

## OXYGEN PERMEABILITY TEST APPARATUS

### SPECIFICATIONS

| Sr. No | Description   | Remarks  |
|--------|---|--|
| 1.     | Permeability cell   | Volume = 5L with a tolerance of $\pm 5\%$ , and of construction such that it does not expand or contract in the pressure range 0 kPa to 120 kPa.   |
| 2.     | Compressible rubber collars with Shore Hardness 39A<br><br>For size (refer Fig 1)                 | It will allow tight fit around specimen to eliminate any leakage of gas. It should be free from cracks and tear.<br>At least, one dozen in number  |
| 3      | Electronic digital pressure gauge   | Minimum accuracy of at least 0.5 kPa   |
| 4      | Oxygen cylinder   | Standard grade 99.8% oxygen supply cylinder  |
| 5      | Oxygen supply regulator   | Capable of regulating pressure to 120 kPa  |
| 6      | Vacuum pump   | Capable of vacuuming the apparatus at $9.87 \times 10^{-1}$ to $3 \times 10^{-2}$ before pure oxygen infusion.   |
| 7.     | Drop in pressure  | 0 kPa from initial chamber pressure to 100 kPa over 24h  |
| 8      | Cylindrical Specimen moulds (3 number) of MS meeting IS guidelines for moulds                     | Diameter = 70mm<br>Thickness = 30mm  |
| 9.     | Equipment to be supplied with necessary valves for testing concrete for Oxygen penetration index. |  |
| 10.    | Desiccator  | Containing anhydrous silica gel RH = 60% (Max.) and of minimum size of 250 mm  |
| 11.    | Temperature and humidity control device   | Size – $1\text{m}^3$ . Capable of maintaining temperature from $4^\circ\text{C}$ to $60^\circ\text{C}$ with a precision of $\pm 1^\circ\text{C}$ and relative humidity in the range of 25 to 70 RH |

