

## TECHNICAL SPECIFICATION AND AMENITIES

### Manorama Heights: 12, Chandi Ghosh Road, Kolkata 700 040

#### Specification of Materials

**Cement:** Ordinary Portland Pozzolana cement shall be used. Rapid hardening cement may be used if compelled by condition of availability, only under strict supervision ensuring effective casting and mechanical consolidation within fifteen minutes from delivery of the mix by the mixing machine.

**Sand:** Medium / Medium Coarse sand, free from clay and all other foreign matters shall be used. Screening and washing shall be done for sands containing impurities & intolerable properties.

**Coarse Aggregates:** Properly graded mixes of stone chips are to be used. The material shall be hard, homogeneous, free from pores, flakes and deleterious impurities. The material should not contain any sulphate and should not absorb more than 10% of its own weight of water. Maximum size of aggregate may be 25 mm. in beams, slabs and staircases.

**Water:** Water shall be clean and free from deleterious impurities. Potable water shall be used for mixing and curing.

**Reinforcement:** Tor steel ribbed bars or TMT bars of tested quality are to be used. These should be clean and free from loose mill-scales, dust, loose rust, any coats of paints or oily material which may destroy or reduce bond.

#### Specification of Work

**Earth work:** The rate shall be deemed to provide for excavation in any soil and include all dewatering and slush – clearance and shoring, if any, is required. The contractor should satisfy himself as to the actual nature of soil and site conditions by personally visiting the site.

**Materials:** All materials shall be new & best of its kind and shall confirm to its specifications or equivalent. No materials shall be used in work without prior approval of the Architect. The contractor must submit samples of various materials to the Architect, for approval before ordering for supply.

**Workmanship:** All workmanship must be best of its respective kinds and shall confirm to the latest practice and shall be subject to the approval of the Architect.

**Storage:** Materials shall be transported handled with care and shall enter site carefully to prevent any damage or deterioration.

Cement shall be stored in a dry water tight shed on an elevated platform in sacks not exceeding six bags in height. Reinforcement shall be stored free from contact with moist surfaces.

**Structural Concrete Work:** All concrete work shall be of controlled variety as per cl. 9.3.2. of I.S. 456 of 1978.

The selection, grading, clearing by sieves and by washing aggregate mixing, control of water cement ratio, pouring, mechanical vibration and manual compaction shall all be guided by the strictest vigilance of experienced supervisor.

**Reinforcement Work:** Tested, mild steel, torsteel bars shall be used and shall be cleaned from mill scales, rust, oil, grease or other harmful adherents and shall be cold bend to shapes and dimensions shown in the drawings, tied together with 20 gauge annealed wires closely and tightly to prevent displacement during casting. During casting all tools, plants and workmen will move on other elevated walkways without touching the reinforcement. Casting will not be started till all these arrangements are complete. It must be remembered that the position of reinforcement is of utmost importance and any displacement and disturbance is not desirable.

**Form Work:** The formwork shall conform to the shapes, lines and dimension shown in the drawings and be of strong, rigid and leak-proof construction. Timber shuttering will be rebated and jointed with polythene sheets covering the joints. The propping, staging, strutting and bracing will be done with materials of sufficient strength to withstand all static and dynamic loads, possible during such construction. Care is to be taken to see that the form work is not disturbed in the process.

Stripping time for different parts shall be as follows:

1) Walls, columns and vertical sides of beam	...	24 hours
2) Soffits of slabs (less than 3.5 M Span)	...	7 days
3) Soffits of beams (less than 3.5 M Span)	...	10 days
4) Soffits of slabs (less than 4.5 M Span)	...	14 days
5) Soffits of beams (less than 4.5 M Span)	...	21 days

The props for supported spans are to be removed from mid-span towards supports and those for cantilever spans from cantilever towards supports.

**Curing:** The beams shall be kept continuously wet by spraying water from below. The columns wrapped with sack or hessian and kept wet continuously.

Earthen bands are to be made on the floor slabs for at least seven days. Curing shall be done upto 29 days but a little relaxation may be allowed. However, continuous wetting necessary for first 7 days.

**Brickwork:** Brick shall be first class well burnt, sound well shaped and of standard dimensions or Flyash bricks shall be used. Bricks shall be wetted before use in the jobs.

Mortar shall be 1:6 cement sand for 200 mm and 1:4 for 125 mm partition walls. All walls shall be perfectly true and vertical laid with frogs upward, perfectly bonded, levelled and thoroughly cured with water for 7 days.

**Plaster:** The joints in brick or stone work shall be hacked to a depth of 12 mm the surface thoroughly cleaned wetted and concrete surface roughed, hacked cleaned and wetted.

The mortar shall be composed of 1:6 cement sand for internal plaster, 1:4 for external plaster and 1:3 for ceiling plaster. The average thickness shall be 18 mm for external plaster, 15 mm for internal plaster and 9 mm for ceiling plaster.

Surfaces shall be finished smoothed, edged and lines true to shape and thoroughly cured with water for 7 days. No extra consideration shall be paid for plastering in recess, jambs of doors, windows, columns, etc.

### **Specifications of General Building Work**

- (a) All external walls should be 200/250 mm including plastering.
- (b) All internal partition walls should be of 125/75 mm including plaster.
- (c) Plaster with mortar should be done on both sides of the walls and finally plaster of paris coating should be done on all the walls excepting exterior walls.
- (d) Proper water treatment to be done in the ground floor and retaining walls of the basement and all the toilets and on the terrace of the building.
- (e) Elevation of the building should be nicely decorated with cement based / external acrylic paint.
- (f) The CPVC, UPVC, G.I. pipe and fittings should be of reputed make / ISI standards.
- (g) Electrical switches, cables and other fittings and fixtures should be of ISI specifications.
- (h) Flooring shall be made of Vitrified tiles

### **Specification of Finishing Work in Building**

#### **Common areas & exterior of the building:**

- i) Exterior with snowcem / external acrylic colour.
- ii) The common areas in front portion of the Ground floor shall be provided with marble / vitrified tile floorings. Plaster of Paris finished walls.
- iii) Proper light arrangement in the Ground floor, lobby and drive ways in entrance to be provided.
- iv) Proper waterproofing and water discharge system to be made for Basement and ground floor.
- v) Arrangement for local authority water supply to be made, with necessary pumping arrangement; to ensure 24 hours water supply by the builder at their cost.
- vi) Telephone wiring to be done in each flat for 1 No. of telephone. Cable T.V. connection conduits shall be laid and arrangement for intercom facility to be made.
- vii) Lift of standard makes with metal / stainless steel shall be provided.
- viii) Water reservoirs for municipal corporation water to be provided for storing water in sufficient quantity.

#### **Inside of Flat**

- i) Plaster of Paris coating to be made on walls.
- ii) Main gate to be provided with a Godrej Night Latch.
- iii) Flush doors with good quality of hatch bolt / lock to be provided for all other doors.
- iv) Inside partitions as per sanction plans.
- v) Toilet fitting shall be of ISI standard of reputed brands like Nycer, Hindusthan, CERA etc. All fittings shall be of ESSCO, Kakar or equivalent brand.
- vi) Vitrified Tile flooring shall be provided in the rooms, drawing rooms and other areas excepting that in kitchen and toilet, where ceramic tiles on walls and vitrified / ceramic tiles in floor will be provided.

#### **Electrical work**

- i) In drawing room wiring arrangements for 3 lights, 2 fans, 1No. 15 amps plug (sockets and 1 No. 5 amps plug socket) are to be provided.
- ii) In each Bed room wiring arrangement for 2 lights, 2 fans 1 5 amps. Plug socket and one 15 amps plug socket are to be provided.
- iii) In toilet wiring for 1 light, 1 power, 1 fan & 1 exhaust fan.
- iv) In kitchen wiring arrangement for 1 light, 1 fan, 1 exhaust fan, 1 no. 5 amps. Plug socket to be provided.