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JIS

JAPANESE INDUSTRIAL STANDARD

Automobiles—General rules of test methods of switches

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Automobiles — General rules of test methods of switches

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1. Scope This Japanese Industrial Standard specifies general rules of test methods for switches with mechanical contact and used for automobiles. However, the switches used for two-wheeled vehicles and electric vehicles are excluded.

Remarks: The following standards are cited in this Standard:

JIS C 1102	Electrical indicating instruments
JIS C 1302	Insulation resistance testers (battery operated)
JIS D 0203	Method of moisture, rain and spray test for automobile parts
JIS D 0205	Test method of weatherability for automotive parts
JIS D 0207	General rules of dust test for automobile parts
JIS D 1601	Vibration testing methods for automobile parts
JIS D 5005	Nominal voltages and test voltages for automotive electric equipments
JIS K 5400	Testing methods for paints
JIS Z 2371	Methods of neutral salt spray testing
JIS Z 8901	Dusts and aerosols for industrial testing

2. Definitions For the purpose of this Standard, the following principal definitions apply:

(1) switches The generic name of devices which have mechanical contacts, which make and break the current and which are installed in electric circuits of automobiles. The relay and sensor are excepted.

(2) environmental condition This means the environmental levels by which the switches are influenced, and this is the substitutional condition artificially reproducible according to the kinds of environment.

(3) particular standard The standards specifying the classification of switches and their specification according to use, including the specifications made in accordance with the agreement between the parties concerned.

3. Classification of tests The tests are classified as follows:

The test on durability is specified in the particular standard.

(1) Operation confirming test

(2) Test on voltage drop between terminals

(3) Dielectric strength test

(4) Temperature resistance test

(a) High and low temperature exposure test

(b) High and low temperature operation test

(c) Temperature and humidity cycle test

(d) Thermal shock test

(5) Moisture and water proof test

(6) Dust proof test

(7) Salt spraying test

(8) Vibration proof test

(9) Dropping impact test

(10) Structural strength test

(11) Peeling test on marked part

(12) Weatherability test on operating part

4. Division of location of switches The locations of switches in automobiles are divided according to environmental conditions as given in Table 1 (refer to Fig. 1).

Table 1. Division of mounting location of switches

Division of mounting location		Symbol	Examples of switches (Informative reference) (1)
Engine room (symbol E)	Directly coupled with engine	E1	Oil pressure indicator lamp switch
	Position close to engine	E2	Accelerator switch, vacuum switch
	Directly coupled with transmission gear box	E3	Neutral indicator switch, buck-up lamp switch
	Higher position in engine room	E4	Hood switch
	Lower position in engine room	E5	
	Directly coupled with radiator	E6	Radiator water level sensor, water temperature sensor
Vehicle room (symbol C)	Mounted on steering column	C1	Ignition and starting switch, dimmer switch, turn signal lamp switch, windshield wiper and washer switch, horn switch, cruise control switch, hazard indicator switch
	Upper face of instrument panel	C2	
	Front face of instrument panel, upper face of consol box	C3	Lighting switch, map lamp switch, fog lamp switch, ignition switch, starter switch, wiper switch, washer switch, defogger switch, air conditioning switch, mirror control switch and shock absorber switch