

**GUJARAT STATE POLICE HOUSING CORPORATION LTD.
JUNAGADH**

Specification of Plasticizer

Specification: Conforms to ASTM C – 494 TYPE A: IS 9103:1999

Usage: At Location with congested reinforcement, thin slender section or any other location, where improves workability is required.

For Pumped concrete as it improves the lubricating properties.

Roof slabs for both residential as well as industrial buildings.

Medium to low grade concrete to improve the cohesively.

Water retaining structure.

Method of application:

Add requires quality of plasticizer / water reducing agent either directly to the wet concrete mix in the concrete mixer under operation or along with gauging water.

Dosage: - 350 ml per 50 kg of cement, for best result conduct site trial.

Providing and Laying acrylic modified cementation composite coating system in two coats. 1st coat shall be acrylic polymer and cement and 2nd coat shall be of acrylic polymer, cement and silica sand. The application of both the coats shall be as per manufacturer's manual on terrace.

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Usage:

It is usage with cement to form polymer modified cementations composite (PMCC). In addition, if used with varying of silica / quartz sand produces PMC brush topping. PMC filler and PMC mortar. All the above material are extensively used for waterproofing and strengthening of external surface to prevent ingress of water.

Method of Application:

To Produce a PMC mix whether slurry, brush topping or mortar, requires quantity of Tape create P151 is to be mixed with proper amount of other material. The recommended ratio is 100 parts of OPC 50 parts Tape create P151. The PMC material is placed on the surface to be treated after wetting the surface to saturation but without any free water. The curing of PMC material is only nominal and required for maximum of 4 days starting one day after the application.

Dosage.

Covering capacity (Mix proportion) for tape create P151 coating / slurry: 100 Kg. Cement: 52 Kg Tape create Polymer.

Mode of Measurement:

The Rate includes labor charges for cleaning slab any other surface to applying coat. The rate shall be paid per 01 sqmt. for the work done.

Item No. 66**Supply & Installation of Venetian Blinds For Windows :-**

Vertical Louvre Fabric Blinds System with extruded aluminium headrail finished in silver anodized. Operation of louvers by cord for traverse and chain for rotation.

Materials :

Washable fabric Blind 100mm width

Wight tilter chain

Hardware shall be used of relevant I.S. Code and approved make.

Aluminum powder coated slim line channel

Workmanship:

Aluminum powder coated, slim line channel with imported mechanism with pattern trademark including runners, spacer hanger (100mm). For operating blind: White tilter chain and for bottom chain (100mm gap). For Vertical Fabric, bottom weight zinc coated (16 gauge). It should be approved by in-charge. With 32mm or 38mm diameter aluminum / powder coated with ball chain (joint less) operated with imported mechanism, top & bottom including installation bracket. Fabrics of Roller Blind : Translucent / Blackout / Sunscreen. Fixing and fastening shall be provided as per requirement & as approved list as directed by engineer-in-charge and consultant.

Mode of Measurements and Payment

Measurement shall be taken for finished visible work and rate shall be for a unit of one smt. Basis. The rate includes the cost of materials and labour etc. complete

Item No. 105

Pro and fixing 3mm thick acrylic sheet with Vinyl letter colour-2073 Dark Grey for Back ground and colour-2199 white letter with required screws etc. as per Required sizes complete etc. as per specification & Instruction of Engineer In Charge.

1. Letter / Matter of required size shall be prepared out of PVC Radium Material.
2. Font pattern shall be as directed by Engineer – In – Charge.
3. Letter / Matter Shall be of 10Cm wide.
4. Letters/ Matter shall be prepared in English and or Gujarati as required by Engineer – In – Charge.
5. Letters/ Matter shall be glued properly on acrylic sheet of 60cm wide x 15 cm height and 3mm thickness.
6. In Gujarati Rates are inclusive of Punctuation marks.
7. Rates are inclusive of all materials labour for fixing & Finishing etc.
Complete.
8. Payment shall be made per No of complete acrylic sheet with letter / matter.

Item No. 109

Providing & Fixing Precast RCC Frame with Cover MD 10 Ton (Rubber Mould Finish) Inner size 600 x 450 with all Necessary Fittings.

Materials

Precast RCC cover size of 0.60x0.45m. with Frame. Frame size 0.60m x 0.80m (out to out) For Inspection Chamber size 610mm x 455mm and Precast RCC cover size of 0.60x0.85m. with Frame. Frame size 0.80m x 1.05m (out to out) For Inspection Chamber as per required size IC, Mixing proportion M200 (1: Cement; 1.5: Coarse Sand and 3: 20mm Nominal size Aggregate of best quality.

Workmanship

Precast RCC frame fixing on IC with Cement mortar 1:4, If necessary outer side plaster finish with plaster in 1:4 finish smooth. Cover shall be fixed on Precast RCC frame.

Mode of measurements & payment

The rate includes cost of all labour and materials required for satisfactory completion of this item.

The rate shall be for a unit of one number.

Item No. 110 to 114

Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required. [A]150mm, [B]100mm, [C]80mm, [D] 50mm [F]25mm

PIPE, FITTINGS, SUPPORTS AND OTHER ACCESSORIES:

- a) All materials shall be new of the best quality conforming to the specifications and subject to the approval of the Project Manager.
- b) Pipes and fittings shall be fixed truly vertical, horizontal as required in a neat workmanlike manner.
- c) Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.
- d) Pipes shall be securely fixed to walls and ceilings by suitable clamps at intervals specified. Only approved type of anchor fasteners shall be used for RCC ceilings and walls.
- e) Valves and other appurtenances shall be so located that they are easily accessible for operations, repairs and maintenance.
- Pipes and fittings of following types (depending upon the description of item) and ISI marked only shall be used:

Type of Pipe	Size	Grade	Ends/Fitting	Code
MS/ Galvanized Pipes	Up to 50 mm diameter	Heavy grade	Screwed	IS: 1239 (Part I)
MS/ Galvanized Fittings	- do-	Heavy grade	MS/Galvanized Forged, Screwed ends	IS: 1239 (Part II)

Type of Pipe	Size	Grade	Ends/Fitting	Code
MS/ Galvanized Pipes	65 mm & above diameter and up to 150 mm diameter	Heavy grade	Bevel, Butt Welded, 3 layers forms/screwed for Galvanized	IS: 1239 (Part I)
MS/ Galvanized Fittings	-do-	Heavy, machine formed from IS marked heavy grade pipes	-do-	IS: 1239 (Part III)
MS/ Galvanized Pipes	Above 150 mm diameter	6.0 mm wall thickness up to 200 mm 8.0 mm wall thickness up to 300 mm	Bevel, Butt welded, 3 layers for MS/ screwed for Galvanized	IS: 3589
MS/ Galvanized Fittings	-do-	Schedule 40	-do-	IS: 3589

- For MS/Galvanized pipes up to and including 50 mm diameter screwed jointing shall be adopted, while for pipes 65 mm and

above welded connections shall be used for MS and screwed connection for Galvanized. Only Electro Galvanized nuts /bolts shall be used.

- The piping system and components shall be capable of withstanding 150 % of the working pressure including water hammer effects and test pressure up to 16 kg/cm².
- Flanged joints shall be used for connections to vessels, equipment, flanged valves and also on suitable straight lengths of pipeline of strategic points to facilitate erection and subsequent maintenance work.
- Flange thickness shall be as per table below IS: 6392 – 1971. Table – 17/18.

150 mm dia	:	22 mm
		;
100 mm dia	:	20 mm
		;
80 mm dia	:	20 mm
		;
65 mm dia	:	18 mm
		;

- M.S. Fittings for pipes above 65 mm or and up to 150 mm diameter shall be fabricated from seamless pipe pieces of minimum 5 mm wall thickness. For tees and other fittings where seamless sections are not available, the fittings shall be fabricated from Electric resistant welded pipes as given in the approved makes. However Galvanized fitting will be screwed. The fittings shall have a minimum 5 mm wall thickness. The fittings shall with stand pressure of up to 21 kg/cm².
- Fittings below 50 mm or shall be M.S. / Galvanized Forged Screwed ends. The fittings shall be threaded at both ends. The fittings shall withstand pressure of up to 21kg/cm².
- For tapings of 50 mm/40mm/32mm/25mm from headers, half socket connections with one side threading shall be employed. The half socket shall be welded at the center of the header, either on the side or on the top.
- Wherever two horizontal headers are to run side by side, the two headers shall be located at different levels, if possible, so as to avoid unnecessary bends at tapping off from the headers.

Accordingly, the supports shall also be staggered to support pipes at two levels.

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PIPE SUPPORT:

- a) All pipe clamps and support shall be mild steel.
- b) Pipe shall be hung by means of expandable anchor fastener of approved make and design (Dash Fasteners or equivalent). The hangers and clamps shall be fastened by means of galvanized nut and bolts. The size/diameter of the anchor fastener and the clamp shall be suitable to carry the weight of water filled pipe and dead load normally uncounted.
- c) Hangers and supports shall be capable of carrying the sum total of all concurrently acting loads. They shall be designed to provide the required supporting effects and allow pipelines movements as necessary. All guides, anchor, braces, dampeners, expansion joints and structural steel to be attached to the building/structure, trenches etc. shall be provided by the contractor. Hangers and components for all piping shall be approved by the Client/engineer. Anchoring fasteners shall be rated to take minimum 2 tons load and shall be of approved make.
- d) While all piping shall have clevis type hanger supports from the ceiling with fasteners, for pipe headers of 100 mm diameter and above, additional wall/column mounted supports shall be taken. Clevis type hanger supports shall be at 3.0 m intervals and at every turn, at both ends. MS angle supports at wall and columns shall be at 18 m intervals. The angles shall be cut by gas cutter and evened out by grinder. All welding to angles shall also be cleaned by grinder. Angles shall not be less than 40 x 40 x 6 mm size.
- e) For fixing clevis hanger and angle support, only dash fasteners shall be used. Exposing of steel reinforcement and welding to them shall not be permitted except in exceptionable circumstances.
- f) Pipes in vertical shafts shall have MS angle brackets at alternate floor level. The bracket shall be mounted behind the pipe. A baseplate of 50 wide x 6 mm thick shall be welded to the bracket. The baseplate shall be fixed to the wall by means of fasteners GI U clamps shall be used to fix the pipe to the bracket.
- g) Each riser shall also be anchored to the floor slab with MS angles mounted on the slab. The angles shall be 40 x 40 x 5 size, one mounted before the pipes and the other after the pipes. Extra cleat pipe pieces shall be welded to the pipes at this point which shall be welded to the angle iron support.
- h) Wherever angle type supports are being used, profiled packing materials or wood or materials as approved by the Engineer shall be used. The packing materials shall be at least 25 mm thick, and tight fitted with the pipe.

WORKMANSHIP

Mild steel pipes shall be measured per linear meter of the finished length and shall include all fittings, flanges, painting and welding, jointing, clamps for fixing to walls or hangers, anchor fasteners, painting and testing complete in all respects. Nothing extra shall be payable on this account.

At least 10% of all the welded joints should be radio graphically tested and half of joints radiographed should be field joints. As per IS 15105:2002 Contractor shall include the cost of radiograph test in Item No. 1.0 above.

All pipes shall be adequately supported from ceiling or walls by structural clamps fabricated from M.S. structural e.g. rods, channels, angles and flats. All clamps shall be painted with one coat of primer and two coats of black enamel paint. The contractor shall provide inserts at the time of slab casting or provide suitable anchor fasteners.

The pipe supports or hangers shall be designed to withstand combined weight of pipe, pipes fittings, fluid in pipe and insulation. Pipe supports shall be of steel and coated with rust preventing paint and finished with two coats black enamel paint.

The underground piping shall be supported with cement concrete blocks of suitable size and strength provided at an interval of 2.5 mtr. The pipes shall be laid at 1 mtr depth (top of the pipe) and trench excavated for sufficient width. The rate for pipe shall include the scope of excavation/refilling the trench. 1:2:4 concrete thrust blocks are also to be provided at turning of pipe. The cost of installation includes concrete pedestals etc. as required and to be included in the item rate.

MS Pipe class 'C' (heavy duty) conforming to IS:1239 including all accessories such as screwed/welded joints, flanges, tees, reducers, structural steel supports and clamps etc. including lift to all heights, welding, jointing, painting and inserted rubber gaskets, nuts, bolts etc. as required. Pipes shall be painted with two coats of primer & two coats of post office red synthetic enamel paint over two coats of red oxide zinc chromate primer. Prior to application of primer surface to be cleaned including painting of legends both direction arrow as per approval of Project Manager and shall be fixed in ceiling, walls, columns for all heights with hangers/supports and fasteners all as per drawing including chasing of walls/columns /ceiling etc. and making good the same as required. G.I. pipe/PVC sleeve of suitable higher size shall be provided whenever the pipes are crossing the walls/floors and sealing the sleeves with glass wool in between & fire sealant compound at either end all as per Project Manager/Consultant requirement.(Standard MS fitting with

welded joint shall be used on Pipe) like flanges, tees, elbows, bends junctions, reducers etc. welded or screwed joints, clamps & structural steel supports or as required/ directed at site including cutting & making good the walls, floors, RCC work etc. cutting chases & filling the same with cement concrete 1:3:6 (1 cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size) including Providing painting the pipes with 2 coats of desired shade of synthetic enamel paint over 2 coats of Red oxide primer. Prior to application of primer the surface should be cleaned for any dirt, rusts, rough substance etc. including providing painting of legend both direction arrow as per the approval of project manager (For Internal Hydrant system).

MODE OF MEASUREMENT OF PAYMENT:

The rate includes cost of all materials, tools, plants, transportation and labor involved in satisfactory completion of work. The rate shall be for unit of meter. Measurement shall be in meter. The rate includes cost of materials and other operations mentioned as above. The work shall be carried out as per detailed drawings.

Item No. 115 to 117

Providing and fixing of CI Sluice/ Butterfly valve ISI marked with gunmetal working parts with stainless steel spindle with necessary jointing materials fitting etc. complete as directed.

[A]150 mm dia CI Sluice/ Butterfly Valve

(B) 100 mm dia CI Sluice/ Butterfly Valve

(C) 80mm Dia CI Sluice/ Butterfly Valve

Sluice gate valve shall be of best quality and of approved make and shall confirm the relevant IS-780. All working parts shall be gun metal. Few turns of fine hamp yarn dipped in white zinc shall be taken over threaded end of the pipe and socket ends of the sluice valve shall be screwed even the pipe with necessary appliances or as directed.

Workmanship:-

The workmanship shall be as per the specification of the It no 28(23.99) P.no-115 para 2.00 of general technical specification for building work booklet. Except that is for C.I slave or butterfly valve instead of Gun metal check or non-return valve & Item is for 100mm / 80mm dia or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on number basis.

Item No. 118 to 120

Providing, fixing, testing and commissioning of non-return valve of following sizes conforming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc. as required.

(A) 150 mm dia-Non Return valve (B) 100 mm dia-Non Return valve (C) 80 mm dia-Non Return valve

Non return valve shall be of best quality and of approved make as per IS-5312 latest additional. All working parts shall be gun metal a few turn of fine hemp yarn dipped in white Zink shall be taken over the threaded ends of pipe and socket ends of valve or as directed. Non return valve shall be screwed over the pipe with necessary appliances or as directed.

Workmanship:-

Non return valve shall be fixed as directed by the engineer in charge.

Mode of measurement & payment:-

Item shall be measured & paid on number basis.

Item No. 121

Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for

suitable dia MS pipe connection conforming to IS 904 as required : (B) 4 way - 150 mm dia M.S. Pipe

25mm dia gunmetal S.S gate valve with 25mm dia nipple shall be of best quality and of approved make and shall confirm the relevant IS

All working parts shall be gun metal / SS few turns of fine hemp yarn dipped in white zink shall be taken over threaded ends of the pipe and socket ends of the gate valve with nipple shall be screwed even the pipe with necessary appliances

Workmanship:-

The workmanship shall be as per specification of Item no 28(23.99) P.115 para 2.00 of general specification for building work booklet except that is for 25mm dia gun metal ISI mark SS Gate valve with 25mm dia nipple instead of gun metal check or non-return valve or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on one set basis.

Item No. 122

Providing, fixing, testing and commissioning of Gun metal /SS single headed ISI marked oblique pattern hydrant landing valves as per IS:5290 with 80mm dia flanged inlet and 63mm dia female outlet complete with gun metal cap.

63mm dia reinforced rubber lined RRI rubber lined R.B fire made of approved brand conforming to IS-636 type A having crushing pressure of 37.20 Kg/cm² and 2.00 nos of ISI marked of 15.00m length, fitting with necessary gun metal 63mm delivery hose pipe with 63mm dia male & female gun metal coupling duly banded with G.I. wire rivets etc confirming to IS 636 type-A completed or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on number basis.

Item No. 123

Providing, fixing, testing and commissioning of Standard Gun /SS metal branch pipe with nozzle of 20 mm nominal bore outlet as per IS:903 suitable to fit with standard instantaneous type 63 mm dia coupling.

20 mm dia gun metal/ SS Single headed ISI marked oblique pattern hydrant landing valves as per the IS-903 with 80mm dia flanged inlet & 63 mm dia female outlet completed with instantaneous coupling of gun metal best quality & make shall be fixed or as directed.

All working parts shall be of gun metal /SS, the hand wheel shall be operated in clock wise and antic lock wise direction or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on number basis.

Item No. 124

Providing and fixing 63 mm dia reinforced rubber lined RRL fire hose of approved brand conforming to IS 636 type A having brushing pressure of 37.20 Kg/cm² and 2 Nos of ISI marked of 15 mtr length fitting with necessary gun metal 63 mm delivered hose pipe with 63 mm dia. Male and female gun metal couplings duly binded with GI wire, rivets etc. conforming to IS 636 (type-A) as required.

Material & Workmanship :**Hoses pipes shall be of fabric reinforced rubber lines as per IS:636**

Type A or canvas hose as per IS:4927, with nominal size of 63 mm and lengths of 15 meter as per quantities specified for in schedule or bill of quantity. All hose pipes shall carry ISI marking on the body of the hose.

The hose shall have instantaneous spring lock-type coupling on ends. The instantaneous coupling shall be as per IS:901. It shall be fixed to each other by copper rivets and galvanized M.S. wires and leather bands. All coupling shall be interchangeable with each other, and shall bear ISI markings.

Mode of measurement :

Measurement shall be in number executed.

Item No. 125

Providing, fixing, testing and commissioning of Weather proof standard fire hose cabinet having single opening with M.S. Fabricated Stand, necessary locking arrangement by Allen key suitable for housing 2 nos. hose pipe, 1no. Branch pipe & nozzle spanner.

Weather proof M.S. hose cabinet of suitable size and made of suitable M.S sheet as directed painted fire red having 5mm thick clear glass single opening with necessary locking arrangement by Allen key suitable for housing 1.00 no hose pipe 1.00 no branch pipe & nozzle spanner or as directed.

The entire unit shall be provided and fixed as per the requirement and the work shall be carried out to the entire satisfaction of the engineer in charge. The work shall be carried out in the best workman like manner and all damage to the existing work shall be made good without any extra cost.

Mode of measurement & payment:-

Item shall be measured & paid on number basis.

Item No. 126

Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm² complete as required.

Providing & fixing orifice plate on fire hydrant valve including jointing materials having suitable base for reducing the pressure hydrant outlet etc. as directed.

The orifice plate of suitable dia with bolt holes same hydrant shall be made of copper having a suitable orifice size in center to reduce the pressure to 3.20 kg/cm²

Workmanship:

The plate shall be installed before the hydrant valve with best workmanship to achieve the coerces pressure of hydrant valve without any leakage.

Mode of measurement & payment:

Item shall be measured & paid on number basis.

Item No. 127

Supplying and fixing First Aid hose reel with MS construction spray painted in post office red, conforming to IS 884 with upto date amendments, complete with the following as required. 30m long 25mm (nominal internal) dia water hose thermoplastic (textile reinforced) type-2 as per IS: 12585 25mm (nominal internal) dia S.S. Shut up valve & nozzle. Drum and brackets for fixing the equipment's on wall. Connections from riser with stop valve (GM) & M.S. pipe.

First aid hose reel should be made of aluminum along with M.S sheet side with spray painted in post office red conforming to IS-884 with up to date amendments. Complete with 30.00 long 25mm nominal internal dia water hose thermoplastic (textile reinforced) type-2 as per IS-12585 or as directed 25mm nominal internal diameter S.S shutup valve & nozzle

Entire assemble of drum and baskets shall be installed on the wall with connections from riser with stop valve & M.S. pipe or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on number basis.

Item No. 128

Providing & erecting connection of siemens connection with necessary fitting at our required place of the fire hydrant system as directed. Gate connection

25mm dia gunmetal S.S gate valve with 25mm dia nipple shall be of best quality and of approved make and shall confirm the relevant IS

All working parts shall be gun metal / SS few turns of fine hemp yarn dipped in white zink shall be taken over threaded ends of the pipe and socket ends of the gate valve with nipple shall be screwed even the pipe with necessary appliances

Workmanship:-

The workmanship shall be as per specification of Item no 28(23.99) P.115 para 2.00 of general specification for building work booklet except that is for 25mm dia gun metal ISI mark SS Gate valve with 25mm dia nipple instead of gun metal check or non-return valve or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on one set basis.

Item No. 129**Supply, Installation, Testing & commissioning of 25 mm dia gun metal ISI mark Gate Valve with 25 mm dia nipple as complete as directed.**

25mm dia gunmetal S.S gate valve with 25mm dia nipple shall be of best quality and of approved make and shall confirm the relevant IS

All working parts shall be gun metal / SS few turns of fine hemp yarn dipped in white zinc shall be taken over threaded ends of the pipe and socket ends of the gate valve with nipple shall be screwed even the pipe with necessary appliances

Workmanship:-

The workmanship shall be as per specification of Item no 28(23.99) P.115 para 2.00 of general specification for building work booklet except that is for 25mm dia gun metal ISI mark SS Gate valve with 25mm dia nipple instead of gun metal check or non-return valve or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on one set basis.

Item No. 130**Supply & Installation of Mainfold for fire hydrant distrubution 200 mm dia system as directed.**

25mm dia gunmetal S.S gate valve with 25mm dia nipple shall be of best quality and of approved make and shall confirm the relevant IS

All working parts shall be gun metal / SS few turns of fine hemp yarn dipped in white zink shall be taken over threaded ends of the pipe and socket ends of the gate valve with nipple shall be screwed even the pipe with necessary appliances

Workmanship:-

The workmanship shall be as per specification of Item no 28(23.99) P.115 para 2.00 of general specification for building work booklet except that is for 25mm dia gun metal ISI mark SS Gate valve with 15mm dia nipple instead of gun metal check or non-return valve or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on one set basis.

Item No. 131

Providing & fixing emergency escape signs printed on rigid PVC sheet / acrylic sheet 4 mm thick photo luminescent auto glow type of approved quality including fixing on door, wall, ceiling complete with installation as directed.

(A) Escape signs

Emergency escape signs printed on rigid PVC sheet/Acrylic sheet 4 mm thick photo luminescent auto glow type of approved quality or as directed.

Emergency escape signs shall be fixed on door,wall,ceiling with necessary fixing accessories or as directed.

The entire work shall be carried out as per the requirement & satisfaction of the engineer in charge. The work shall be carried out in the best workman like manner or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on square inch basis.

(B) Fire signs

Emergency Fire Signs printed on rigid PVC sheet/Acrylic sheet 4 mm thick photo luminescent auto glow type of approved quality or as directed.

Emergency Fire signs shall be fixed on door,wall,ceiling with necessary fixing accessories or as directed.

The entire work shall be carried out as per the requirement & satisfaction of the engineer in charge. The work shall be carried out in the best workman like manner or as directed.

Mode of measurement & payment:-

Item shall be measured & paid on square inch basis.

Item No. 132**Making of Core in RCC work of size 200 mm etc. complete RCC Core Cutting**

The core size should be 200mm as specified.

Workmanship:

Clearance requirements of the core hole are the responsibility of the agency and should be determined prior to starting work.

Mechanical equipment use for core cutting as per industry standard.

Agency should prohibit access and clear machinery or equipment directly under the area to be core drilled so that falling cores do not injure any persons or damage any property.

Mode of measurement and payment:

The rate including cost of all materials, tools, plants and labour involved in satisfactory completion of this item. The rate shall be for unit of one numbers. The work shall be carried out as per directed by E.I.C.

Item no 133

Getting provisional NOC and Final NOC and Renewal of NOC (During Defect Liability Period) for Fire Hydrant, Sprinkler system, Fire Extinguisher, Fire alarm system etc. from local fire authority or any other relevant statutory authority at initial stage and required various other stages of construction work, including preparation of reports/drawings as per fire authority requirement. Rate also includes renewal of Fire NOC during defect liability period as per requirement. Main agency has to give demonstration of all fire system to fire officer police / concern beneficiaries & GSPHCL.

Agency has to submit FDR of approved bank as per clause 2.0, section 3, of Rs 20000.00 Or Quoted rate which ever is higher to GSPHC for minimum maturity period of Four years in favour of GSPHC, which will be released after Successful Submitting of All Fire NOC at the completion of defect liability period. Renewal Fire N.O.C. shall be submitted final S.D. proposal. Agency has to borne charges like preparing and submission of all the documents, Photographs, CD/DVD required together N.O.C. from concern fire department and also liaisoning work with concern departments. Main civil agency has to get the pre-NOC from fire & emergency department well before starting civil & the fire hydrant work including sump & pump room work. For that professional & experience fire agency has to prepare drawing of fire hydrant system, sprinkler system, fire alarm system,

DG set etc. as per tender item and making floor layout of all fire pump panel, cable earthing etc in pump room. If any changes required in drawings of sump & pump room. Main agency has to inform in written before excavation of pump & sump room. Agency has to calculate the total head & discharge required as per NBC / local fire office requirement and as per site situation and submit fire pump OEM specification curve foundation detail etc & get approval of cable, panel drawings & specification.

After completion of fire hydrant related work as per pre-NOC, tender specification & drawing approved by fire department, agency has to do site visit with fire department & give the testing & demonstration to fire officer & get the final NOC before handing over of the building. Agency has to give live testing & demonstration of all system to GSPHCL & police department jointly. For fire NOC fee separate item is taken in tender. Agency has to quote the rate as per latest Gazette in respective tender item.

1. Getting provisional NOC and Final NOC and Renewal of NOC for Fire Hydrant, Sprinkler system, Fire Extinguisher from local fire authority or any other relevant statutory authority at initial and at required various other stages of construction work till defect liability period.
2. Preparing of reports/drawings as per fire authority requirement for NOC approval.
3. Contractor should prepare all documents for Renewal of Fire NOC each year during defect liability period.

4. All Testing of Fire Fighting System shown to Fire Chief Officer or related officer as per Guide Line by the contractor. If any query occurs then final decision of Fire authority or engineer in charge will be final.

Mode of measurement & payment: -The rate includes preparing and submission of all the documents, Photographs, CD/DVD required to get the provisional NOC and Final NOC and Renewal of NOC from concern fire department and also liaising Work with concern departments. Rate also includes renewal of Fire NOC each year during defect liability period. The legal and other charges to get N.O.C. also will be born by contractor to involved in satisfactory completion of work. Agency has to submit FDR of approved bank as per clause 2.0, section 3, of Rs 20000.00 Or Quoted rate which ever is higher to GSPHCL for minimum maturity period of Four years in favour of GSPHC, which will be released after Successful Submitting of All Fire NOC at the completion of defect liability period. Each year Renewal of Fire N.O.C. to be submitted at with Last S.D. proposal released by Department.

The rate shall be for unit of Job/each.

Item No. 135

Providing and fixing fire-resistance Barrier in Duct openings at Slab level with fire Stop Sealant, having minimum 2-hour fire rating in Compliance with NBC 2016 Code.

As per Guidelines of NBC/GDCR, providing & fixing fire resistant barrier with appropriate sealant & having minimum 2 hour fire rating in duct area at slab level. Fire resistant barrier & sealant are as per requirement of NBC 2016 code and as per requirement of local fire authority.

Mode of measurement & payment:-

Item shall be measured & paid on Sqm. basis

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Contractor's Signature

**Exe. Engineer
G. S. P. H. C. Ltd.
Junagadh**