Waste fittings shall be of brass chromium plated and shall conform to IS 2963-1979, specification for cast copper alloy waste fittings for wash basins and sinks. Waste fittings shall be of nominal size 32 rom for wash basins and 50 mm for sinks.

Traps P and S Types

Traps for wash basins, sinks and baths shall be of cast copper alloy, chromium plated conforming to IS 5219 (part 1)-1969, Specification for cast copper alloys traps, part I, P and Straps.

Bottle Traps:

Copper alloy traps shall be of brass with copper content not less than 56% conforming to IS 5219 (part 1)-1969. The traps shall be polished or chromium plated as indicated. Galvanized malleable iron traps shall be of approved manufacturer. Traps for lavatory basins and sinks shall have one inspection eye, fitted with screw plug and washer, while for baths, the traps shall have branches screwed externally, one of which shall be fitted with washered cap and other with a bent tail pipe and union nut for overflow connection. A loose coupling nut shall be fitted to the inlet for coupling to the waste and the outlet shall be either plain tails for lead pipe or screwed with pipe thread and provide with union tail end pipe. The minimum depth of seal shall be 35 mm.

1. The tolerance permissible on weight shall be (+) 10 percent. Pipes and fittings weighing more than the nominal weight may be accepted provided they comply in every other respect with the requirements of the standard without any price adjustment.

2. Pipe nails shall be galvanized, chisel pointed, with 8 mm dia shank and 18 mm dia head pipe nails shall be 100 mm long for pipes up to 100 mm dia and 150 mm long for 150 mm dia pipes.

SUB SECTION-C: DRAINS AND SEWERAGE INCLUDING APPURTENNANTS

PVC SOIL, WASTE AND RAINWATER (SWR) DRAINAGE PIPES

PVC (SWR) pipes shall conform to IS 4985(4 GF/CM²). The size of pipes shall be indicated. Rubber rings for the pipes and fittings shall conform to IS 5382.

1. PVC (SWR) fittings shall be used as per recommendations of the manufacturer of the pipes.

In case there is no IS code for the fittings, these shall generally conform to the requirements of BS 4515 DIN 19531 and DIN 19534.

2. PVC (SWR) pipes and fittings shall be strong, dimensionally stable and shall be free from defects.

Concrete pipes

1. Reinforced concrete pipes for drains and culverts shall be non-pressure type, class NP2 as indicated; and shall conform to IS 458-1971, specification for concrete pipes with or without reinforcement. Bends, junctions and specials shall be of cast iron and of suitable size.

2. The ends of concrete pipes shall be suitable for butt end joints. The butt ends shall be prepared for collar joint with grooves. The pipe joints shall be capable of withstanding the same pressure as the pipe.

3. Concrete pipes shall be straight and free from cracks excepting craze cracks. The ends of pipes shall be square with their longitudinal axis so that when placed in a straight line in the trench, no opening between ends in contact shall exceed 3 mm in pipes upto 600 mm diameter and 6 mm in pipes greater than 600 mm in diameter. The outside and inside surface of the pipes shall be smooth, dense and hard and shall not be coated with cement wash or similar preparation. The pipes shall be free from
2. Tubes of any grade and fittings shall withstand a test hydraulic pressure of 5 mpa without showing defects of any kind.

Unplasticised PVC Pipes

UPVC pipes shall conform to IS 4985-1988, Specification for unplasticised PVC pipes for potable water supply. The pipes shall be reasonably round, internal and external surfaces of the pipes shall be smooth and clean, reasonably free from grooving and other defects. The ends shall be cleanly put square with the axis of the pipes, UPVC pipes shall be of pressure ratings (working pressure) as 2.5, 4.5 and 10 kgf/sq cm as indicated.

Fittings for use with LDPE and HDPE pipes

Shall be injection moulded or fabricated type conforming to IS 8008 (parts I to VI)-1976, specification for injection moulded high density polyethylene fittings for potable water supplies or to IS 8360 (parts I to III)-1977. Specification for fabricated high density polyethylene fittings for potable water supplies or as recommended by the manufacturers of the pipes used.

1. Fittings for unplasticised PVC pipes shall be made of PVC or shall be as recommended by the manufacturers of the pipes used.

Caulking lead

Pig lead and wool shall comply with IS 782-1978 specification for caulking lead.
1. Pig lead shall be of uniform quality, clean and free from foreign materials and shall be of uniform softness and capable of being easily caulked and driven.

2. Lead wool shall not contain any sulphur and shall be not manufactured from discarded accumulator battery plates. The lead wool shall consist of fine strands or plated ribbons of lead. The cross section of individual strand shall be flat. The dimensions in the sectional plane shall not be less than 0.13 mm and not more than 0.9 mm and of length same as the length of the rope.

Spun Yarn

Shall be of hemp and of good quality. It shall be free of oil, tar or greasy substances and shall be of sterilized quality.

Rubber Gasket for Jointing

Shall comply with IS 5382-1985 Specification for rubber sealing rings for gas mains, water mains and sewers. Rubber rings shall be free from extractable substances, which impart taste, smell or toxicity to water.

SUB-SECTION - B - PLUMBING

Plumbers Brass work: Generally

1. Fittings shall be of approved pattern, type and make and shall conform to the relevant IS specification.

2. All cast fittings shall be sound and free from laps, blow holes and pittings. External and internal surfaces shall be clean, smooth and free from sand burning plugging, stopping or patching of castings shall not be permissible. The bodies, bonnets, spindles and other parts shall be machined true to shape so that when assembled the parts are axial, parallel and cylindrical with surfaces, smoothly finished and are correct in adjustment.

3. Where taps and stop valves, etc, are specified to be nickel/chromium plated the thickness of plating shall not be less than that for the grade specified in the relevant IS specifications. The plating shall be capable of taking high polish and shall not easily tarnish or scale. Galvanization of malleable iron and cast iron bodies shall be done by hot dip process. Mild steel components shall be electro-galvanized.

BibTap and Stop Valves

They shall be screw down type and shall conform to IS 781-1984, Specification for cast copper alloy screw down bib taps and stop valves for water services. The spindles, glands, crutches (Handles) washer plates, nuts etc, should be self-lubricating (extruded or rolled). The handles shall be of plastic material and be provided with a suitable handle (nylon or Teflon) with integral safety lever.