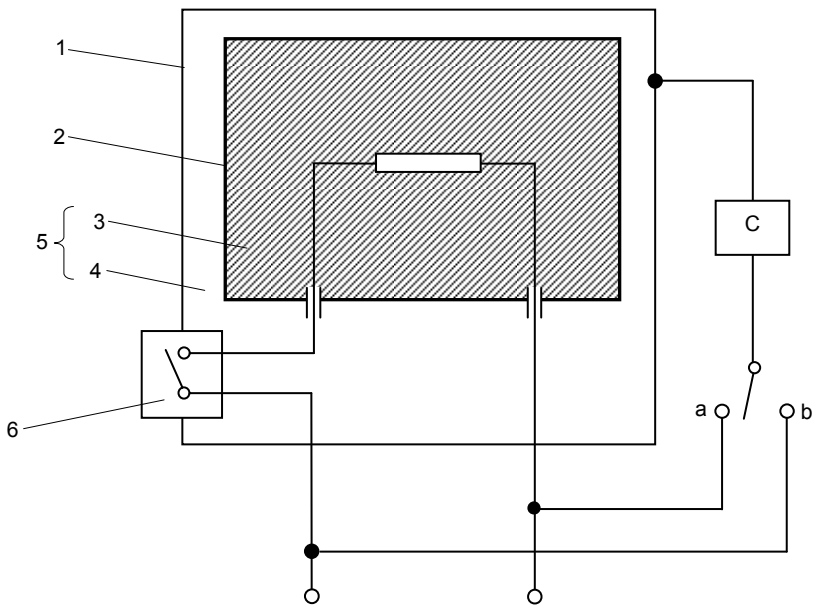


Key

C circuit of Figure 4 of IEC 60990

1 **accessible part**

2 inaccessible metal part

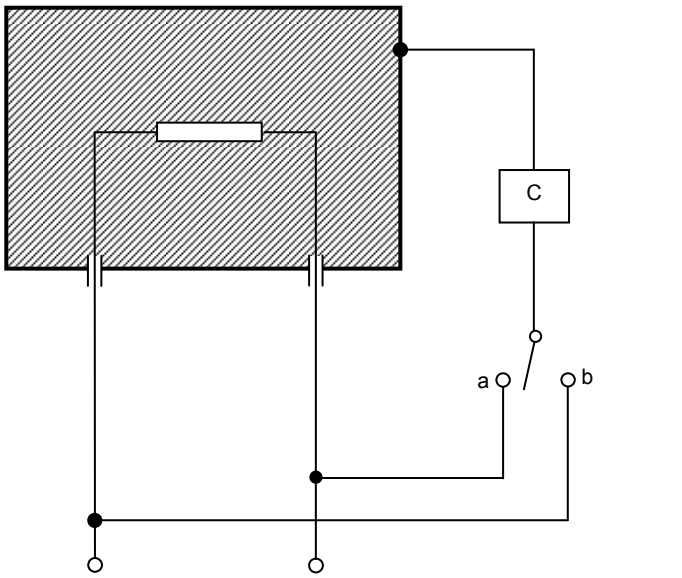
3 **basic insulation**

4 **supplementary insulation**

5 **double insulation**

6 **reinforced insulation**

Figure 1 – [A1] Circuit diagram for leakage current measurement at operating temperature for single-phase connection of class II appliances and for parts of class II construction [A1]

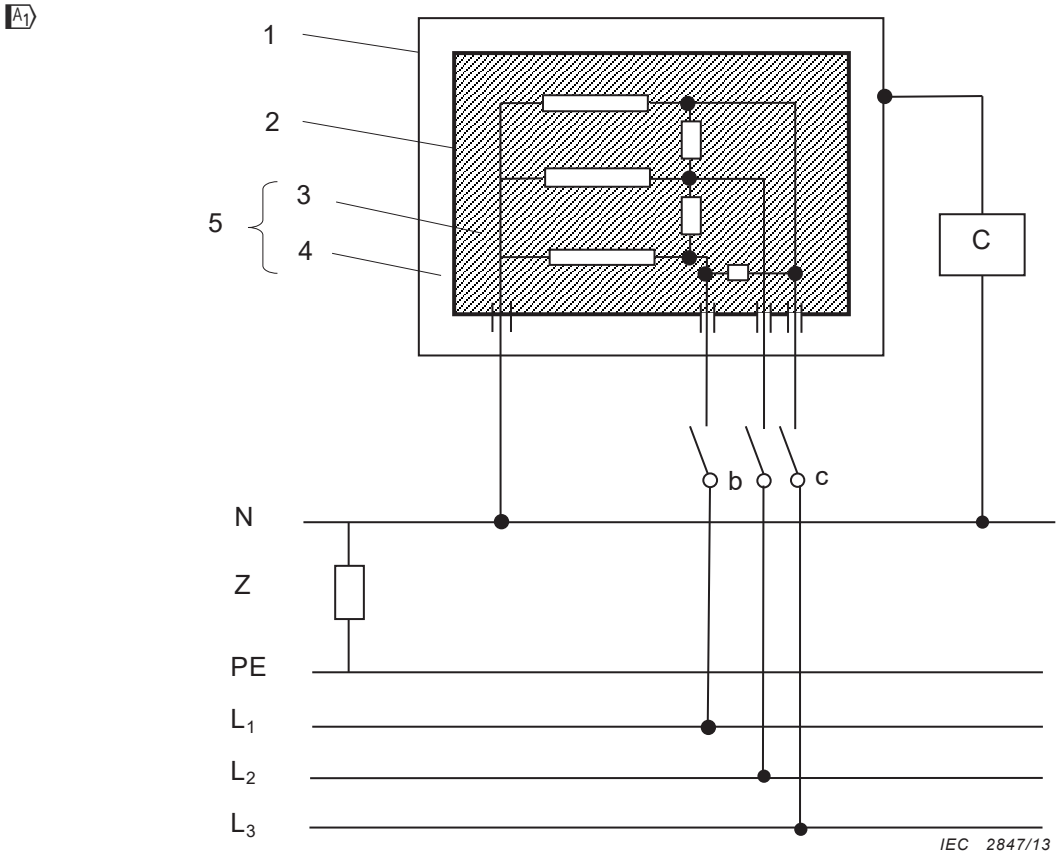


Key

C circuit of Figure 4 of IEC 60990

NOTE [A1] For **class 0I appliances** and **class I appliances**, C can be replaced by a low impedance ammeter responding to the **rated frequency** of the appliance. [A1]

Figure 2 – [A1] Circuit diagram for leakage current measurement at operating temperature for single-phase connection of other than class II appliances or parts of class II construction [A1]



Key

C circuit of figure 4 of IEC 60990

1 **accessible part**

2 inaccessible metal part

3 **basic insulation**

4 **supplementary insulation**

5 **double insulation**

Connections and supplies

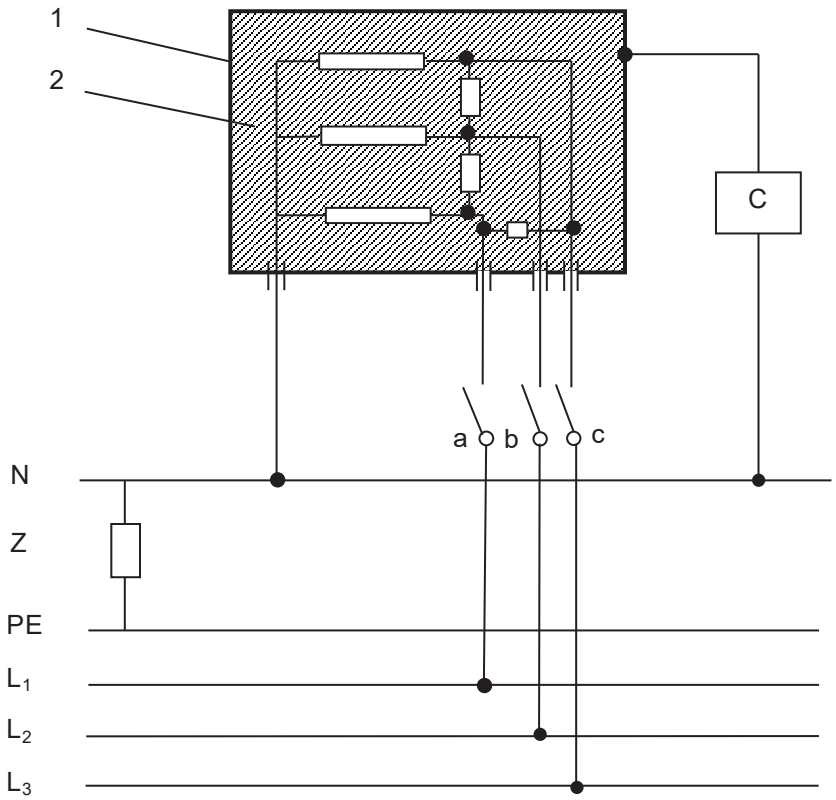
L_1, L_2, L_3, N supply voltage with neutral

PE protective earth conductor

Z IT system neutral to earth high impedance

NOTE If the test laboratory is supplied from a TN or TT distribution system then Z will be zero. Consequently, always connecting “C” to the neutral conductor will ensure reproducibility of the test result regardless of the type of distribution system (TN, TT or IT) used by the test laboratory and will cover the most onerous condition likely to be encountered during normal use of the appliance.

Figure 3 – Circuit diagram for leakage current measurement at operating temperature for three-phase with neutral class II appliances and for parts of class II construction



Key

C circuit of Figure 4 of IEC 60990

1 **accessible part**

2 **basic insulation**

Connections and supplies

L_1, L_2, L_3, N supply voltage with neutral

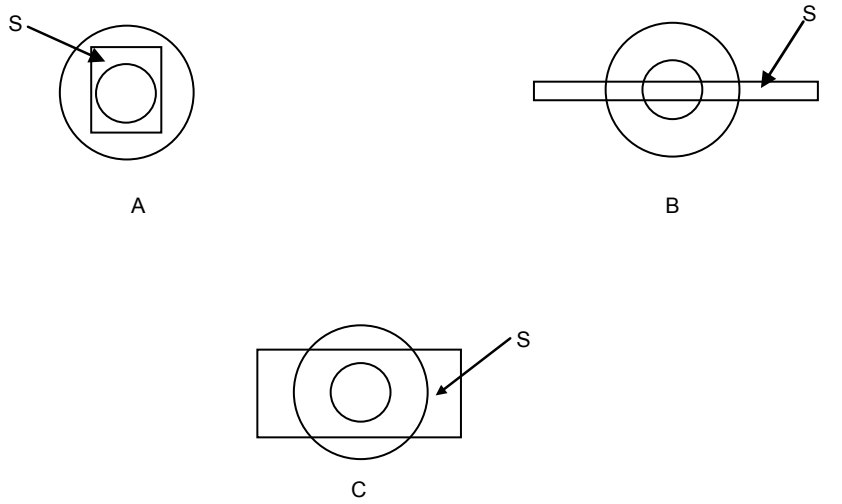
PE protective earth conductor

Z IT system neutral to earth high impedance

NOTE 1 For **class 0I appliances** and **class I appliances**, C can be replaced by a low impedance ammeter responding to the **rated frequency** of the appliance.

NOTE 2 If the test laboratory is supplied from a TN or TT distribution system then Z will be zero. Consequently, always connecting "C" to the neutral conductor will ensure reproducibility of the test result regardless of the type of distribution system (TN, TT or IT) used by the test laboratory and will cover the most onerous condition likely to be encountered during normal use of the appliance.

Figure 4 – Circuit diagram for leakage current measurement at operating temperature for three-phase with neutral appliances other than those of class II or parts of class II construction A1



Key

A example of a **small part**

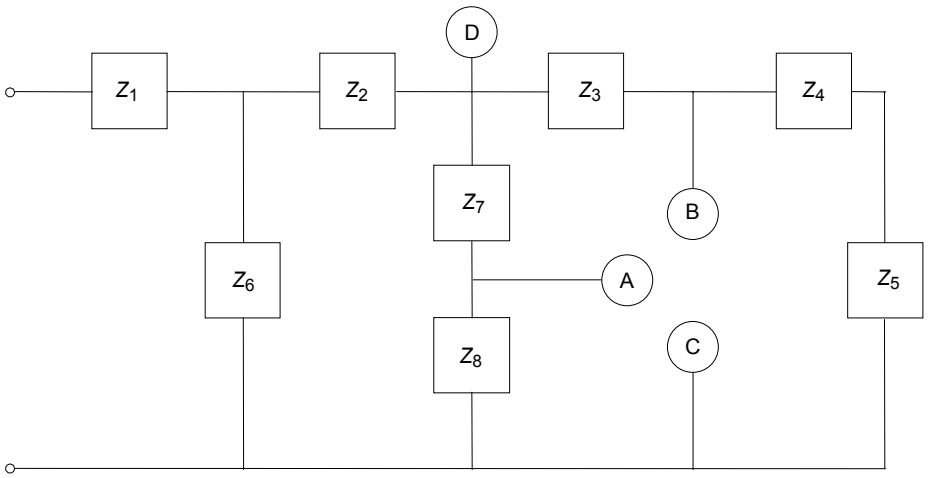
B example of a **small part**

C example of a part that is not a **small part**

S surface

NOTE The small and large circles in examples A, B and C are 8 mm and 15 mm in diameter respectively.

Figure 5 – Small part



D is a point farthest from the supply source where the maximum power delivered to external load exceeds 15 W.

A and B are points closest to the supply source where the maximum power delivered to external load does not exceed 15 W. These are low-power points.

Points A and B are separately short-circuited to C.

The fault conditions a) to g) specified in 19.11.2 are applied individually to Z_1, Z_2, Z_3, Z_6 and Z_7, where applicable.

Figure 6 – Example of an electronic circuit with low-power points

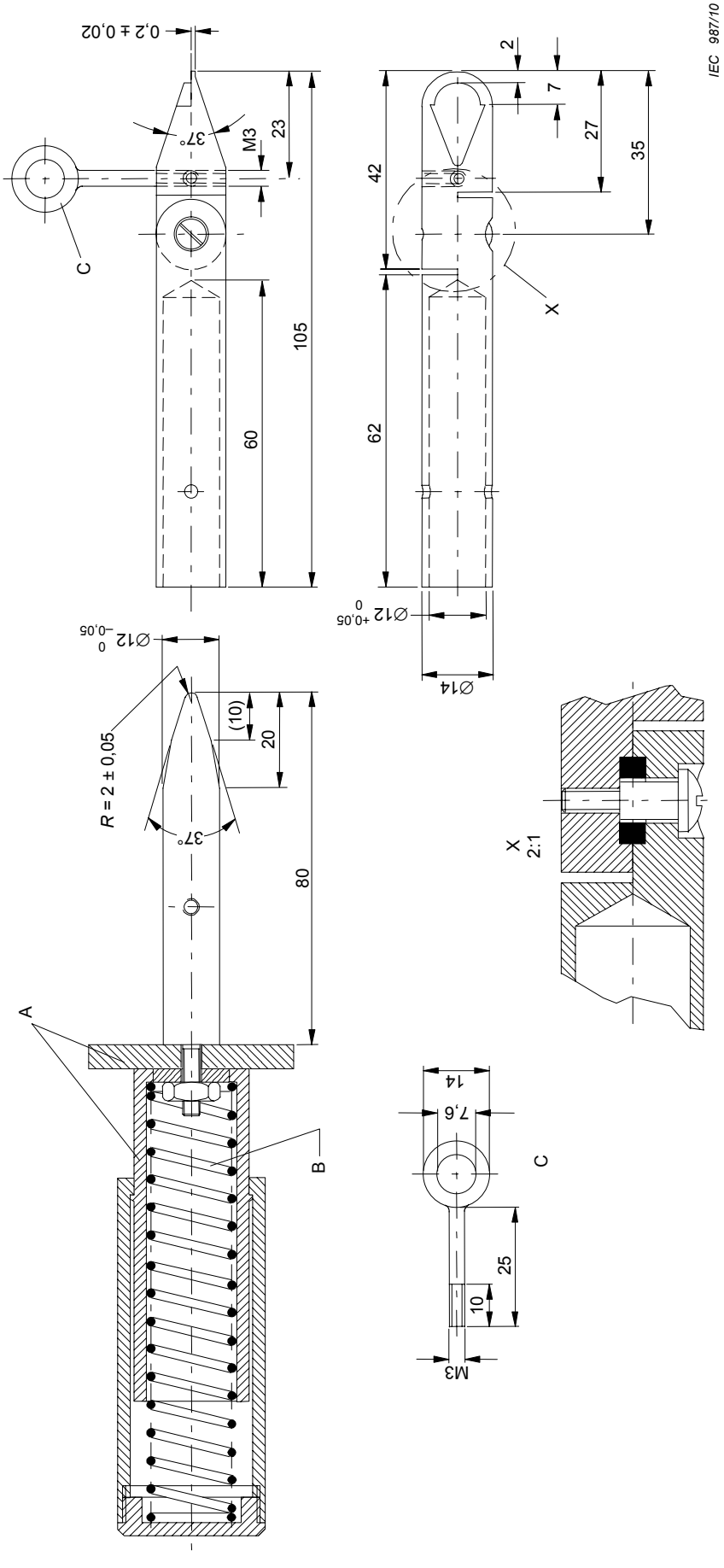


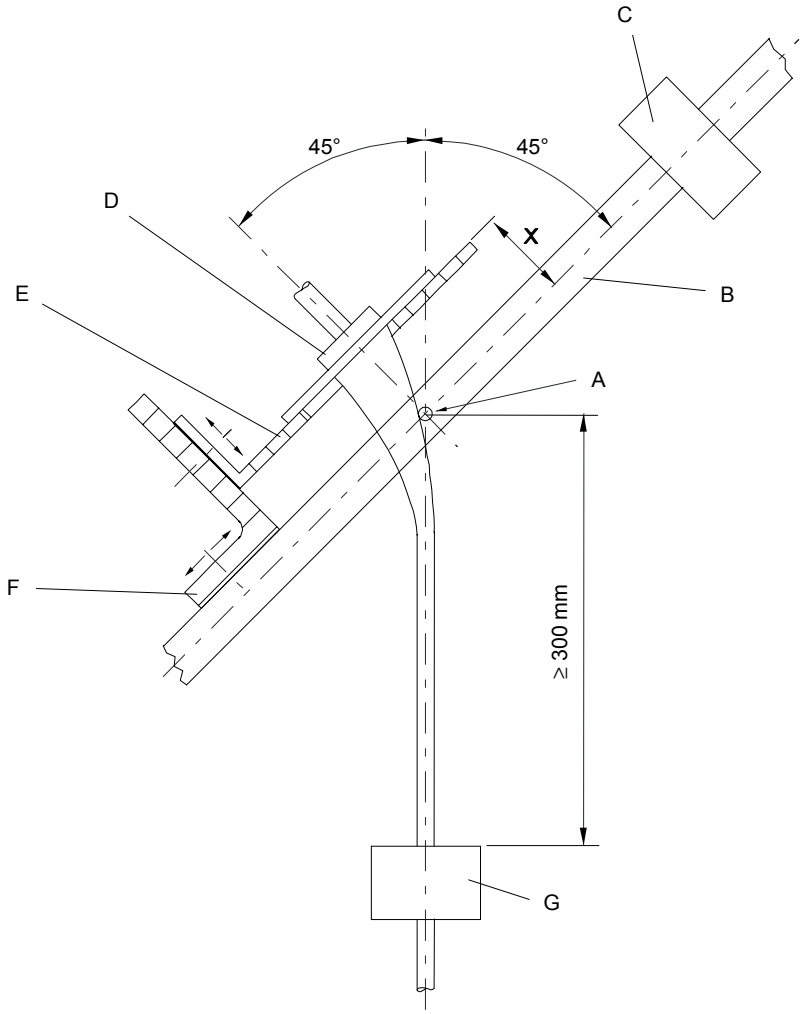
Figure 7 – Test finger nail

Key

A insulating material

B spring with a constant suitable for providing a push force as specified in 22.11 on the test finger nail

C loop

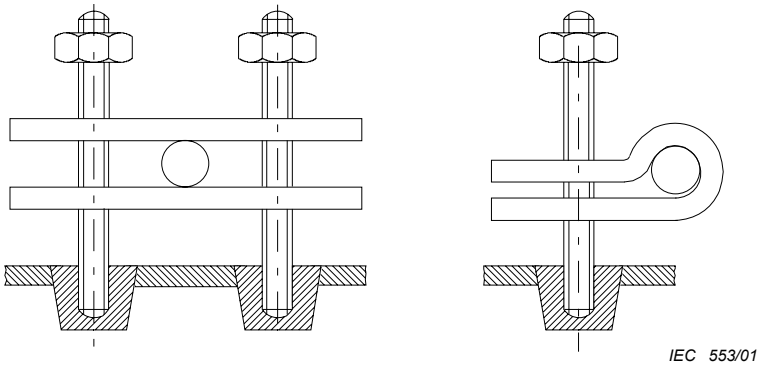


Key

A axis of oscillation
B oscillating frame
C counterweight
D sample
E adjustable carrier plate
F adjustable bracket
G load

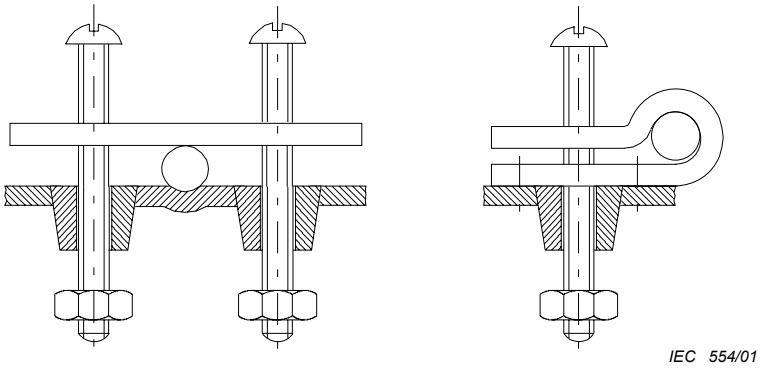
Figure 8 – Flexing test apparatus

ACCEPTABLE CONSTRUCTIONS



IEC 553/01

Construction showing studs securely attached to the appliance



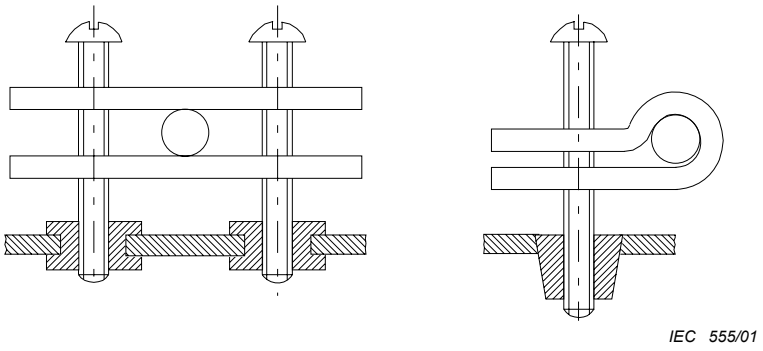
IEC 554/01

Construction showing part of appliance of insulating material and so shaped that it obviously forms part of a cord clamp.

Construction showing one of the clamping members is fixed to the appliance

NOTE Clamping screws may screw into threaded holes in the appliance or pass through holes where they are secured by nuts.

UNACCEPTABLE CONSTRUCTIONS

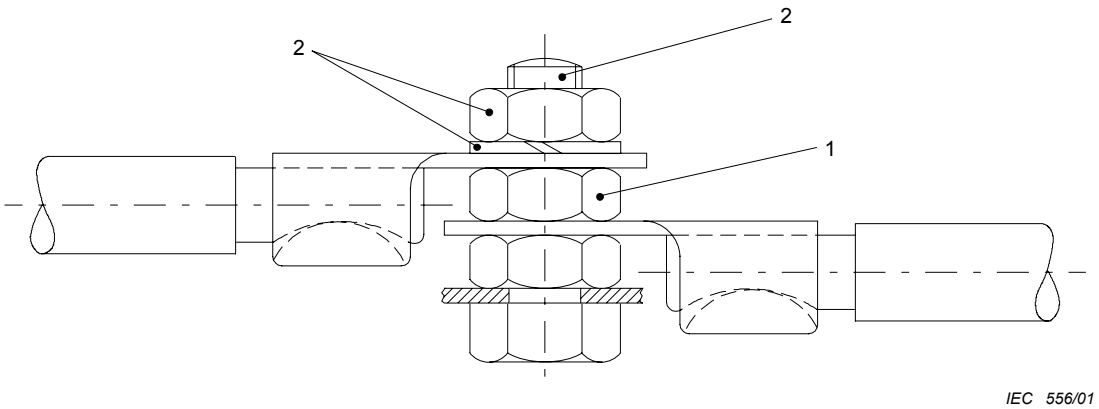


IEC 555/01

Construction showing no part securely fixed to the appliance

NOTE Clamping screws may screw into threaded holes in the appliance or pass through holes where they are secured by nuts.

Figure 9 – Constructions of cord anchorages



Key

1 part providing earthing continuity

2 part providing or transmitting contact pressure

Figure 10 – An example of parts of an earthing terminal