

1) 50N Rigid Test Finger



IEC Standard Test Probe 11 is a precision test probe made according to Figure 7 (Fig. 7) of the IEC 61032 (Test probe 11) and is used to simulate a human finger. It is also used by the standards of CSA, IRAM, UL. IEC 60335, IRAM 4220-1 and in most of the rules involved in the verification of accessibility to live parts.

IEC Standard Test Probe 11 was made on stainless steel and Polyamide handle.

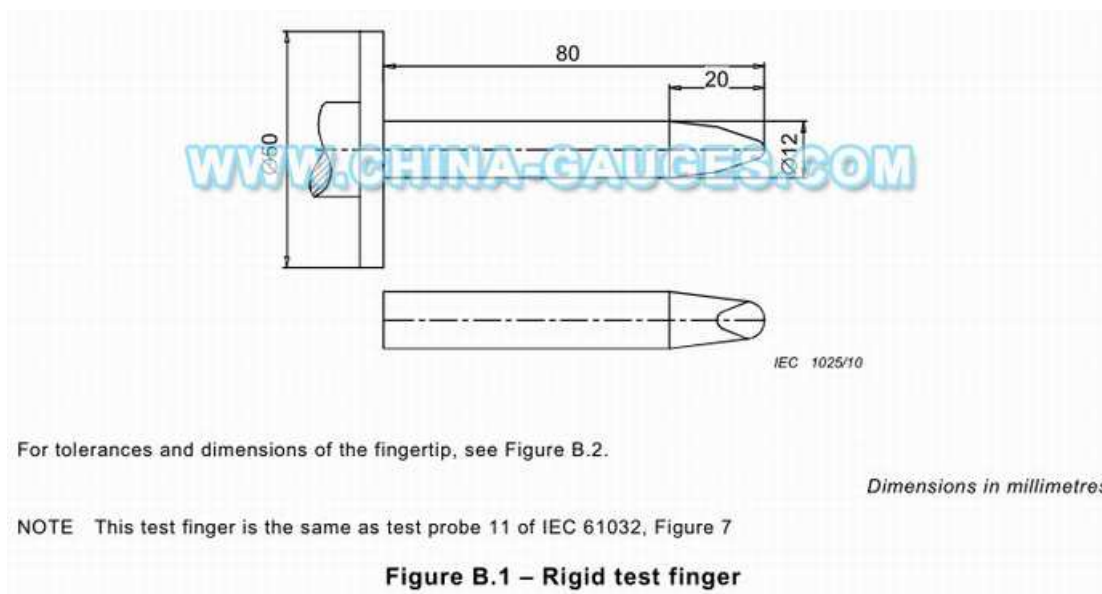
Material: Stainless Steel.

Handle: Polyamide.

Finish: Chrome plating.

According to: IEC 61032, IEC 60335-1, IEC 60529-2001, IRAM 4220-1.

Thrust: 10N/20N/30N/40N/50N





2) 10N Jointed Test Finger



IEC Standard Articulated Test Probe is a precision test probe made according to Figure 2 (Fig. 2) of the IEC 61032 (Test probe B) and is used to simulate a human finger. It is also used by the standards of CSA, IRAM, UL, IEC 60335, IRAM 4220-1 and in most of the rules involved in the verification of accessibility to live parts.

The Jointed Test Finger was made on stainless steel and Polyamide handle.

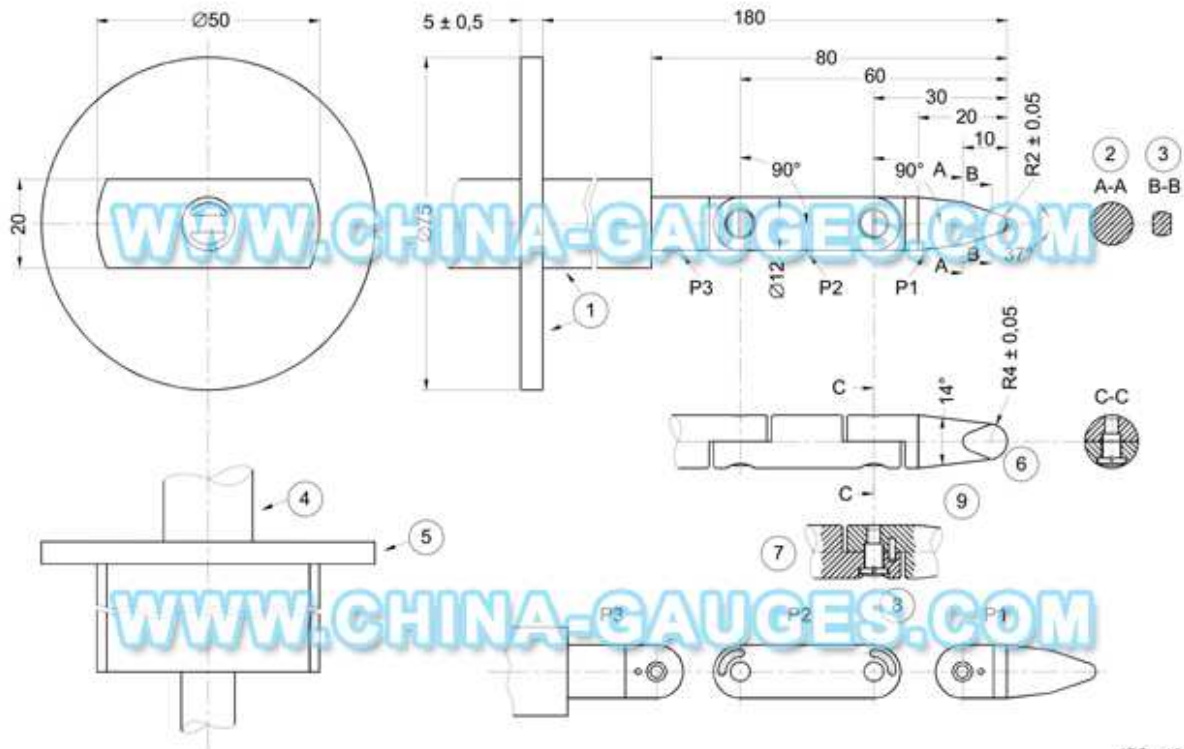
Material: Stainless Steel.

Handle: Polyamide.

Finish: Chrome plating.

According to: IEC 61032, IEC 60335-1, IEC 60529-2001, IRAM 4220-1, SASO/IEC 60335-1, SASO IEC 60950, IEC 60950/EN60950.

Thrust: 10N



IEC 1026/10

Key

- | | | | |
|---|---------------------|---|--------------------|
| 1 | insulating material | 6 | spherical |
| 2 | section AA | 7 | detail x (example) |
| 3 | section BB | 8 | side view |
| 4 | handle | 9 | chamfer all edges |
| 5 | stop plate | | |

Dimensions in millimetres

Tolerances on dimensions without specific tolerance:

- on angles: $\begin{matrix} 0 \\ -10' \end{matrix}$
- on linear dimensions:
 - up to 25 mm: $\begin{matrix} 0 \\ -0,05 \end{matrix}$ mm
 - over 25 mm: $\pm 0,2$ mm

Material of finger: heat-treated steel, etc.

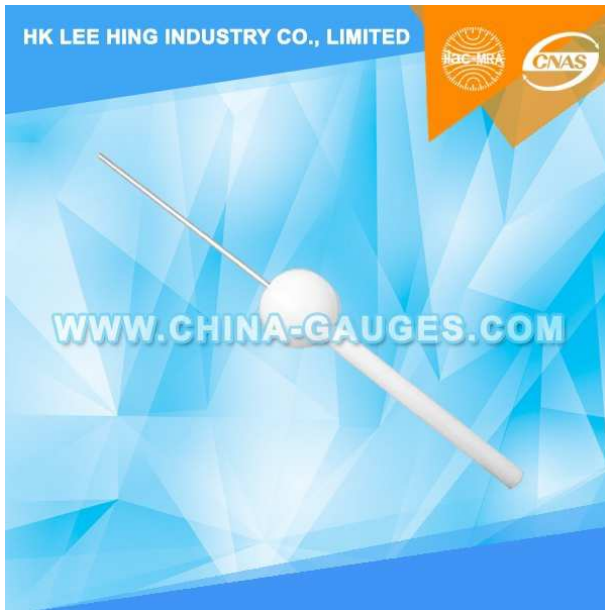
Both joints of this finger may be bent through an angle of $(90 \begin{matrix} +10 \\ 0 \end{matrix})^\circ$, but in one plane only.

Using the pin and groove solution is only one of the possible approaches in order to limit the bending angle to 90° . For this reason, dimensions and tolerances of these details are not given in the drawing. The actual design shall ensure a $(90 \begin{matrix} +10 \\ 0 \end{matrix})^\circ$ bending angle.

NOTE This test finger is the same as test probe B of IEC 61032, Figure 2

Figure B.2 – Jointed test finger

3) 4mm Diameter, 100mm Long Test Pin



According to: EN61010-1 6.2.3

Used to verify protection against access to hazardous parts by use of a tool through holes which give access to preset controls.

Meets IEC, EN, UL and CSA Standards including IEC 61010, IEC60335-2-25, EN61010-1, UL3101-1, UL3111-1 and CSA1010-1.

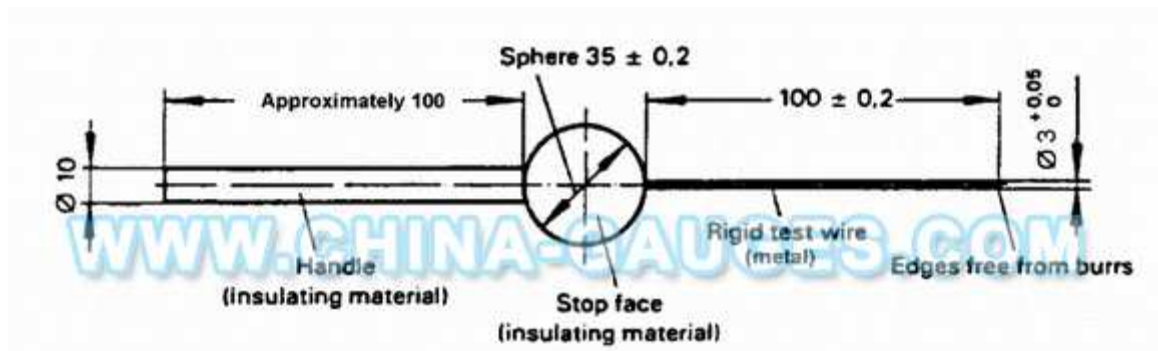
The handle and stop face are made of nylon. The rod is hardened steel.

Technical parameters:

1. Rod length: 100 mm
2. Rod diameter: 3 mm
3. Circular-baffle diameter: 35 mm
4. Handle diameter: 10 mm
5. Handle length: 100 mm

6.2.3 Openings for pre-set controls

A metal test pin 3 mm in diameter is inserted through holes intended to give access to pre-set controls which require the use of a screwdriver or other TOOL. The test pin is applied in every possible direction through the hole. Penetration shall not exceed three times the distance from the ENCLOSURE surface to the control shaft or 100 mm, whichever is smaller.



4) 3mm Diameter, 100mm Long Test Pin



Basic Introduction:

According to: IEC 60065:9.1.3, GB 8898:9.1.3, EN 61010-1, UL 3101-1, and CSA 1010-1.

Openings of the enclosure

Technical parameters:

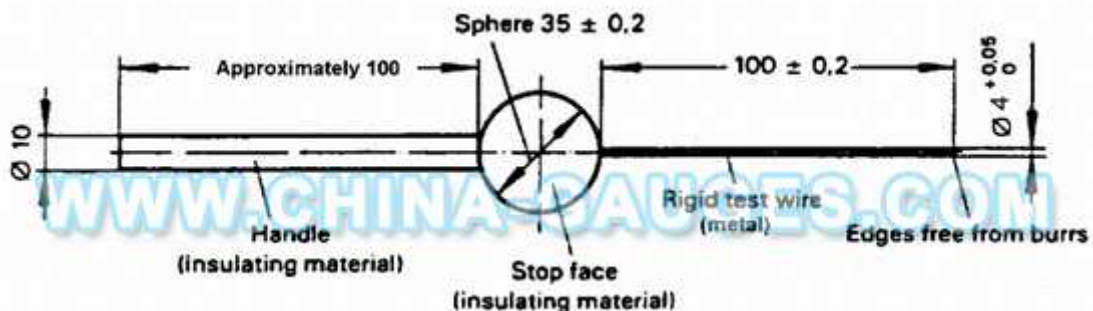
1. Rod length: 100 mm
2. Rod diameter: 4 mm
3. Circular-baffle diameter: 35 mm
4. Handle diameter: 10 mm
5. Handle length: 100 mm

Application:

The apparatus shall be so designed that suspended foreign bodies cannot become HAZARDOUS LIVE, when introduced through ventilation or other holes.

Compliance is checked by applying to the holes a metal test pin having a diameter of 4 mm and a length of 100 mm. The test pin is suspended freely from one end, the penetration is limited to the length of the test pin.

Note : The test pin shall not become HAZARDOUS LIVE.



5) 12 mm Hemispherical End Test Rod



Purpose:

Telecom-Test Probe meets IEC60950 Figure 2C and UL6500 Figure B.1 standards. is for the absolute share TNV circuits information technology to see if they provide sufficient protection.

Contacts of terminals for TNV CIRCUITS which cannot be touched by the test probe figure B.1, are an additional exemption from the requirement for inaccessible TERMINAL contacts.

Apparatus containing input TELECOMMUNICATION NETWORK leads over which ringing voltages are applied to the equipment shall be subjected to Leakage Current due to Ringing Voltage tests per 6.3.4.3 of UL 1950, Third Edition.

Conforms to:

Standard UL6500 Figure B.1 / IEC60950-1 Figure 2C etc.

Technical Parameter:

Test probe diameter: 12mm

Test probe length: 80mm

Baffle plate thickness: 5mm

Baffle plate diameter: 50mm

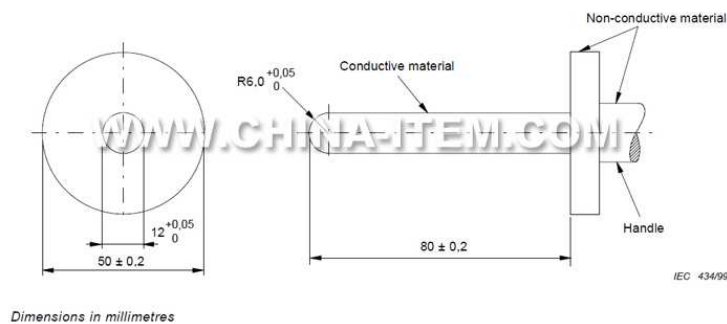


Figure 2C – Test probe

6) 50mm Impact Test Steel Ball



Application:

The Impact Ball 50mm is designed to test impact according to IEC, UL, and CSA standards. The Impact Ball complies with IEC 60950. It is made of stainless steel.

Technical parameters:

1. Ball diameter: 50 mm
2. Ball weight: 500 g
3. the reference standards: GB 4208-2008, IEC 60529:2001, GB/T16842-2008 in Figure 5 (test 1).

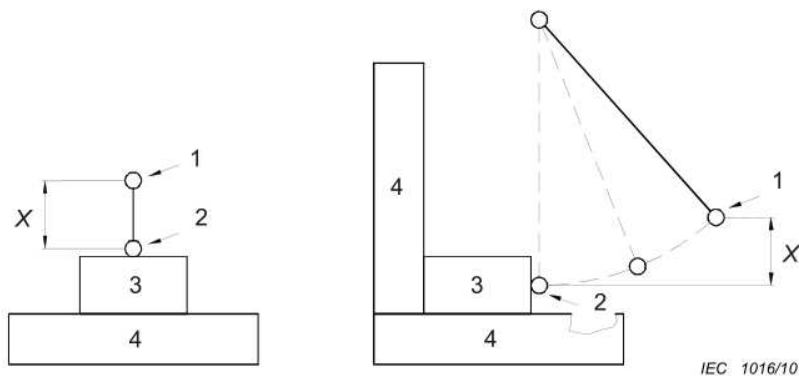


Figure 10a – Impact applied to a horizontal surface

Figure 10b – Impact applied to a vertical surface

Key

- | | |
|-------------------------|----------------------------|
| 1 Sphere start position | 2 Sphere impact position |
| 3 Test sample | 4 Rigid supporting surface |

X Vertical fall distance. See Table 15 for values of X

Figure 10 – Impact test using a sphere



7) Ball-pressure Test Apparatus



Application:

Ball-pressure Apparatus is used for testing parts of nonmetallic materials for resistance to heat. It is applicable to electrical equipment, lighting equipment, low voltage apparatus, Household electrical appliances, machine tool electrical appliances, motor, electric tools, electronic instruments, electrical instrumentation, information technology equipment, electrical business equipment, electrical fittings and accessories such as electrical and electronic products and its component parts

Ball-pressure Apparatus is the requirement ball (R2.5mm) and total test force $20 \pm 0.2N$ ball pressure testing device, pressure level of the state and was placed in the heating chamber on the surface of the test.

Construction:

- ball holder with bore and clamping screw for the bow
- Precision 5mm pressure ball
- Thermocouple for the test stand
- Nickel plated steel materials for good thermal stability

Technical Parameters:

Ball diameter	5mm (R2.5mm)
Total test pressure	$20N \pm 0.2N$
Samples bearing	diameter 50mm, length 100mm, solid stainless steel cylinder
Production of materials	all used stainless steel materials
Remark	Ball pressure instrument takes another a hot box (oven) supporting the use.

Conforms to:

IEC60238, IEC60309, IEC60320, IEC60335, IEC60598, IEC60601, IEC60669, IEC60670, IEC60745, IEC60884, IEC60950, IEC60998, IEC61058, IEC61558.

Resistance to heat

Self-ballasted lamps shall be sufficiently resistant to heat. External parts of insulating material providing protection against electric shock, and parts of insulating material retaining live parts in position shall be sufficiently resistant to heat.

Compliance is checked by subjecting the parts to a ball-pressure test by means of the apparatus shown.

The test is made in a heating cabinet at a temperature of $(25 \pm 5) ^\circ\text{C}$ in excess of the operating temperature of the relevant part according to clause 9, with a minimum of $125 ^\circ\text{C}$ for parts retaining live parts in position and $80 ^\circ\text{C}^*$ for other parts. The surface of the part to be tested is placed in the horizontal position and a steel ball of 5 mm diameter pressed against this surface with a force of 20 N.

The test load and the supporting means are placed within the heating cabinet for a sufficient time to ensure that they have attained the stabilized testing temperature before the test commences.

The part to be tested is placed in the heating cabinet, for a period of 10 min, before the test load is applied.

If the surface under test bends, the part where the ball presses is supported. For this purpose if the test cannot be made on the complete specimen, a suitable part may be cut from it.

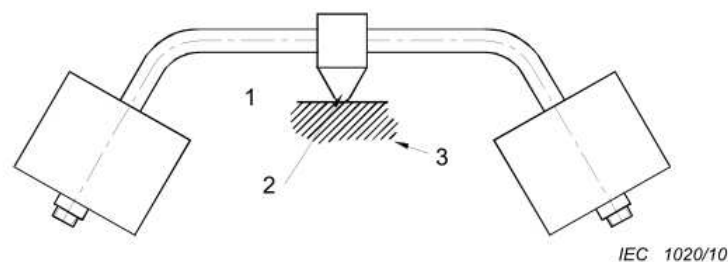
The specimen shall be at least 2,5 mm thick, but if such a thickness is not available on the specimen then two or more pieces are placed together.

After 1 hour the ball is removed from the specimen which is then immersed for 10 s in cold water for cooling down to approximately room temperature. The diameter of the impression is measured, and shall not exceed 2 mm.

In the event of curved surfaces the shorter axis is measured if the indent is elliptical.

In case of doubt, the depth of the impression is measured and the diameter calculated using the formula $f = 2 p (5 - p)$, in which p = depth of impression.

The test is not made on parts of ceramic material.



Key

- 1 Part to be tested
- 2 Spherical part of the apparatus (diameter 5 mm)
- 3 Support

Figure 14 – Ball-pressure test apparatus