

# **RING & BALL (SOFTNING POINT)**

## **APPARATUS**

### **BE 91**

The Ring and Ball apparatus (often referred to as the Ring and Ball test or method) is a standard laboratory tool used in civil engineering and materials testing to measure the softening point of bitumen (also known as asphalt or tar). Bitumen is a viscoelastic material that doesn't have a sharp melting point; instead, it gradually softens as temperature increases. The softening point indicates the temperature at which the material becomes sufficiently fluid for applications like road construction, helping assess its temperature susceptibility and suitability for different climates

### **FOLLOWING STANDARD**

IS 1205 1985 & ASTM D 36, IS 334-1982

### **KEY COMPONENTS**

The apparatus consists of:

- **Two brass rings:** Shouldered rings (diameter 15.9 mm, depth 6.4 mm) to hold the bitumen sample.
- **Two steel balls:** Standard size (9.5 mm diameter, 3.5 g weight) placed on the sample.
- **Glass beaker or bath:** Filled with a liquid medium (distilled water for softening points  $<80^{\circ}\text{C}$ ; glycerin or ethylene glycol for  $>80^{\circ}\text{C}$ ).
- **Thermometer:** To monitor temperature precisely.
- **Ball guides and support:** To position the rings and allow balls to drop 25 mm (1 inch) to the bottom.
- **Heating source:** For controlled heating (Bunsen burner or electric heater).

These are two type models available.

BE 91-01	<b>Electrical Ring &amp; ball Apparatus</b>
BE 91-02	<b>Fully automatic Ring &amp; Ball Apparatus</b>



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