

The test is permitted to be interrupted at not less than 25 operations to permit cooling of the motor.

A contactor that is not tested in the machine is to be mounted in a metal enclosure of the minimum size in which it is intended to be used. The limiting impedance for the test may consist of resistors or direct-current motors.

For a speed controller, the test is to be conducted with the speed control handle moved from the off position through all running positions to the full-speed position and then back to the off position. This is to be counted as 1 cycle of operation.

24.104DV D2 Add [24.104DV.1](#) to [24.104DV.3](#) to the Part 2:

24.104DV.1 A motor located in an LVLE CIRCUIT may be exempt from the requirements for clearances and creepage distances.

24.104DV.2 The removable portion of a BATTERY connector shall be provided with means for being grasped during removal. Raised gripping surfaces are an example of means for being grasped.

24.104DV.3 A motor that complies with the requirements of UL 1004-1 / CSA C22.2 No. 100 may be used, if the motor used is within its acceptable insulation systems ratings.

25 Supply connection and external flexible cords

This clause of Part 1 is applicable except as follows.

25.1 Addition:

Machines classified as IPX7 shall not be provided with an appliance inlet.

Machines classified as IPX4, IPX5 or IPX6 shall not be provided with an appliance inlet, unless both inlet and connector have the same classification as the machine when coupled or separated, or unless inlet and connector can only be separated by the use of a tool and have the same classification as the machine when coupled.

Machines provided with an appliance inlet shall also be provided with an appropriate cord set.

25.1DV D2 Modification by adding the following to 25.1 of the Part 2:

25.1DV.1 The length of the detachable or non-detachable supply cord shall be at least 4,6 m, including fittings.

25.1DV.2 Alternatively to the requirement of [25.1DV.1](#), a product may be provided with not more than 0,5 m of non-detachable supply cord if the plug connection cannot be placed within 75 mm of the floor and:

- a) It is likely that the product will be connected by means of an extension cord during operation, and the manufacturer recommends the use of a suitably rated extension cord and provides the ratings; or
- b) The manufacturer provides with the product a suitably rated extension cord that is not less than 4,6 m long, including fittings.

25.1DV.3 A three-to-two-wire, earthing-type adapter shall not be provided with a product.

25.7 Replacement:

SUPPLY CORDS shall be one of the following types:

– Polychloroprene sheathed

Their properties shall be at least those of ordinary polychloroprene sheathed cords (code designation 60245 IEC 57);

– Polyvinyl chloride sheathed

These cords shall not be used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of Clause 11. Their properties shall be at least those of ordinary polyvinyl chloride sheathed cord (code designation 60227 IEC 53);

– Heat resistant polyvinyl chloride sheathed

These cords shall not be used for TYPE X ATTACHMENT other than specially prepared cords. Their properties shall be at least those of heat-resistant polyvinyl chloride sheathed cord (code designation 60227 IEC 57).

Compliance is checked by inspection.

25.7DV D2 Modification by replacing the text of 25.7 of the Part 2 with the following:

25.7DV.1 A heater cord shall be used where the temperature measured during the test of Clause 11 exceeds 121 °C on any surface that the cord is likely to touch when the machine is used as intended.

25.7DV.2 For rug shampooers, the cord shall be Type SJ, SJO, SJT, or SJTO; for all other products, the cord shall be Type S, SO, ST, or STO. Alternatively, the cord shall be of a type at least equally as serviceable for the intended use.

25.14 Addition:

For machines incorporating a TYPE X ATTACHMENT or TYPE Y ATTACHMENT, the number of flexings is 20 000.

25.15 Modification:

Replacement of [Table 12](#) by the following:

Table 12
Pull force and torque

<i>Mass of machine</i> <i>kg</i>	<i>Pull force</i> <i>N</i>	<i>Torque</i> <i>Nm</i>
≤ 1	30	0,1
> 1 and ≤ 4	60	0,25
> 4	125	0,40

Addition:

The test is also applied to the cord in the cord set for machines classified as IPX4 or higher that are provided with an appliance inlet. The cord set is fitted to the appliance inlet prior to the commencement of the test.

25.22DV D2 Modification by adding the following to 25.22 of the Part 1:

If a product incorporates a disconnecting means (such as a cord connector in the cord between the handle and the motor), the construction shall be such that no live part will be exposed when used as intended. The probe illustrated in Figure 13DV of the Part 1 shall be used to determine if live parts are accessible.

26 Terminals for external conductors

This clause of Part 1 is applicable.

27 Provision for earthing

This clause of Part 1 is applicable.

28 Screws and connections

This clause of part 1 is applicable except as follows.

28.101 A terminal employing a threaded screw or bolt for securing the conducting lug to a terminal plate shall provide a minimum of two full threads in the metal.

29 Clearances, creepage distances and solid insulation

This clause of Part 1 is applicable except as follows.

29.2 Addition:

The microenvironment is pollution degree 3 unless the insulation is enclosed or located so that it is unlikely to be exposed to pollution due to normal use of the machine.

30 Resistance to heat and fire

This clause of Part 1 is applicable except as follows.

30.1 Addition:

The cabin and its fittings are considered to be external parts.

30.2 Addition:

Subclause [30.2.2](#) is applicable for

– mains supplied machines;

- parts of battery powered machines not energized during charging process.
- appliances that have to be kept switched on by hand or foot or are controlled by an OPC.

Subclause 30.2.3 is applicable for

- parts of battery powered machines energized during charging process.

30.2DV D2 Modification by adding the following text and NOTE to 30.2 of the Part 2:

A non-metallic enclosure of a switch or relay located in other than an LVLE circuit shall have a minimum flammability rating of V-2.

NOTE 1DV A switch complying with the standards specified in Annex [101.DVB](#) is considered to comply with this requirement.

30.2.2 *Replace the second dashed item after Note 5 by:*

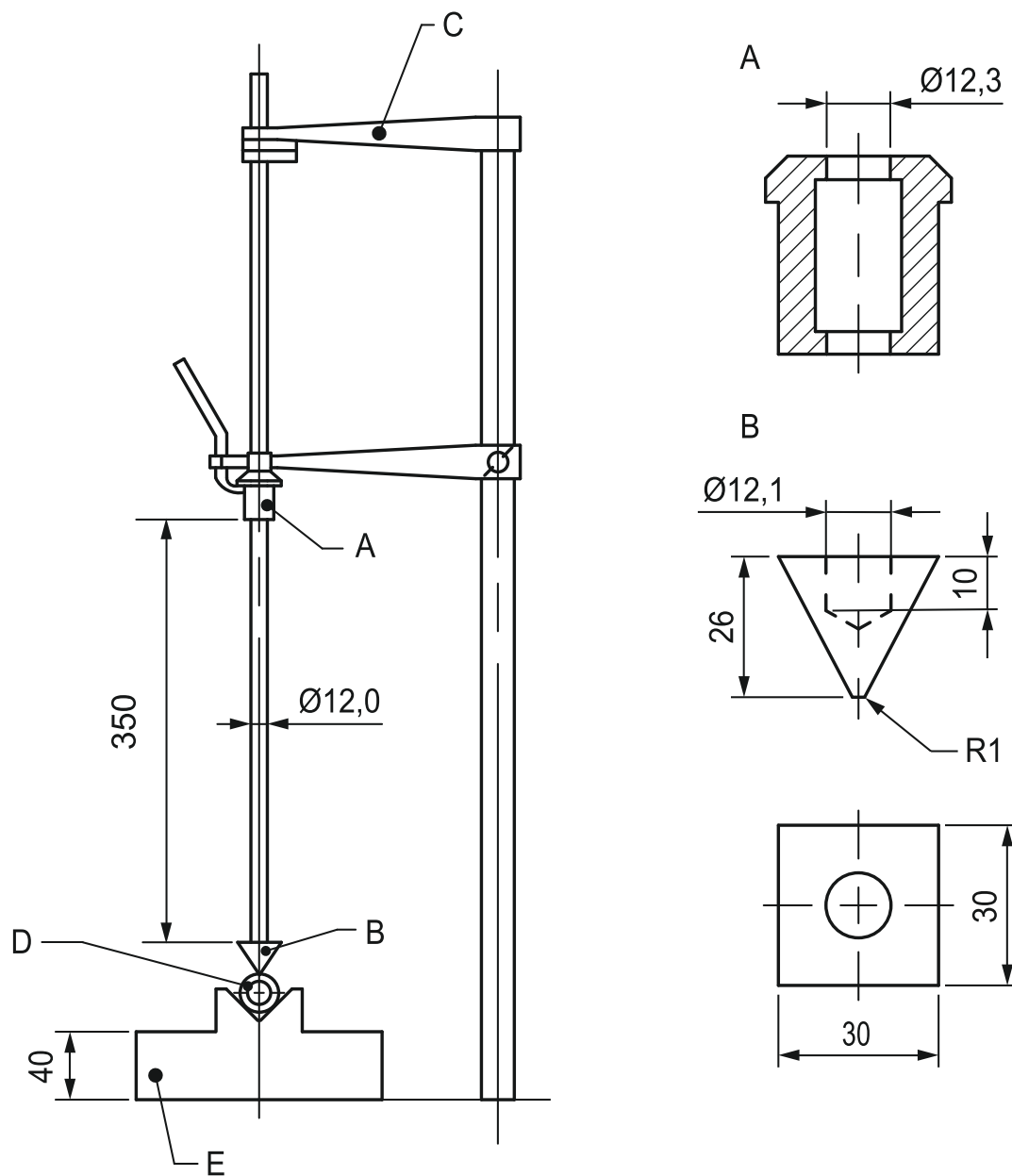
- appliances that have to be kept switched on by hand or foot or are controlled by an OPC;

31 Resistance to rusting

This clause of Part 1 is applicable.

32 Radiation, toxicity and similar hazards

This clause of Part 1 is applicable.



IEC 1272/02

Dimensions in millimeters

su0947

Key

A weight

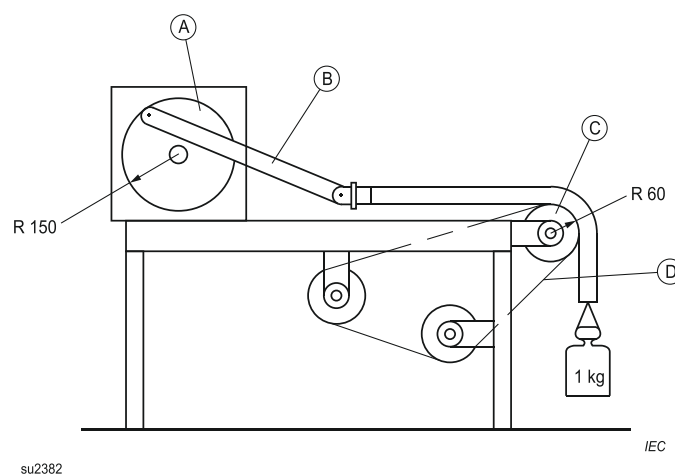
B chisel

C fixing arm

D sample

E base having mass of 10 kg

Figure 101
Impact test apparatus

Dimensions in millimetres**Key**

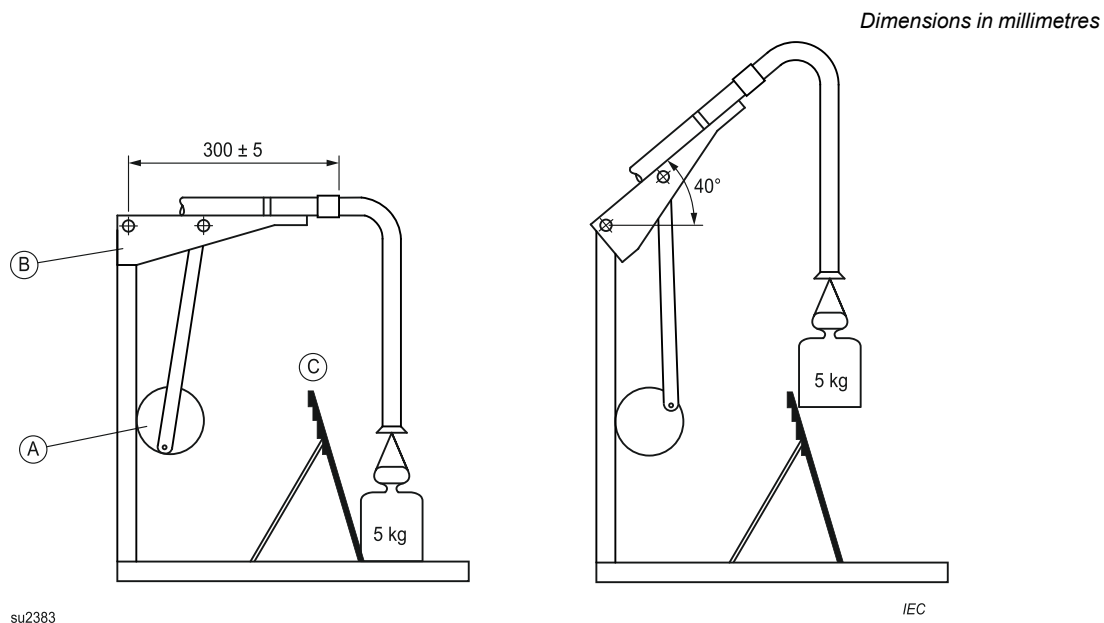
A crank mechanism

B connecting rod

C roller, diameter 120 mm

D abrasive cloth belt

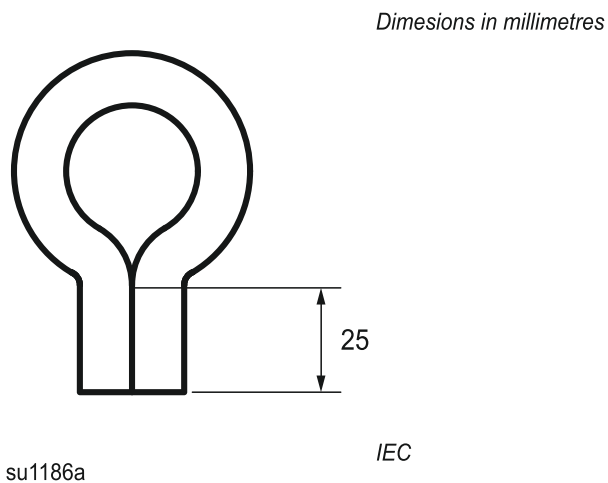
Figure 102**Apparatus for testing the abrasion resistance of current-carrying hoses**

**Key**

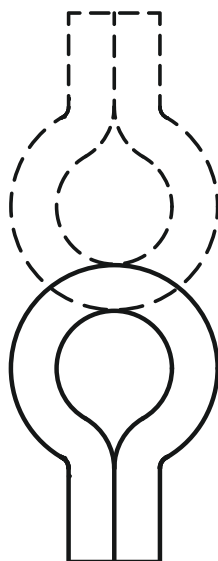
A crank mechanism

B arm

C inclined plane

Figure 103**Apparatus for testing the resistance to flexing of current-carrying hoses****Figure 104****Configuration of the hose for the freezing treatment**

Intermediate position



Position of the hose at start
and finish of each flexing

IEC

su2384

Figure 105

Flexing positions for the hose after removal from the freezing cabinet



su0950a

Figure 106

Warning symbol: Do not inhale exhaust fumes

Figure 107DV DR Add the following figure to the Part 2:

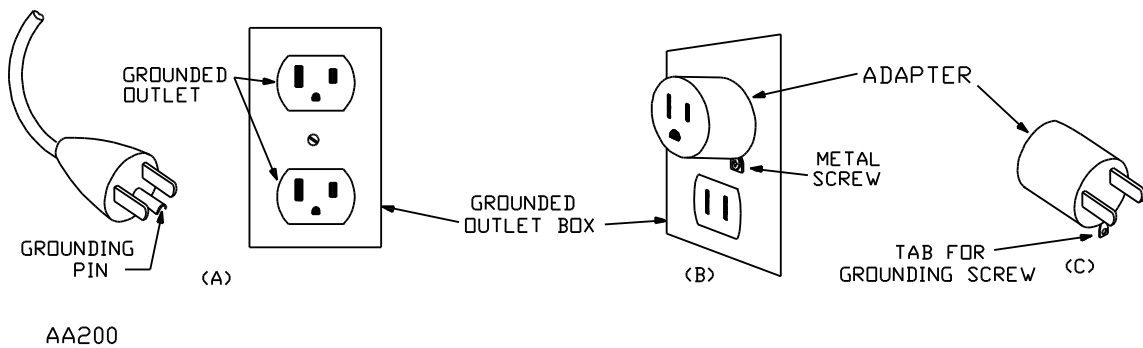


Figure 107DV
Earthing methods

Annexes

The annexes of Part 1 are applicable, except as follows:

Annex A (informative)

Routine tests

ADV.1 D2 Modify Annex A by replacing “informative” with “normative.”

ADV.2 D2 Modify Annex A of the Part 1 by adding the following to the Introduction:

The tests of Clauses A.1 and A.2 do not apply to battery-powered products.

A.2 Electric strength test

Table A.1 – Test voltages

Add footnote c in column 1, first dot, after "basic insulation": "c For BLV machines the BASIC INSULATION values apply."

A.101 Each internal combustion engine powered machines using liquefied petroleum gas shall be tested for leaks of an LP-Gas system.

All fuel-system connections, including the container with associated valves and fittings, shall be tested for leaks with a soap-and-water or equivalent solution while the system is under LP-Gas pressure of not less than 621 kPa. All leaks detected shall be repaired.

The fuel container and associated valves and fittings are permitted to be tested separately using air pressure.