-No's



FIRE3099-Fire&Safety-Control module-Addressable-No's



HARD-Hardware-Fischer plug-6mm-Boxes



FIRE5145-Fire&safety-Fire Alarm panel-4 Zone-Nos



FIRE1019-Fire & Safety-MultiSensor Detector-



FIRE3427-Fire & Safety-Monitor module---Nos.



FIRE2205-Fire&safety-SingleLoopcard-Addressable--Nos

Subject: Firefighting Down comers - For housing projects

Keywords: Firefighting, Downcomer, housing project

Purchase and installation of Fire fighting down-comers for housing project has been standardized. The details are given herein.

Sl. No.	Description of item	Details of use	SKU no.	Appx. Cost in Rs.
1.	MS Round Pipe B class-100Dx6000Lmm	Main line from OHT tank, used for down comer and tapping shall be taken from this line for sprinklers in cellar floor.	STEL2516-Steel-MS Round pipe-B Class-100DX6000Lmm-Kgs	78/-per kg
2.	MS Round Pipe-B Class-80DX6000Lmm	Used for sprinkler header lines in cellar floor.	STEL3859-Steel-MS Round Pipe-B Class-80DX6000Lmm-Kgs	78/-per kg
3.	MS Round Pipe B class-65x6000Lmm	Used for sprinkler header lines in cellar floor.	STEL7524-Steel-MS Round Pipe B class-65x6000Lmm-Kgs	78/-per kg
4.	MS Round Pipe B class-50x6000Lmm	Used for sprinkler header lines in cellar floor.	STEL5211-Steel-MS Round Pipe B class-50x6000Lmm-Kgs	78/-per kg
5.	MS Round Pipe B class-40Dx6000Lmm	Used for sprinkler lines in cellar floor.	STEL4596-Steel-MS Round Pipe B class-40Dx6000Lmm-Kgs	78/-per kg
6.	MS Round Pipe B class-32Dx6000Lmm	Used for sprinkler lines in cellar floor.	STEL5638-Steel-MS Round Pipe B class-32Dx6000Lmm-Kgs	78/-per kg
7.	MS Round Pipe-B Class-25DX6000Lmm	Used for sprinkler lines in cellar floor.	STEL2801-Steel-MS Round Pipe-B Class-25DX6000Lmm-Kgs	78/-per kg
8.	MS L Angle-40X40X6Tmm	For pipeline supports and stands for hose reel box	STEL7401-Steel-MS L Angle-40X40X6Tmm-Kgs	68/-per kg
9.	MS L Angle-50X50X6Tmm	For pipeline supports and stands for hose reel box	STEL6449-Steel-MS L Angle-50X50X6Tmm-Kgs	68/-per kg
10.	RRL type A Hose pipe-63Dmm	Used when the hoses are needed to pass through places where there is high radiant heat.	FIRE9515-Fire & Safety-RRL type A Hose pipe-63Dmm-Nos	3,776/-
11.	SS Branch pipe-63Dmm	Used for a range of wash down and jet spray applications.	IRE7F441-Fire & Safety-SS Branch pipe-63Dmm-Nos	1,593/-
12.	Hose Reel Drum-30mtrs	Used to keep the hose pipe	FIRE5726-Fire & Safety-Hose Reel Drum-30mtrs-Nos	5,900/-

13.	Fire Hose Cabinet-900X1500X150mm 18SWG	Used to store the firefighting equipment like fire hoses, fire extinguishers, fire hoses reels, branch pipes.	FIRE7717-Fire& Safety-Fire Hose Cabinet-900X1500X150mm 18SWG-Nos	7,670/-
14.	Hose Box-Single Door	Used to store the firefighting equipment like fire hoses, fire extinguishers, fire hoses reels, branch pipes.	FIRE6664-Fire & Safety-Hose Box-Single Door-Nos	1,416/-
15.	Hose Box-Double Door	Used to store the firefighting equipment like fire hoses, fire extinguishers, fire hoses reels, branch pipes	FIRE1291-Fire & Safety-Hose Box-Double Door-Nos	2,596/-
16.	Fire Brigade Inlet-2way-100mm	Used to pump water through built-in-firefighting system	FIRE4281-Fire & Safety-Fire Brigade Inlet-2way-100mm-Nos	6,490/-
17.	Fire Brigade Inlet-4way-150mm	It enables firefighters to pump in water into the dry riser or the wet riser or the sprinkler system piping using external water sources like a hydrant.	FIRE3271-Fire & Safety-Fire Brigade Inlet-4way-150mm-Nos	8,850/-
18.	MS Flange-E table-80DX4 Holes	Used to connect the pipes or fittings together to perform the different functions.	STEL3746-Steel-MS MS Flange-E table-80DX4 Holes-Nos	212/-
19.	MS Flange-E table-100mm	Used to connect the pipes or fittings together to perform the different functions	FIRE8108-Fire & Safety-MS Flange-E table-100mm-Nos	254/-
20.	Enamel Black-Asian Apcolite-1lietr can	Serves as a protective Armour around the painted surface.	PAIN5379-Paints-Enamel Black-Asian Apcolite-1lietr can	294/-per 1 liter can
21.	Forged Brass Ball valve-25mm	Used for drain line control, pressure gauge and pressure switch control	FIRE3382-Fire & Safety-Forged Brass Ball valve-25mm-Nos	748/-
22.	SS Hydrant Valve-63Dmm	Provide the means to draw water for firefighting from the fire water piping network	FIRE5317-Fire & Safety-SS Hydrant Valve-63Dmm-Nos	4,602/-
23.	Butterfly Valve-50mm	Serve as control valves that turn on or shut off the flow of water to the pipes serving fire sprinkler or standpipe systems	FIRE9710-Fire & Safety-Butterfly Valve-50mm-Nos	1,794/-
24.	Butterfly Valve PN16-80Dmm	Serve as control valves that turn on or shut off the flow of water to the pipes serving fire sprinkler or standpipe system	FIRE2343-Fire & Safety-Butterfly Valve PN16-80Dmm-Nos	3,876/-
25.	Butterfly Valve-100mm	Serve as control valves that turn on or shut off the flow of water to the pipes serving	FIRE1351-Fire & Safety-Butterfly Valve-100mm-Nos	3,033/-

		fire sprinkler or standpipe system		
26.	Non return valve-100mm	Used to prevent the liquid or gas from flowing back upstream of the valve	PLUM6888-Plumbing-Non return valve-100mm-Nos	3,059/-
27.	Pressure Guage-0 to 10.5Kgs	Used to measure the pressure of liquid	FIRE6575-Fire & Safety-Pressure Guage-0 to 10.5Kgs-Nos	1,475/-
28.	Pressure switch	Used to control the activation and deactivation of pumps in fluid systems when pressure thresholds are reached	FIRE6238-Fire & Safety-Pressure switch-Nos	1,062/-
29.	Copper wire-3CoreX2.5Sqmm-Mtrs	Power supply for booster pump	ELEC8573-Electrical-Copper wire-3CoreX2.5Sqmm-Mtrs	87/-per mtr
30.	Pressure Booster pump-Kirloskar KDS 1348-12.5hp	A device used to increase low water pressure and flow	FIRE1752-Fire & Safety-Pressure Booster pump-Kirloskar KDS 1348-12.5hp-Nos	56,746/-
31.	Booster pump panel-12.5Hp	Essential component for maintaining a reliable water pressure system	FIRE5063-Fire & Safety-Booster pump panel-12.5Hp-Nos	13,570/-
32.	Air Release Valve-20mms	Used to ensure that any entrained air in the water system is automatically released in order to maximize the system performance	HVAC2886-HVAC-Air Release Valve-20mm-Nos	867/-
33.	GI Base Saddle-25m	Used to support or hold the power supply cable for booster pump.	ELEC8660-Electrical-GI Base Saddle-25m-Boxes	354/-per box(72pcs per box)
34.	Firefighting-Fire sprinklers	Used to prevent fire growth and spread by releasing water through a series of sprinkler heads connected to a distribution piping system	FIRE6625-Fire & Safety-Firefighting-Fire sprinklers-Nos	207/-
35.	Dry type Fire extinguisher-6 Kgs	Used in variety of situations to stop the fire, class A fires: fires that involve flammable solids. Class B fires: fires that involves flammable liquids	FIRE2803-Fire & Safety-Dry type Fire extinguisher-6 Kgs	1,180/-
36.	Wet type Fire extinguisher-9 Ltrs	Used to tackle fat and grease fires in kitchens (class F)	FIRE2009-Fire & Safety-Wet type Fire extinguisher-9 Ltrs	1,357/-
37.	Dry type Fire extinguisher-ABC-6Kgs	ABC dry powder fire extinguisher is a portable device used to quickly put out Class A, B, and C fires by spraying a multipurpose dry	FIRE7790-Fire & Safety-Dry type Fire extinguisher-ABC-6Kgs	1,462/-

		chemical powder		
38.	Dry type Fire extinguisher-CO2-6Kgs	CO ₂ dry type fire extinguisher is a portable device used to suppress Class B (flammable liquids) and Class C (electrical) fires by discharging carbon dioxide, which removes oxygen and cools the fire.	FIRE6733-Fire & Safety-Dry type Fire extinguisher-CO2-6Kgs	17,101/-
39.	Multi Sensor Detector	It combines multiple sensing technologies in one unit to improve detection accuracy and reduce false alarms.	FIRE1019-Fire& Safety-MultiSensor Detector---Nos.	1995/-
40.	SingleLoop card-(Addressable)	Enables connection and communication of multiple addressable fire detection devices (smoke detectors, heat detectors, MCPs, sounders, etc.) on a single loop with unique device addressing and monitoring through the fire alarm control panel.	FIRE2205-Fire&safety-SingleLoopcard-Addressable--Nos.	25,500/-
41.	Monitor module	Used to monitor the status of conventional fire alarm devices and transmit signals to the addressable fire alarm control panel.	FIRE3427-Fire & Safety-Monitor module---Nos.	2,125/-
42.	Heat Detector	Detects temperature rise and activates fire alarm.	FIRE7431-Fire& Safety-Heat Detector---Nos.	1775/-
43.	fire Buckets + Stand	This type of fire extinguisher to stop fire. Used in electrical rooms.	FIRE2909-Fire & Safety-4 Buckets +Stand-Nos	1,357/-
44.	MS Flat-6mtrs-50x6mm	For fabrication work	STEL2879-Steel-MS Flat-6mtrs-150x50x10Tmm-Kgs	74/-per kg
45.	MS Threaded Nipple-150LX80Dmm	Used for connecting two other fittings	STEL4979-Steel-MS Threaded Nipple-150LX80Dmm-Nos	177/-each
46.	MS Threaded Nipple-65X150mm	Used for connecting two other fittings	STEL1468-Steel-MS Threaded Nipple-65X150mm-Nos	118/-each
47.	GI-Nipple-50X150mm	Used for connecting two other fittings	PLUM9945-Plumbing-GI-Nipple-50X150mm-Nos	109/-each
48.	MS Nipple-12.7X250mm	Used for connecting two other fittings	STEL8896-Steel-MS Nipple-12.7X250mm-Nos	53/-each

49.	MS Coupling-15mm	Used to join two pipes or tubes together	STEL6309-Steel-MS Coupling-15mm-Nos	37/-each
50.	MS Coupling-20mm	Used to join two pipes or tubes together	STEL6751-Steel-MS Coupling-20mm-Nos	58/-each
51.	GI Hose clamp-heavy duty-20Dmm-	Used to attach and seal a hose onto a fitting	HARD4627-Hardware-GI Hose clamp-heavy duty-20Dmm-Nos	18/-
52.	GI U Clamp+Nut+Washer-100x8mm-	To support down comer lines	HARD2902-Hardware-GI U Clamp+Nut+Washer-100x8mm-Nos	30/-each
53.	Anchor bolt-Pin Type-10x62.50mm-	Used for anchoring of sprinkler pipelines for pipes of dia 50 to 80mm	HARD2439-Hardware-Anchor bolt-Pin Type-10x62.50mm-Nos	11/-each
54.	Enamel-Post Office Red-4Ltrs-Can	Serves as a protective Armour around the painted surface.	PAIN5030-Paints-Enamel-Post Office Red-4Ltrs-Can	1225/-per 4ltrs can
55.	Turpentine oil-1 ltr can	Mixed in Enamel & Red oxide for work ability	PAIN8788-Paints-Turpentine oil-1 ltr can	135/- per 1 liter can
56.	Hooter	Typically installed at fire escape routes that produces loud noise with a frequency that reaches a large area to alert people regarding any hazardous conditions. Typically used in housing project.	FIRE2644-Fire& Safety - Hooter Non-addressable-Nos	283/-
57.	Manual call point	Typically installed at fire escape routes and it allows occupants to manually activate the fire alarm system in case of emergency. Typically used in housing project	FIRE7360-Fire& Safety - Manual call point -Non-addressable-Nos	271/-
58.	Smoke detector	To detect smoke or heat and designed to work with conventional fire alarm panel. Typically used in housing project	FIRE7855-Fire& Safety - Smoke detector -Non-addressable-Nos	531/-
59.	Red Oxide Primer-Asian-1Ltr-Can	Serves as a protective Armour around the painted surface.	PAIN8548-Paints-Red Oxide Primer-Asian-1Ltr-Can	225/-per 1 liter
60.	Anchor bolt-Pin Type-8x50mm	Used for anchoring of sprinkler pipelines for pipes of dia 25 to 40mm	HARD2287-Hardware-Anchor bolt - Pin Type-8x50mm-Nos	8/-each
61.	Anchor bolt-Pin Type-12x62.50mm	Used for anchoring of sprinkler pipelines for pipes of dia 100 mm	HARD4639-Hardware-Anchor bolt-Pin Type-12x62.50mm-Nos	14/-each

62.	MS ISMC 75X6000Lmm	For supporting of fire down comer lines in fire shafts.	STEL5337-Steel-MS ISMC-75X6000Lmm-Kgs	71/-per kg
63.	MS ISMC- 100X6000Lmm	For supporting of fire down comer lines in fire shafts.	STEL9892-Steel-MS ISMC-100X6000Lmm-Kgs	71/-per kg

Notes:

1. conventional fire alarm system is followed all housing projects and material ordered shall be of conventional/Non-addressable fire alarm
2. Addressable fire alarm system is followed in Lab space projects and it is installed in common areas like lift lobby and central lobby areas. So accordingly addressable type of material should be ordered.
3. Same FRLS cable are mentioned above can be used for both fire alarm systems, cable is erected using 'P' type clamps using above fishers and screws and there is no requirement of PVC/Metal conduits for running the cable.

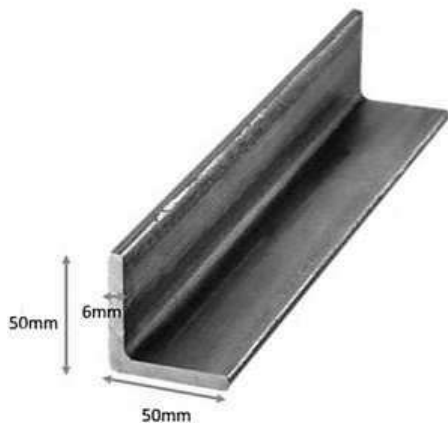
Soham Modi



A typical picture showing Downcomer, Hose reel drum & Fire hose box (double door) installed at site.



A typical picture showing
Hooter & Manual Call Point
installed at site.



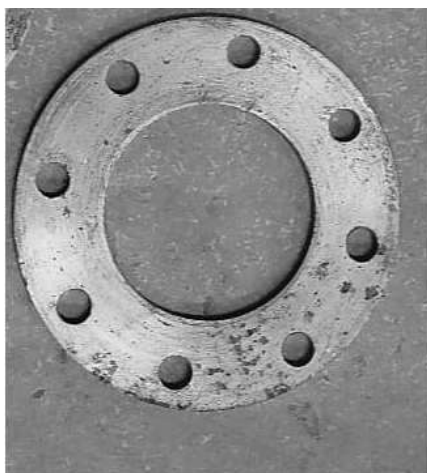
STEL6449-Steel-MS L
Angle-50X50X6Tmm-Kg's



FIRE7855-Fire& Safety -Smoke detector -Non
addressable-Nos



STEL7401-Steel-MS L
Angle-40X40X6Tmm-Kg's



FIRE8108-Fire & Safety-MS
Flange-E table-100mm-No's



STEL2879-Steel-MS
Flat-6mtrs-50x6mm-Kg's



PLUM6888-Plumbing-Non
return valve-100mm-Nos



FIRE6575-Fire & Safety-Pressure
Guage-0 to 10.5Kgs-No's



FIRE6238-Fire & Safety-Pressure
switch-No's



FIRE6664-Fire&safety-Hose
Box-single door-No's



FIRE5317-Fire&safety-SS Hydrant valve
-63Dmm-No's



FIRE9515-Fire & Safety-RRL type A Hose pipe-63Dmm-
No's



PAIN8788-Paints-Turpentine oil-1 ltr can



FIRE7360-Fire& Safety -Manual call
point -Non addressable-Nos



ELEC8573-Electrical-Copper
wire-3CoreX2.5Sqmm-Mtrs



HVAC2886-HVAC-Air Release
Valve-20mm-No's

STEEL2516-Steel-MS Round pipe-B
Class-100DX6000Lmm-Kg's



FIRE2909-Fire & Safety-4 Buckets+Stand-No's



FIRE5063-Fire & Safety-Booster pump
panel-12.5Hp-No's



ELEC8660-Electrical -GI Base saddle 25mm-Boxes

FIRE1752-Fire & Safety-Pressure Booster pump-Kritloskar KDS 1348-12.5hp-No's



FIRE7717-Fire& Safety-Fire Hose Cabinet-900X1500X150mm



FIRE7441-Fire&safety-SSBranch pipe -63Dmm-No's



FIRE2803-Fire & Safety-Dry type Fire extinguisher-6 Kgs-No's

FIRE3382-Fire&safety-Forged brass ball valve-Valve 25mm-No's



FIRE2009-Fire & Safety-Wet type Fire extinguisher-9 Ltrs



FIRE4281-Fire & Safety-Fire Brigade Inlet-2way-100mm-No's



STEL3746-Steel-MS MS Flange-E table-80DX4 Holes-No's



**FIRE3271-Fire & Safety-Fire Brigade
Inlet-4way-150mm-No's**



**HARD2902-Hardware-GI U
Clamp+Nut+Washer-100x8mm-No's**



**FIRE9710-Fire&safety-Butterfly
valve PN16 -50mm-No's**



FIRE1291-Fire & Safety-Hose Box-Double Door-Nos



**FIRE6625-Fire & Safety-Fire
fighting-Fire sprinklers-No's**



**STEL6309-Steel-MS Coupling-15mm-
No's**



**FIRE2644 -Fire & Safety- Hooters
- Non Addressable-Nos.**

**STEL4979-Steel-MS Threaded
Nipple-150LX80Dmm-No's**



**HARD4627-Hardware-GI Hose clamp-
heavy duty-20Dmm-No's**



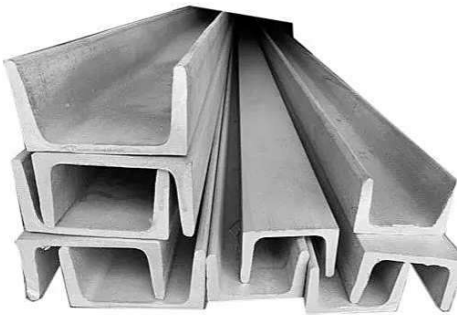
HARD4639-Hardware-Anchor bolt-Pin
Type-12x62.50mm-No's



FIRE5726-Fire & Safety-Hose Reel
Drum-30mtrs-Nos



PAIN5030-Paints-Enamel-Post Office Red-4Ltrs-
Can



STEL5337-Steel-MS
ISM-75X6000Lmm-Kg's



PAIN8548-Paints-Red Oxide Primer-Asian-1Ltr-
Can