

TESTING AND MEASURING EQUIPMENT/ALLOWED SUBCONTRACTING

Switches for appliances

IEC 61058-1 **1. Edition (1990) + Am.1 (1993) + Am.2 (1994)**
IEC 61058-2-1 **1. Edition (1992) + Am.1 (1995)**
IEC 61058-2-5 **1. Edition (1994)**

R=Required by Lab

S=May be subcontracted

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
8.9	The required marking shall be legible and durable	Similar test apparatus as described under IEC 60730-1 figure 8	R
9.1	Protection against electric shock	Standard test finger of IEC 60529, test pin according to figure 13	R
10.4	Provision for earthing	PE conductor tester, rated current not less than 25 A	R
11.1.2.4.5	Tabs	push forces – 120N pull forces – 110N	R
11.1.2.6.2	Resistance to soldering	solder bath 260°C soldering iron 350°C	R
12.3.107	Cord anchorages	- pull test apparatus shown in figure 101 – torque test apparatus shown in figure 104	R
12.3.110	Bending test	Flexing apparatus shown in figure 102	R
14.1 + 14.2 + 14.3	Protection against ingress of solid, dust and water	According to IEC 60529	R
14.4	Protection against humid conditions	Humidity cabinet, with a relative humidity between 91% - 95%, temperature of the air 20-30°C	R

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15.2	Insulation resistance	Insulation tester with DC 500 V; insulation resistance – 7MΩ	R
15.3	Dielectric strength	High-voltage transformer AC 50/60 Hz, -5000 V Output current is at least 200 mA, not trip when the output current is less than 100 mA	R
16	Heating	Heating or refrigerating cabinet without forced convection. The load circuit may be either a.c. or d.c., the voltage used up to and including 50 V rated voltage, test with rated voltage over 50 V, test with 50 V, the temperature rise, measured with fine wire thermocouples	R
17	Endurance	Possibilities to choose values according to table 13. Controlled by PLC's in conjunction with microcontrollers Powerfactor from 1 to 0,2. Special table with variable system for the assembly of the test samples. Mechanical activity of the switch with stepper motor for activity speeds of 25 and 5 mm/s (microcontroller). Full automatic test of the switch with PLC's (24 hours per day and 365 days per year) Cabinet to be use for heating and cooling	R
18.2	Mechanical strength	Spring-operated impact-test apparatus of IEC 60817. Steel pressure plate, value of about 250 N up to 750 N	R
18.2.1		-test device as shown in figure 11, for incorporated switches	R
18.101	Cord switches, other than foot-operated types	Tumbling barrel as shown in figure 103	R
18.102	Foot-operated type	50 mm diameter steel rod, steel pressure plate, value of about 250 N up to 750 N.	R
19.2.4	Screwed connections	Test screwdrivers	R

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
19.2.5	Screwed glands	Suitable spanner	R
20	Clearances, creepage distances and distances through insulation	Suitable measurements e.g. slide-gauge	R
21	Resistance to heat, fire and tracking	Glow-wire test apparatus according to IEC 60695-2-1. Proof tracking test apparatus according to IEC 60112 Ball pressure test apparatus shown in figure 12 according to IEC 61058-1	R

Note: The presence of equipment alone does not indicate a satisfactory situation. Assessors must evaluate the equipment design, calibration, uncertainty and documentation to ensure compliance with the directions of the standard. The requirements of ISO Guide 25 regarding validation are applicable, as the tests of this standard are not standardised tests.