

**SPECIAL CONDITIONS REGARDING MATERIAL TESTING**  
**(FOR WORKS COSTING MORE THAN Rs.1.00 CRORE)**

**Field Laboratory, sampling & Testing**

1. (a) Contractor shall establish a field laboratory at site of work at his cost providing necessary facilities for performing routine type tests such as physical properties of cement, bricks, aggregate, concrete including its crushing strength to the satisfaction of the Engineer-in-charge. He shall ensure that equipments provided are of latest specification and are in good working condition and got calibrated at the laboratory.
  - (b) The contractor shall get samples tested from other approved laboratories as directed by Engineer-in-charge for confirmatory test or otherwise without any extra payment to the contractor unless otherwise specified in the contract.
  - (c) Materials supplied by the contractor will required to be tested as required by the various codes and specification at contractor's cost. If additional testing other than required by specification is ordered by Engineer, the testing charges shall be borne by the Department, if the result are satisfactory and by the contractor's, if the same are found to be unsatisfactory.
2. Laboratory Equipment
- The following items of laboratory equipment are expected to be required for the field laboratory.

**General**

- |       |   |             |
|-------|---|-------------|
| i)    | Oven- Electrically operated, thermostatically controlled, range upto 200°C sensitivity 1°C  | 1 No.       |
| ii)   | Platform balance 300 kg capacity  | 1 No.       |
| iii)  | Balance 20kg capacity self-indicating type  | 1 No.       |
| iv)   | Electronic Balance 5 kg capacity accuracy 0.5 gm  | 2 Nos.      |
| v)    | Water-bath electrically operated and thermostatically controlled with adjustable shovels, sensitivity 1°C   | 1 No.       |
| vi)   | Thermometers<br>Mercury-in-glass thermometer range 0° to 250°C  | 4 Nos.      |
| vii)  | Kerosene or gas stove or electric hot plate   | 1 No.       |
| viii) | Glasswares, spatulas, wire gauzes, steel scales, measuring taps, casseroles, karahis, enameled trays of assorted sizes, pestle-mortar, porcelain dishes, gunny bags, plastic bags, chemicals, digging tools like pickaxes, shovels etc. | As required |
| ix)   | Set of IS sieves with lid and pan<br>450 mm diameter<br>63 mm, 53 mm, 37.5 mm, 26.5 mm, 13.2 mm, 9.5 mm<br>6.7 mm and 4.75 mm size  | 1 Set       |

	200 mm diameter	2 Sets
	2.36 mm, 2.0 mm, 1.18 mm, 600 micron, 425 micron, 300 micron, 150 micron and 75 micron	
x)	First aid box	1 Set

**For cement and cement concrete**

i)	Vicat apparatus for testing setting time	1 No.
ii)	Slump testing apparatus	4 Sets
iii)	Compression strength testing machine	1 No.
	concrete cube testing machine of required capacity	
iv)	Concrete cube moulds of appropriate size	12 Nos.
v)	Flakiness and elongation test gauge	1 Set

Note: The items and their numbers listed above in this clause shall be finally decided by the Engineer as per requirements of the Project and modified accordingly.