

## 1 PRELIMINARIES

- 1.1 Standard and Codes *(Page 1)*
- 1.2 Drawings and Specifications *(Page 1)*
- 1.3 Transportation to the Site *(Page 1)*
- 1.4 Schedule and Execution Plan *(Page 1)*
- 1.5 Repairing and Correction *(Page 1)*
- 1.6 Workmanship and Materials *(Page 1)*
- 1.7 Obvious Work *(Page 2)*
- 1.8 Protection *(Page 2)*
- 1.9 Scaffolding *(Page 2)*
- 1.10 Construction Machinery, Plants and Equipment's *(Page 2)*
- 1.11 Samples *(Page 3)*
- 1.12 Ordering Materials *(Page 3)*
- 1.13 Water and Electricity for the Works *(Page 3)*
- 1.14 Site Offices for Contractor *(Page 3)*
- 1.15 Contractor's Site Area *(Page 4)*
- 1.16 Progress Meetings *(Page 4)*
- 1.17 Progress Photographs *(Page 4)*
- 1.18 Setting Out *(Page 5)*
- 1.19 Bill boards *(Page 5)*
- 1.20 Loading in Excess of Design Load *(Page 5)*
- 1.21 Building Permit *(Page 6)*
- 1.22 Permanent Drainage, Electricity and Water connection *(Page 6)*
- 1.23 Handing Over *(Page 6)*

## 2 SITE WORKS 7

- 2.1 Site Clearing *(Page 7)*
- 2.2 Excavation *(Page 7)*
- 2.3 De-watering *(Page 8)*
- 2.4 Backfill *(Page 9)*

## 3 CONCRETE WORKS 10

- 3.1 General *(Page 10)*
- 3.2 Cement *(Page 10)*
- 3.3 Aggregate *(Page 10)*
- 3.4 Water *(Page 12)*
- 3.5 Handling and Storage of Material *(Page 12)*
- 3.6 Mix Proportion and Strength *(Page 12)*
- 3.7 Production of Concrete *(Page 13)*
- 3.8 Transporting and Placing *(Page 13)*
- 3.9 Concrete Curing *(Page 14)*
- 3.10 Test *(Page 15)*
- 3.11 Concrete *(Page 15)*
- 3.12 Defective Concrete and Finishes *(Page 16)*

## 4 CONCRETE FORMWORK

- 4.1 Structure and Material *(Page 17)*
- 4.2 Performance *(Page 17)*
- 4.3 Standard Values of Dimensional tolerances *(Page 18)*

## 5 STEEL REINFORCEMENT

- 5.1 Material *(Page 20)*
- 5.2 Cleaning *(Page 20)*
- 5.3 Bending and Laps *(Page 20)*
- 5.4 Reinforcement Cover *(Page 20)*

- 5.5 Placing *(Page 20)*
- 5.6 Scope *(Page 21)*
- 5.7 Materials *(Page 21)*
- 5.8 Fabrication *(Page 21)*
- 5.9 Bolt *(Page 22)*
- 5.10 Welding *(Page 22)*
- 5.11 Erection and Field Painting *(Page 23)*
- 5.12 Anchor Bolt *(Page 24)*

## 6 WATER PROOFING

- 6.1 Description of work *(Page 25)*
- 6.2 Materials *(Page 25)*
- 6.3 Storage of materials *(Page 25)*
- 6.4 Surface preparation *(Page 25)*
- 6.5 Application *(Page 25)*
- 6.6 Curing *(Page 26)*
- 6.7 General *(Page 27)*
- 6.8 Products *(Page 27)*
- 6.9 Workmanship *(Page 27)*

## 7 MASONRY

- 7.1 Materials *(Page 28)*
- 7.2 General *(Page 28)*
- 7.3 Block work *(Page 28)*
- 7.4 General *(Page 30)*
- 7.5 Materials and Storage *(Page 30)*
- 7.6 Thickness of Coating *(Page 30)*
- 7.7 Finish *(Page 31)*
- 7.8 General Preparation *(Page 31)*
- 7.9 External Plastering *(Page 31)*
- 7.10 Internal Plastering *(Page 32)*
- 7.11 External Rendering *(Page 32)*
- 7.12 Metal Mesh Lathing / Reinforcement For Plastered/Coatings. *(Page 33)*

## 8 CARPENTRY AND JOINERY

- 8.1 Materials *(Page 34)*
- 8.2 Preservation of Timber *(Page 34)*
- 8.3 Hardware *(Page 34)*
- 8.4 Dimensions and Finish *(Page 34)*
- 8.5 Workmanship *(Page 35)*

## 9 FINISHES

- 9.1 General *(Page 36)*
- 9.2 Manufacturers *(Page 36)*
- 9.3 Ceramic and Vitreous Tile Materials *(Page 36)*
- 9.4 Mortar Materials *(Page 36)*
- 9.5 Cement Colour *(Page 36)*
- 9.6 Waterproofing *(Page 36)*
- 9.7 Installation Requirements *(Page 37)*
- 9.8 Floor Tile Installation *(Page 37)*
- 9.9 Wall Tile Installation *(Page 37)*
- 9.10 Grouting *(Page 38)*
- 9.11 Defects in Tiles and Tile Laying *(Page 38)*

9.12 Guarantees *(Page 38)*

## 10 PLUMBING

- 10.1 General *(Page 39)*
- 10.2 Drawings and Information Required *(Page 39)*
- 10.3 Record Drawing *(Page 40)*
- 10.4 Operating and Maintenance Instructions *(Page 40)*
- 10.5 Tests *(Page 40)*
- 10.6 Work in Common Piping *(Page 41)*
- 10.7 Water Supply Work *(Page 45)*
- 10.8 Water Pumps *(Page 45)*
- 10.9 Spacing of supports *(Page 45)*
- 10.10 Drainage Work *(Page 46)*
- 10.11 Laying of Pipes *(Page 46)*
- 10.12 Laying of sewer water Mains *(Page 46)*
- 10.13 Sewers *(Page 47)*
- 10.14 U.P.V.C Pipes *(Page 47)*
- 10.15 Bends and other Specials *(Page 47)*
- 10.16 Flanged Joints *(Page 47)*
- 10.17 Support for U.P.V.C Pipes *(Page 48)*
- 10.18 Sewer pipes *(Page 48)*
- 10.19 Air Valves *(Page 48)*
- 10.20 Scour Washout Valve *(Page 49)*
- 10.21 Foot valves and Strainers *(Page 49)*
- 10.22 Pressure Reducers *(Page 49)*
- 10.23 Water Meter *(Page 49)*
- 10.24 Equilibrium Ball Valves *(Page 49)*
- 10.25 Fittings *(Page 49)*
- 10.26 Manholes, Manhole covers and Frames *(Page 50)*
- 10.27 Interceptor Manhole *(Page 50)*
- 10.28 Fixtures and Accessories *(Page 52)*
- 10.29 As built Drawings *(Page 52)*
- 10.30 Miscellaneous *(Page 52)*
- 10.31 Height of Fixture Installation *(Page 52)*

## 11 PAINTING

- 11.1 Material *(Page 53)*
- 11.2 Definition of Terminology *(Page 53)*
- 11.3 Paint Finish Symbols *(Page 54)*
- 11.4 Painting in General *(Page 54)*
- 11.5 Procedure of Painting *(Page 55)*
- 11.6 Puttying and sanding *(Page 56)*

## 12 ELECTRICAL INSTALLATIONS

- 12.1 General *(Page 59)*
- 12.2 Conduit and Conduit Accessories *(Page 62)*
- 12.3 Wires, Cables and Cords *(Page 63)*
- 12.4 Wiring Accessories *(Page 63)*
- 12.5 Light Fixtures *(Page 64)*
- 12.6 Testing *(Page 66)*
- 12.7 Distribution Board *(Page 68)*
- 12.8 Lightning Protection System *(Page 68)*
- 12.9 Telephone System *(Page 68)*
- 12.10 Fire Alarm System *(Page 68)*
- 12.11 Wiring *(Page 70)*

### 13 R.C. CONCRETE ROOFING AND WATERPROOFING

- 13.1 General *(Page 71)*
- 13.2 Testing *(Page 71)*
- 13.3 Guarantee *(Page 71)*
- 13.4 Preparation of Surfaces *(Page 71)*
- 13.5 Protection *(Page 71)*
- 13.6 Roofing *(Page 71)*
- 13.7 Waterproofing *(Page 72)*

### 14 ALUMINIUM DOORS AND WINDOWS

- 14.1 Aluminium Doors and Windows *(Page 73)*
- 14.2 Aluminium louvers *(Page 74)*
- 14.3 Top hung windows, ventilators and side hung doors *(Page 74)*
- 14.4 Installation *(Page 75)*
- 14.5 Sealing joints *(Page 75)*
- 14.6 Glass installation *(Page 76)*

### 15 ROOFING

- 15.1 Scope *(Page 77)*
- 15.2 Roof Cladding *(Page 77)*
- 15.3 Products *(Page 77)*
- 15.4 Workmanship *(Page 77)*
- 15.5 Fixing *(Page 77)*
- 15.6 Fittings and Features *(Page 77)*

### 16 FIRE PROTECION SYSTEM