**2 : PREAMBLES**

2.1 : GENERALLY

Application of Descriptions etc

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| 2.1.1 | Descriptions, notes, directions, etc., having once appeared herein, are to, insofar as the context permits, apply throughout this Specification whether expressly repeated or not. In case of ambiguity, that which has express application will prevail over that which is general. |
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| Description of Terms | |
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| 2.1.2 | The term ‘allow’, where used, is to mean the inclusion, at the Contractor’s expense, of everything necessary to ensure the full and proper discharge of that responsibility. |
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| 2.1.3 | The term ‘approved’ where used is to mean approved by the Contract Administrator and any approval will be confirmed in writing. |
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| Protection | |
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| 2.1.4 | The Contractor is to allow for providing all necessary temporary casings and protection of work likely to be damaged during the works. He is to allow for all necessary tarpaulins, temporary covers, etc., to protect the existing and new work from damage. The whole of the above is to be to the entire satisfaction of the Contract Administrator. |
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| British Standards and Codes of Practice | |
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| 2.1.5 | All references to British Standards (B.S.) and Code of Practice (C.P.) are deemed to be to the current standards and codes available at the date of tendering. |
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| 2.1.6 | If required by the Contract Administrator, a copy of the relevant Code of Practice is to be provided by the Contractor and kept on site. |

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| Workmanship | |
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| 2.1.7 | The whole of the works is to be executed in the best and most workmanlike manner and with materials of the best description in accordance with the directions and to the satisfaction of the Contract Administrator. |
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| 2.1.8 | The appropriate sections of the work are to be inspected and measured from time to time before being covered up and the Contractor is to give due notice and is to afford every facility to the Contract Administrator for inspecting and checking the work, an to the Quantity Surveyor for valuing the work. |
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| 2.1.9 | All work to be executed under the Contract is to be carried out in accordance with the requirements of the appropriate current British Standard Code of Practice unless otherwise specified. |
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| 2.1.10 | Inspection or any other action by the Contract Administrator must not be taken as approval of samples, materials, products or work unless the Contract Administrator so confirms in writing. |
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| Making Good | |
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| 2.1.11 | The Contractor is to include for making good to match the surrounding work and for bringing forward affected work for redecoration. |
|  |  |
| 2.1.12 | Unless otherwise described all making good shall be carried out in materials and finishes to match existing, original or adjoining work. Edges of new work shall be undercut, lined up or levelled off to the old surfaces and new angles, mitres, etc., formed where appropriate. |
|  |  |
| Removing Fittings | |
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| 2.1.13 | The Contractor shall include for removing fittings so described as appropriate unless otherwise stated and making out and bringing forward all work disturbed and for all other items of making good. |

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| Redundant Services | |
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| 2.1.14 | Any Services, drains and like made redundant by reason of the works are to be properly removed, cut off and sealed to the satisfaction of the Contract Administrator. |
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| Scaffolding | |
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| 2.1.15 | The Contractor shall include for all necessary scaffolding and for making good all work disturbed in connection therewith. |

2.2 : EXCAVATION AND EARTHWORK

Generally

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| 2.2.1 | The Contractor is to allow in his prices for mechanical or hand excavation in whatsoever soil is met (other than rock) and for removing old roots and other minor obstructions. |
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| 2.2.2 | Excavations shall be carried out in a safe and orderly manner. |
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| Bottoms of Excavations | |
|  |  |
| 2.2.3 | The whole of the excavations are to be taken down to solid foundations as shown on the drawings specified, or in accordance with instructions received from the Contract Administrator or his representative. All bottoms are to be left open for inspection and approved by the Contract Administrator and Local Authority before concrete or hardcore is placed and when sufficient notice is to be given as and when excavations etc., are ready for inspection. |
|  |  |
| Overbreaks | |
|  |  |
| 2.2.4 | Should overbreaks occur in excavation work, then it shall be made up solidly from the bottom to the correct level with mass concrete backfilling as specified at the expense of the Contractor. |

2.3 : CONCRETE WORK

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| Cement | |
|  |  |
| 2.3.1 | Portland cement shall comply with BS EN 197-1 : 2000. Cement shall be stored and maintained under dry conditions. |
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| Fine Aggregate | |
|  |  |
| 2.3.2 | Fine aggregate for concrete work shall be a sharp well graded mixture from 5mm down complying with the requirements of  BS EN 12620 : 2002 and graded within zones 1, 2 or 3 of Table 2. |
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| Coarse Aggregate | |
|  |  |
| 2.3.3 | Coarse aggregate for concrete work shall comply with the requirement of BS EN 12620 : 2002 and shall be rounded or irregular in shape and well graded from 40mm to 5mm or 20mm to 5mm nominal size. |
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| Water | |
|  |  |
| 2.3.4 | Water for making concrete shall be fresh, clean and free from harmful organic impurities and foreign matter, and shall comply with the test requirements of BS EN 1008 : 2002. |
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| Reinforcement | |
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| 2.3.5 | Rod reinforcement shall be mild steel bars to comply with  BS 4449 : 2005. |
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| 2.3.6 | Reinforcement shall be free from oil, dirt and paint, and loose rust shall be removed by a stiff wire brush before the steel is used. |
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| Concrete Mix | |
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| 2.3.7 | Concrete mix has been designated by the required characteristic cube strength at age 28 days. |
|  |  |
| 2.3.8 | The quantities of cement, fine and coarse aggregates shall be determined by weight. |
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| 2.3.9 | The added water shall be regulated to ensure a consistent mix and shall be the minimum required for workability. |
| Mixing Concrete | |
|  |  |
| 2.3.10 | All fine and coarse aggregate are to be kept separate and separately weighed for each mixing of concrete. |
|  |  |
| 2.3.11 | Concrete is to be mixed in an approved mechanical batch mixer for at least two minutes after all the constituents including the water have been placed in the mixer. |
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| Placing Concrete | |
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| 2.3.12 | All concrete shall be transported and placed in position as soon as possible after discharge from the mixer. Concrete which has commenced to set shall not be used. |
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| 2.3.13 | Concrete shall be lowered into position and not tipped from a height. |
|  |  |
| 2.3.14 | In floor slabs the concrete shall e tamped and compacted thoroughly, avoiding all occurrence of voids and honeycombing. |
|  |  |
| 2.3.15 | All tools, formwork, etc., shall be clean and the steel reinforcement (if any) shall be kept in its correct position during the concreting. |
|  |  |
| 2.3.16 | Immediately on cessation of work (including breaks for meals) the mixing machines and barrows used to carry concrete shall be emptied and cleaned. |
|  |  |
| Formwork | |
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| 2.3.17 | All formwork shall be of sufficient strength, rigidity and tightness as required to support and maintain the concrete in its correct position and to carry the necessary constructional traffic. |
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| 2.3.18 | Surfaces of formwork in contact with the concrete shall be well wetted before concrete is placed. |
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| 2.3.19 | Formwork shall be removed without damage to the concrete. |

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| 2.4 : BRICKWORK AND BLOCKWORK | |
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| Cement and Lime | |
|  |  |
| 2.4.1 | Portland cement shall comply with BS EN 197-1 : 2000. |
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| 2.4.2 | Lime shall be semi-hydraulic and comply with BS EN 459-1 : 2001. |
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| Sand |  |
|  |  |
| 2.4.3 | Sand for brickwork and blockwork shall be in accordance with  BS EN 13139 : 2002. |
|  |  |
| Blocks |  |
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| 2.4.4 | All blocks are to be unloaded by hand (not tipped), and neatly stacked on site. |
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| 2.4.5 | Blockwork partitions and walls are to be formed or aerated concrete blocks as manufactured by Thermalite Limited,  Station Road, Coleshill, Birmingham B46 1HP, or other equal and approved. |
|  |  |
| 2.4.6 | No brick or concrete bats or cavity closers will be permitted in the blockwork. |
|  |  |
| Bricks |  |
|  |  |
| 2.4.7 | All bricks are to be unloaded by hand (not tipped), neatly stacked on site, and in the case of facing bricks are to be suitable protected by means of straw. |
|  |  |
| Facing Brickwork | |
|  |  |
| 2.4.8 | The Contractor is to allow in his rates for selecting and mixing the bricks to ensure an even distribution of colour and markings in the finished brickwork for each type of facing brick, to the satisfaction of, and to match the sample panel approved by the Contract Administrator. The Contractor is also to allow for any resultant additional wastage of bricks and is to allow for keeping on site sufficient bricks at any one time to achieve the eventual distribution. |

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| 2.4.9 | Facing bricks, where described as ‘to match existing’ shall match as closely as possible. The Contractor is to submit samples of all facing bricks to the Contract Administrator for approval and bricks delivered to site must be of the same appearance and quality of approved samples. |
|  |  |
| 2.4.10 | Common bricks shall be to BS EN 772-3 : 1998,  BS EN 772-7 : 1998, BS EN 771-1 : 2003 and have a minimum compressive strength of 21 N/mm2. |
|  |  |
| 2.4.11 | Engineering bricks shall be to BS EN 772-3 : 1998,  BS EN 772-7 : 1998, BS EN 771-1 : 2003 Class B or Class 4 where stated on drawings. |
|  |  |
| 2.4.12 | No more than sixteen courses of brickwork shall be built in a day. |
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| Damp Proof Courses | |
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| 2.4.13 | Damp proof courses shall be bituminous felt damp proof courses conforming to BS 6398 : 1983, BS 6515 : 1984, BS 8215 : 1991. |
|  |  |
| 2.4.14 | RIW 232 Compound damp proof membrane is to be obtained from RIW Limited, ARC House, Terrace Road South, Binfield, Bracknell, Berkshire RG42 4PZ, Telephone : 01344 861988, [enquiries@riw.co.uk](mailto:enquiries@riw.co.uk) and applied strictly in accordance with their recommendations. |
|  |  |
| Wall Ties | |
|  |  |
| 2.4.15 | Wall ties shall be galvanised mild steel to BS EN 845-1 : 2003 and A1 : 2008, vertical twist type with insulation retainers where specified. |
| Mortars |  |
|  |  |
| 2.4.16 | All completed brickwork and blockwork shall be protected at all times from scaffold splash, mortar drops, etc. |
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| Jointing and Pointing | |
|  |  |
| 2.4.17 | Bricks and blocks shall be laid in mortar properly bedded and jointed, and all joints filled with mortar at every course. |

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| 2.5 : ROOFING | |
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| Generally | |
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| 2.5.1 | Lay the full roof covering in a single operation to provide a secure, free draining and completely weathertight roof. |
|  |  |
| 2.5.2 | Ancillary products and accessories, where not specified, to be types recommended for the purpose by the felt manufacturer. |
|  |  |
| 2.5.3 | Store rolls of felt indoors in reasonably warm conditions until immediately before use. |
|  |  |
| 2.5.4 | Provide temporary covers and drainage as required to keep unfinished areas of the roof dry. |
|  |  |
| 2.5.5 | Protect daywork joints in warm deck roofs with a lapped and fully bonded strip of top layer felt. |
|  |  |
| 2.5.6 | Suspend work in severe or continuously wet weather unless an effective temporary roof is provided over the working area. |
|  |  |
| 2.5.7 | If unavoidable wetting of the construction does occur, take prompt action to minimise and make good any damage. |
|  |  |
| 2.5.8 | Primers are to be of the type recommended for the purpose by the felt manufacturer. Apply by mopping, brushing or spraying to achieve an even and full cover of the surface. Allow to dry thoroughly before covering. |
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| 2.6 : WOODWORK | |
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| Plugged Timber | |
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| 2.6.1 | Timber described as ‘plugged’ shall mean timber fixed to brickwork, concrete, or other similar background by means of timber or plastic plugs, shot firing may be used at the Contractor’s option providing guns and pins of an appropriate size to suit the timber section to be fixed are used and the Contract Administrator’s permission is obtained. |
|  |  |
| Quality of Timber in Joinery | |
|  |  |
| 2.6.2 | Softwood and hardwood shall be to BS 1186-3 : 1990 and be of the best quality well seasoned, of good grain and free from all defects and blemishes. In particular, timber described as kept clean for staining or clear finish shall be to Class IS of  BS 1186- 3 : 1990. |
|  |  |
| Ironmongery | |
|  |  |
| 2.6.3 | The Contractor shall allow for removing fittings before painting and refixing as may be required and for oiling, easing and leaving clean and in perfect order on completion. |
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| 2.6.4 | The Contractor is to note that all flush doors are to have all blockings as required for ironmongery. |
|  |  |
| 2.6.5 | All lock furniture and special fittings are to be protected until completion of the works. |
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| 2.6.6 | All ironmongery is to have screws to match. |
|  |  |
| 2.6.7 | Locks, hinges, fastenings, etc., shall be oiled, adjusted and left in perfect working order at completion and all keys properly labelled and delivered to the Contract Administrator. |
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| 2.7 : PLUMBING AND MECHANICAL ENGINEERING INSTALLATIONS | | |
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| Generally | | |
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| 2.7.1 | All plumbing work shall be executed in accordance with the regulations of and to the satisfaction of the Water Company, Health Inspector and Local Authority. | |
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| Materials | | |
|  |  | |
| 2.7.2 | Cast iron spigot and socket sand cast or spun pipes are to be BS 416-1 : 1990 Type A without ears. | |
|  |  | |
| 2.7.3 | Cast iron spigot and socket pipe fittings are to be to BS 416-1 : 1990 Type A sockets. | |
|  |  | |
| 2.7.4 | Half hard, light gauge copper pipes are to be to BS EN 1057 : 1996. | |
|  |  | |
| 2.7.5 | Copper or copper alloy capillary fittings are to be to BS EN 1254-1 : 1998, BS EN 1254-2 : 1998. | |
|  |  | |
| 2.7.6 | Copper pipework of 54mm and below shall be jointed by either capillary or compression fittings conforming to BS EN 1254-1 : 1998, BS EN 1254-2 : 1998. | |
|  |  | |
| 2.7.7 | All polypropylene pipework and fittings shall be in accordance with BS 4991, Table 1. | |
|  |  | |
| 2.7.8 | Copper balloons are to be in accordance with BS 416-1 : 1990. | |
|  |  | |
| 2.7.9 | Sanitary fittings shall be as described within the text of the Specification and shall be stored under cover and kept dry prior to installation. | |
|  |  | |
| 2.7.10 | Synthetic rubber based joint sealants shall be ‘Dow Corning’ manufactured by Dow Corning Limited, Meriden Business Park, Copse Drive, Allesley, Coventry CV5 9RG, Telephone : 01676 528000. | |
|  |  | |
| 2.7.11 | Jointing and caulking compounds, cements, gaskets, washers and other jointing materials are to be of types recommended by the manufacturers of the pipes being fixed. | |
|  |  | |
|  |  | |
| Workmanship | | |
|  |  | |
| 2.7.12 | Protect sanitary fittings as follows: | |
|  |  | |
|  | i. | Caulk tarred hempen spun yarn well into the socket, the top third of the socket to be run and caulked with molten pig lead. |
|  |  |  |
| 2.7.13 | Cast iron and ceramic pipes with spigots and sockets shall be jointed with yarn and cement pipe sand mortar 1:2. | |
|  |  | |
| 2.7.14 | Copper pipes shall be jointed with specified fittings to fitting manufacturers recommendations. | |
|  |  | |
| 2.7.15 | Copper pipes shall be jointed to threaded bosses on cast iron pipes with threaded copper alloy connectors. | |
|  |  | |
| 2.7.16 | uPVC pipes shall be jointed with solvent cement or push-fit  O Ring connectors. | |
|  |  | |
| 2.7.17 | Joint uPVC pipes to clay or cast iron pipes with proprietary adaptors. | |
|  |  | |
| 2.7.18 | MUPVC pipes shall be jointed with solvent cement. | |
|  |  | |
| 2.7.19 | Make adequate provision for thermal movement in the length of pipes jointed with solvent cement. | |
|  |  | |
| 2.7.20 | Protect sanitary fittings as follows: | |
|  |  |  |
|  | i. | Retain protective coverings when practical during and after fixing. |
|  |  |
| ii. | Do not stand in or on any appliance. |
|  |  |
| iii | Do not use appliances for preparing or soaking materials or for washing tools etc. |
|  |  |
| iv. | Replace any appliances which are hipped or scratched. |
|  |  |
| v. | Fix appliances in accordance with the manufacturers recommendations. Use fastenings supplied by the manufacturer wherever possible. |

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| vi. | Do not bed floor standing appliances in cement mortar unless so specified. |
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| vii. | Seal joints between the appliances and adjacent surfaces with synthetic rubber based sealants or silicone jointing products in accordance with the manufacturers recommendations. |
|  |  | |
| 2.7.21 | Fix taps in accordance with the manufacturers recommendations making a watertight seal with appliance. Place hot taps to the left of cold taps as viewed by the user of the appliance. | |
|  |  | |
| 2.7.22 | Bed wastes in waterproof jointing compound and fix with resilient washer between appliance and back nut. | |
|  |  | |
| 2.7.23 | Connect WC outgoes to soil pipes with proprietary pipe fittings. | |
|  |  | |
| 2.7.24 | Provide manufacturer with correct dimension for stainless steel flush pipes. | |
|  |  | |
| 2.7.25 | Bed basins, bowl urinals, and other sanitary fittings firmly on brackets to prevent any movement. | |
|  |  | |
| 2.7.26 | Fix sanitary fittings after completion of wall finishings. | |
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| 2.7.27 | Testing is to be carried out as soon as practicable after completion of each drainage stack. All concealed work is to be tested before being finally enclosed. | |
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| 2.7.28 | Air testing shall be undertaken as follows: | |
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|  | i. | Fully charged water seals of all sanitary appliances. |
|  |  |  |
|  | ii. | Insert test plugs into open ends of pipework. |
|  |  |  |
|  | iii. | Connect T piece to installation by a flexible tube passed through a water seal or by fitting to a test plug. |
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|  | iv. | T piece to have cock on each branch, one branch connected to a Manometer. |

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|  | v. | Introduce air or smoke through other branch until a pressure equal to 38mm water gauge registers on the Manometer scale. |
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|  | vi. | Allow a period for temperature stabilisation, after which pressure to be maintained without loss for not less than three minutes. |
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| Schedule of Maximum Pipe Fixing Intervals | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2.7.29 | Pipework Material | Location | Size of Services (mm) | | | | |
|  |  |  |  |  |  |  |  |
|  |  |  | 12.32 | 42 | 54 | 75 | 100 |
|  |  |  |  |  |  |  |  |
|  | Cast Iron Soil to BS 416-1 : 1990 | Vertical | - | - | - | 2.4 | 2.7 |
|  |  |  |  |  |  |  |  |
|  |  | Horizontal | - | - |  | 2.4 | 2.7 |
|  |  |  |  |  |  |  |  |
|  | Copper tube to BS EN 1057 : 1996 | Vertical | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
|  |  | Horizontal | 1.5 | 1.8 | 1.8 | 1.8 | 1.8 |
|  |  |  |  |  |  |  |  |
|  | Polypropylene tube to BS 4991 Table 1 | Horizontal | 0.8 | 0.9 | 1.1 | 1.4 | 1.5 |
|  |  |  |  |  |  |  |  |

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| 2.8 : ELECTRICAL INSTALLATIONS | | | |
|  |  | | |
| 2.8.1 | Electrical installations are to comply with the following materials and specifications clauses unless varied within the text of the Specification document. | | |
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| Materials | | | |
|  |  | | |
| 2.8.2 | All materials shall comply with the IEE Regulations current edition and relevant British Standards. | | |
|  |  | | |
| 2.8.3 | The following shall be included with all items specified: | | |
|  |  | | |
|  | i. | Fixings of every description. |
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|  | ii. | Conduit fittings, including couplers, bushes, locknuts and clips, where appropriate. |
|  |  |  |
|  | iii. | Cable clips and saddles, where necessary. |
|  |  |  |
|  | iv. | Earthing clamps. |
|  |  |  |
|  | v. | Cable bonding nipples. |
|  |  |  |
|  | vi. | Insulating bushes. |
|  |  |  |
|  | vii. | All other minor accessories. |
|  |  | | |
| 2.8.4 | Circuit cables generally are to be BASEC certified PVC insulated and sheathed cables with earth conductor, twin or three core, as appropriate to BS 6004 : 2000. | | |
|  |  | | |
| 2.8.5 | Cables are to be sized in accordance with the requirements of the IEE Regulations. | | |
|  |  | | |
| 2.8.6 | Metal conduit is to be plain black enamelled conduit and fittings and components to BS 4568 : 1970. | | |
|  |  | | |
| 2.8.7 | Galvanised conduit, where specified, is to be heavy threaded galvanised conduit with fittings and components to  BS 4568 : 1970. | | |
|  |  | | |
| 2.8.8 | Flexible conduit is to be to BS EN 50086-1 : 1994, PVC covered. | | |
|  |  | | |
| 2.8.9 | Metal boxes, unless otherwise specified, are to be rust proofed steel boxes with lug grip entry points, levelling adjustment for face plates and earth terminal. | | |
|  |  | | |
| 2.8.10 | Accessories, generally, comprising switches, socket and fused outlets and other outlet fittings, wall lighting switches, ceiling lighting switches, bell push, cooker control units, water heater switch, fused spurs to heaters etc., shall be in accordance with the current British Standards. | | |
|  |  | | |
| 2.8.11 | Meter cupboards, where required, are to be stove enamelled, flush pattern, steel cupboards to BS 5486, with space for meter and consumer unit as described in the Specification and earth leakage circuit breaker. | | |
|  |  | | |
| 2.8.12 | Consumer units are to be stove enamelled, steel units, fitted with MCB to BS 3871, with a suitable number of circuit ways to suit the installation. Provide tails for meter connection. | | |
|  |  | | |
| 2.8.13 | Store luminaires and self finished appliances in manufacturers wrappings in warm dry conditions. As far as is practicable, leave wrappings in position during fixing and leave everything adequately protected until time of hand-over. | | |
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| Preliminary Procedures | | | |
|  |  | | |
| 2.8.14 | Approximate positions of the electrical equipment are indicated on the Contract documentation. Cable routes are to be agreed with the Contract Administrator and Contractors are to ascertain the precise locations of all outlets luminaires appliances control gear and other equipment before commencing the installation. | | |
|  |  | | |
| 2.8.15 | Contractors are to mark holes, chases etc., and provide all necessary guidance in order that the Builders Work can be correctly undertaken. Do not mark out cable drops back to back on partition walls. | | |
|  |  | | |
| Workmanship | | | |
|  |  | | |
| 2.8.16 | Undertake all work in accordance with the IEE Regulations current edition. Make secure electrical connections in full contact that will not increase the line resistance or cause local heating. Do not damage the conductors of their insulation when stripping the outer sheeting from cables. | | |
|  |  | | |
| 2.8.17 | Undertake wiring on the looping-in principle. Make all joints at distribution boards switches specified outlet boxes and switch boxes. Joints in joint boxes and through joints are not permitted. Provide earth continuity with cable conductors. Do not rely on conduit and other metal work for earth continuity. | | |
|  |  | | |
| 2.8.18 | Run cables as far as possible through floor and ceiling voids. Run parallel to walls and joists etc., do not route diagonally. Maintain 250mm minimum clearance from hot water pipes. Do not embed cables in insulation. | | |
|  |  | | |
| 2.8.19 | Locate horizontal cables in walls within 150mm of the ceiling or within the band of 150 – 300mm above the floor level. Locate vertical cables directly above or below the switch or outlet being served. Do not embed any cable in walls or other part of the buildings’ structure. Do not run cables in the cavity of hollow walls.. | | |
|  |  | | |
| 2.8.20 | Adequately support and secure cables without kinking and fix flat at maximum one metre centres with correctly sized plastic clips. Run through conduit where required as specified and provide rubber bushes at open ends. | | |
|  |  | | |
| 2.8.21 | Fix conduits where specified. Fix close jointed conduit with the seam to the wall. Ts and elbow fittings are not permitted. Bends, if unavoidable, shall be large radius machine made. | | |
|  |  | | |
| 2.8.22 | Drops to switches and sockets shall be run through metal conduit or PVC conduit, if permitted, with minimum 6mm plaster cover, terminated 300mm above floor level or 150mm above working surfaces and extended minimum 50mm into floor or roof space. | | |
|  |  | | |
| 2.8.23 | In damp conditions, run cables through galvanised conduit or use mineral insulated cables to BS 6207. Make provision for condensation to drain from conduit. | | |
|  |  | | |
| 2.8.24 | Undertake plugging, screwing, bolting and make general fixings as appropriate to the installation. | | |
|  |  | | |
| 2.8.25 | Check all luminaires and other appliances etc., and ensure that everything is clean, in new condition and functioning correctly. | | |

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| 2.8.26 | Test the entire installation and arrange for tests by the supply authority. Provide everything necessary and pay all costs. Provide a Completion Certificate in accordance with Appendix 16of the IEE Regulations. |
|  |  |
| 2.8.27 | After testing, replace makers wrappings, if possible, or otherwise leave all appliances and fittings protected until handover. |
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| 2.9 : FLOOR, WALL AND CEILING FINISHES | |
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| Generally | |
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| 2.9.1 | The plaster is to be as supplied by British Gypsum, Head Office, East Leake, Loughborough, Leicestershire LE12 6HX, Telephone : 0115 945 1000 and used and applied all in accordance with the British Gypsum White Book latest Edition. |
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| 2.9.2 | The general plaster will be Carlite pre-mixed plaster. |
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| 2.9.3 | The skim coat plaster will be Sirapite B finish. |
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| 2.9.4 | All walls to be plastered are to be thoroughly cleaned down and well moistened before plastering. |
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| Partitions | |
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| 2.9.5 | The Contractor is to note that partition head and sole channels and timber plates are not to be shotfired to the structure but are to be screwed and plugged as necessary with approved proprietary fixings. |
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| Prices for Wall, Floor and Ceiling Finishes | |
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| 2.9.6 | Prices are to include for internal angles of plain surfaces and all extra labour working behind or around pipes, conduits and brackets etc., including making good around pipe brackets. |
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| 2.9.7 | Allow for all temporary rules, temporary screeds etc., and for incidental narrow widths as required. |
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| 2.9.8 | Prices for trowelled beds are to allow for receiving vinyl tile, vinyl sheet and carpet flooring. |
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| Making Good | |
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| 2.9.9 | Edges of existing plaster shall be undercut to form a key for new work, and all new work shall be carefully and neatly jointed to existing. Cut out defects and cracks and properly fill with approved filler and rub down smooth. |
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| 2.10 : GLAZING | |
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| Generally | |
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| 2.10.1 | The whole of the glass shall be of British manufacture of the best quality of its representative kind, picked clear of all specks, bubbles, smoke wanes, all holes and other defects and to comply with BS 952-1 : 1995 and is to be glazed in accordance with the requirements of BS 6262 : 2005 all sections. |
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| 2.10.2 | All glass shall be accurately cut to fit easily into the rebates and sprigged in where necessary. |
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| 2.10.3 | Glazing shall not be executed until frames have been fixed in position. |
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| Cleaning Glass | |
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| 2.10.4 | Clean all glass inside and out on completion, replace all cracked or broken glass and leave in good condition to the satisfaction of the Contract Administrator. Repair defective putties. |
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| 2.11 : PAINTING AND DECORATING  Generally | |
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| 2.11.1 | The Contractor must provide all necessary guards and wet paint notices, and will be held responsible for damage which may be caused by or through wet paint. |
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| 2.11.2 | The Contractor will only be allowed to use materials delivered to the site in sealed cans or drums bearing the name of the manufacturer and properly labelled as to quality and date of despatch. |
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| 2.11.3 | Any defective or unsatisfactory materials delivered to the site must be immediately removed. |
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| 2.11.4 | All painting and proprietary systems are to be carried out strictly in accordance with the manufacturer’s recommendations. |
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| 2.11.5. | The paints shall be thoroughly mixed of stirred before use. They shall be so stored as to minimise exposure to extreme of temperature. |
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| 2.11.6 | Thinning of paint materials, where necessary, shall be carried out with the type of thinner and in the proportions recommended by the manufacturer of the paint. |
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| 2.11.7 | All primers shall be applied by brush. Subsequent coats may be applied by brush, spray or roller, unless otherwise directed. |
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| 2.11.8 | Each coat of paint shall be allowed to harden before the next is applied. |
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| 2.11.9 | Paint shall not be applied to surfaces structurally or superficially damp and all surfaces must be ascertained to be free from condensation, dirt, etc., before application of each coat. |
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| 2.11.10 | Primed or undercoated woodwork and metalwork should not be left in an exposed or unsuitable situation for an undue period before completing the painting process. |
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| 2.11.11 | All areas to be painted are to be cleared of rubbish prior to the commencement of the work and adequate precautions taken to ensure that areas are reasonably dust free until all paintwork is completely dry. |
| 2.11.12 | No consecutive coats of paint are to be of the same shade. |
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| 2.11.13 | Plasterboard and chipboard shall be dry and thoroughly cleaned down and dusted off before application of the decoration. |
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| 2.11.14 | All woodwork shall be cleaned to remove dirt, grease, etc., rubbed down or scraped smooth and dusted off. A thin coat of knotting shall be applied to all knots. After priming, all cracks, nail holes, etc., shall be made good with hard stopping. |
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| 2.11.15 | The knotting is to be best quality shellac knotting. |
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| 2.11.16 | The stopping shall consist of one part white lead and two parts gold size putty. |
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| 2.11.17 | The whole of the work shall be finished to tints and colours selected by the Contact Administrator and the Contractor shall include for painting samples in-situ as required for the selection and approval of the Contract Administrator. The work shall be executed and finished in such multi-colours as are selected and the prices shall include for such multi-colours and for cutting in at angles and around openings. |
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| 2.11.18 | All locks and fastenings are to be removed before the painting processes are commenced and are to be refixed in position on completion. |
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| 2.11.19 | Provide all necessary dust sheets or other protective materials to protect floors, fittings and decorations, during the course of the work. |
|  |  |
| 2.11.20 | Do all necessary patching up on completion, clear and cart away all rubbish and surplus materials, clean off all paint spots, stains, etc., clean off paint and other marks from glass both sides and leave the whole of the work in this section to the complete satisfaction of the Contract Administrator. |
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| 2.12 : DRAINAGE  Generally | | | |
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| 2.12.1 | Materials are to comply with the following: | | |
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|  | i. | Vitrified clay pipes, fittings and joints : BS 65 : 1991. |
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|  | ii. | Manhole covers : BS EN 124 : 1994. |
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|  | iii. | Manhole step irons : BS EN 13101 : 2002. |
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|  | Workmanship is to comply with the following: | |
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|  | i. | Drainage : BS EN 752-1 : 1996, BS EN 752-2 : 1997, BS EN 752-3 : 1997. |
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|  | Materials and workmanship in respect of excavation, hardcore, concrete and brickwork shall be as described in the foregoing sections. | |
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| Drains |  | |
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| 2.12.2 | Drains shall be stoneware, generally 100mm diameter unless specified otherwise. Fittings shall be of the Hepsleve system jointed with plastic couplings as manufactured by Hepworth Iron Company Limited, Hazlehead, Stocksbridge, Sheffield, S30 5HG, or other equal and approved. Pipes shall be laid in straight lines to even and regular gradients from point to point and joined in accordance with the manufacturer’s recommendations. | |
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| Beds and Surrounds | | |
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| 2.12.3 | Unless otherwise specified, drains shall be bedded and surrounded in pea gravel or similar approved granular material. A 100mm thick bed shall be laid and compacted over the full width of the trench. The bed shall be scooped out locally at couplings to enable pipes to rest uniformly on their barrels and shall be adjusted to exact line and level. After testing, further granular material shall be laid and compacted in 100mm layers to 100mm above the crown of the pipe. | |
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| 2.12.4 | Where existing drains are required to be surrounded in concrete, they shall be carefully exposed and a minimum 150mm 1:3:6 38mm aggregate bed and surround provided to the pipe. | |
| Manholes | | |
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| 2.12.5 | Brick manholes shall be constructed in accordance with BS 301 ‘Building Drainage’ in the positions indicated on the drawings. | |
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| 2.12.6 | Manhole covers and frames shall be medium duty in areas of paving or footpaths and light duty in landscaped locations and shall be solidly bedded in cement mortar so that the covers, when in position, are fair and even with the adjacent surfaces. | |
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| Existing Drains | | |
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| 2.12.7 | The existing drains must be protected during the course of the Contract, any damaged drains shall be made good at the Contractor’s expense. | |
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| Testing |  | |
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| 2.12.8 | Test all drains by the water or smoke test as may be directed, cut out all defective parts and renew and retest until approved. | |
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| Drains to be Left Clean | | |
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| 2.12.9 | Where the drain system connects to an existing manhole, a coarse bar or mesh screen shall be maintained in the manhole before the point of connection during the time that flushing is in progress and all debris collected in the screen shall be removed and the screen withdrawn from the manhole after the completion of flushing. | |
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| 2.12.10 | All manhole walls and benchings are to be washed down. | |
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| 2.13 : PATHS AND PAVINGS  Sand | |
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| 2.13.1 | Sand used for laying course shall be graded sharp sand containing not more than 3% of silt and clay by weight and with not more than 10% retained on a 5mm sieve. |
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| Camber and Falls for Concrete Block Paving | |
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| 2.13.2 | Unless otherwise required, the camber shall be 1 in 40 and all channels shall have falls not less than 1 in 180 using concrete blocks. |
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| 2.13.3 | The channels shall be formed with precast concrete blocks. |
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| 2.13.4 | The site shall be excavated to the approved lines and levels, and the formation accurately shaped to the correct levels and falls. |
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| 2.13.5 | The formation shall be rolled by a 4400kg – 6000kg weight roller and if movement noted in the formation, approved material as required by the Engineer shall be laid on the whole, well consolidated. |
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| Surface Levels of Pavement Courses | |
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| 2.13.6 | The formation and sub-base shall not deviate from true level by more than: |
|  |  |
|  | Formation +20mm  Sub-base + or – 20mm  -30mm |
|  |  |
| 2.13.7 | The finished wearing surface level shall not deviate vertically at any point from the true pavement surface by more than + or – 10mm. Immediately adjacent to gullies and manholes the tolerance shall be + 3mm – 0mm. |
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| 2.13.8 | The maximum deformation within the completed surface, measured by a 3mm straight-edge placed parallel to the centre-line of the road, should note exceed 10mm except in parts of the carriageway where vertical curves necessitate a greater deviation. |

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| 2.13.9 | The levels of any two adjacent blocks shall not differ by more than 2mm. |
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| Sub-base | |
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| 2.13.10 | For granular sub-base, the general requirement of the Department of Transport Specification for Roads and Bridge Works (1976), Clause 802 shall apply except for sub-clauses (3) and (7). |
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| 2.13.11 | At the time of laying the sand and blocks, the sub-base shall be structurally sound and free from contamination. Any damage shall have been made good and the level shall not deviate by more than + or – 20mm from the true level. |
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| Paths and Paved Areas | |
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| 2.13.12 | On all paths and paved areas, the Contractor shall allow either here or in his prices for eradicating all weeds immediately prior to laying. Any damage occasioned to the paths or paving, after laying caused by growth of weeds shall be made good by the Contractor at his own expense. |
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| Vibration of Concrete Paving Blocks | |
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| 2.13.13 | The concrete paving blocks shall be subjected to passes of a steel faced vibrating plates compactor to adequately compact the sand concrete blocks and to fill the vertical joints with sand. For 60 – 65mm thick blocks, the vibrating plate compactor shall have a centrifugal force of 7 – 16kN, a plate area of 0.2 – 0.4 square metres and a frequency of 75 – 100 Hz. Enough passes shall be made to compact the laying course and produce an even block surface. Vibration shall not be carried out within one metre of an unrestrained edge. |
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| 2.13.14 | After initial vibration, sand shall be brushed into joints and after passes of the vibrating plate compactor made to fill the joints, more sand being spread over the surface if required. This operation shall be repeated during the contract period if the joints subsequently display inadequate filling. |

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| Curved Cutting and Raking Cutting on Block Paving | |
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| 2.13.15 | The Contractor should allow for all necessary curved and raking cutting on the block paving. |
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| Edges |  |
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| 2.13.16 | Small gaps left at the edges of the block paving, including against obstructions with a paved area, shall be filled to the full depth of the paving block with a san cement mortar not leaner than 4:1, compacted in. |

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| 2.14 : EXTERNAL SERVICES  Generally | |
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| 2.14.1 | The Contractor is to allow in his prices for external service ducts for installing and leaving in the ducts suitable draw wires for the drawing through of the various service cables etc., and for installing temporary plugs at ends of duct runs to prevent ingress of solid, rubbish, etc. |
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| 2.15 : LANDSCAPING  Planting | |
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| 2.15.1 | Imported top soil shall be of approved quality obtained from an approved supplier. |