

# IEC 60695-10-2 Ball Pressure Test Apparatus

Ball pressure test device for heat resistance testing of insulating materials



IEC 60695-10-2

20 N load

5 mm steel ball

60 min test duration

## Precision mechanical apparatus for abnormal heat resistance evaluation

Designed for repeatable ball pressure testing of insulating materials, engineering plastics and non-metallic electrical components under specified load and elevated temperature.

Product page: <https://www.dgkingpo.com/product/ball-pressure-test-apparatus/>



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## Product Overview

A compact, robust test device for material heat-resistance verification in electrical safety laboratories.



### What the apparatus does

The Ball Pressure Test Apparatus evaluates the ability of insulating materials and non-metallic parts to resist softening and deformation when exposed to abnormal heat and a defined mechanical load. The specimen is positioned horizontally on a steel support while a 5 mm pressure ball applies a constant vertical force.

### Core advantages

- Simple mechanical construction for routine laboratory use.
- Stable 20 N +/- 0.2 N test load with 5 mm steel ball.
- All-steel electroplated structure for durability and corrosion resistance.
- Easy integration with a temperature-controlled oven or heating chamber.

## Product Views



Overall view



Detail view



Close-up view

## Technical Parameters

Key configuration data for quotation, laboratory planning and test setup confirmation.

Parameter	Specification
Applicable standard	IEC 60695-10-2 ball pressure test method
Ball specification	5 mm diameter hardened steel ball, R = 2.5 mm
Test load	20 N +/- 0.2 N constant vertical force
Typical test temperature	125 +/- 2 deg C; other temperatures according to product standard
Test duration	60 min +/- 1 min, subject to applicable standard
Sample support	Solid steel cylinder, diameter 50 mm x 100 mm
Cooling method	Rapid water cooling at 20 +/- 5 deg C, about 6 min
Measurement timing	Measure indentation diameter within 3 min after removal from water
Typical pass criterion	Indentation diameter <= 2 mm, depending on relevant product standard
Material and finish	All-steel construction with electroplated surface
Ordering information	MOQ: 1 set; typical delivery: 15 working days

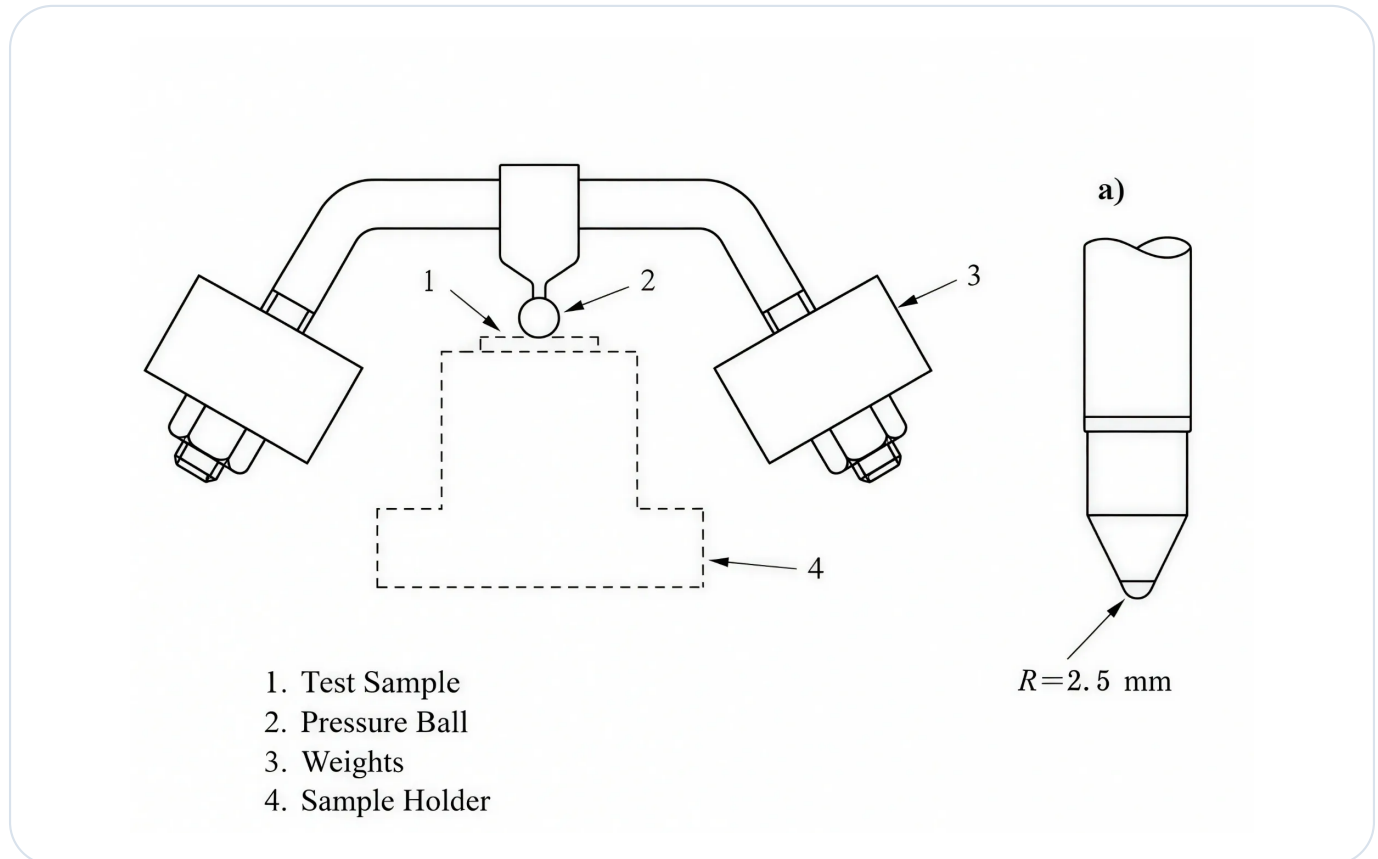


### Complete set and storage

The apparatus is supplied as a compact mechanical kit. The protective carry case supports organized storage of the balancing arm, weights, support components and pressure ball assembly.

## Testing Principle and Workflow

A constant-load ball is applied to the heated specimen to assess thermal deformation resistance.



### Principle

The specimen is placed on a solid support and exposed to elevated temperature. A 5 mm steel ball applies a 20 N load to the material surface. If the material softens excessively, the ball produces a large permanent indentation. Smaller indentation indicates better thermal deformation resistance.

#### Recommended test workflow

- 1 Prepare a flat specimen and place it horizontally on the steel support.
- 2 Stabilize the oven or heating chamber at the required temperature.
- 3 Apply the ball pressure apparatus with the specified 20 N load.
- 4 Maintain the test condition for the specified duration, typically 60 min.
- 5 Remove and cool the specimen rapidly in water at  $20 \pm 5$  deg C.
- 6 Measure the indentation diameter promptly and compare with the requirement.

# Applications, Error Mitigation and Inquiry

Designed for manufacturers, third-party laboratories and quality-control departments.

## Typical applications

- Insulating materials in plugs and socket-outlets.
- Plastic parts in household appliances.
- Switches, appliance couplers and electrical accessories.
- Luminaire and lighting equipment material verification.
- Engineering plastics used in electrical and electronic products.
- Pre-compliance testing before certification.

## Standards support

Designed for IEC 60695-10-2 ball pressure test requirements and commonly used to support heat-resistance checks referenced by related electrical product standards.

IEC 60695-10-2

IEC 60884-1

IEC 60335-1

IEC 60598-1

IEC 61058-1

## Common error mitigation

- 1 Ensure the specimen surface is flat and fully supported before applying the test load.
- 2 Verify that the heating chamber has stabilized at the required temperature before timing starts.
- 3 Confirm the 20 N +/- 0.2 N load and inspect the steel ball for wear, contamination or damage.
- 4 Avoid specimen movement during the heating period; disturbance can change indentation results.
- 5 Cool rapidly and measure the indentation diameter within the required time window.

## Technical inquiry and quotation support

For quotation or configuration confirmation, please provide the applicable product standard, target test temperature, required quantity and any special laboratory setup requirements.

**Product page:** <https://www.dgkingpo.com/product/ball-pressure-test-apparatus/>

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