

JIS

JAPANESE INDUSTRIAL STANDARD

Glow plugs for automobiles

JIS D 5103—1992

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Glow plugs for automobiles

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1. Scope

This Japanese Industrial Standard specifies self-control type sheath-type glow plugs to be used for diesel engines for automobiles hereinafter referred to as glow plugs.

Remarks 1. Applicable Standards to this Standard are as follows:

JIS C 1102-Electrical Indicating Instruments

JIS D 1601-Vibration Testing Methods for Automobile Parts

2. Corresponding International Standards to this Standard are shown as follows:

ISO 6550:1989-Road vehicles - M12 x 1.25 and M14 x 1.25
sheath-type glow-plugs with conical seating and
their cylinder head housing

ISO 7578:1986-Road vehicles - Sheath-type glow-plugs - General
requirements and test methods

3. For the glow plugs other than self-control type, this Standard does not apply.

2. Definitions

For the purposes of this Standard the following definitions apply:

- (1) self-control type The type capable of controlling the heating temperature having electric current control function in the glow plug itself without depending upon external control.
- (2) rated voltage The voltage to be added to glow plug terminal at the time of preheating, to be the reference for glow plug to be capable of achieving the specified performance.
- (3) preheating Preliminary heating up to the temperature where the fuel is ignited easily by passing electricity to the glow plug before cranking the engine.
- (4) quick heating type The type to quickly rise the heating temperature of the glow plug in order to shorten the preheating time [Refer to (3) of Table 2].

3. Classification

Glow plugs shall be classified according to the designation of attaching screw threads, shape, heating temperature characteristics and rated voltage, as given in Table 1.

Table 1. Classification

Symbol	Designation of attaching screw thread	Shape		Heating temperature characteristic	Rated voltage V
		Length of attaching part G_1 mm	Length of heating part l mm		
M10A	10	35	20, 25, or 30	Quick heating type or standard type	11, or 23
M10B		45			
M10C		65			
M12C	12	80			
ISO M12A		26			
ISO M12B		20			

4. Performance

The performance of glow plugs shall, when tested according to the specification of 8., comply with the specifications of Table 2.

Table 2. Performances

Item	Performance	Test method clause
(1) Ordinary temperature resistance	The resistance value is not less than 0.4 Ω .	8.2
(2) Consumption of electric current	The electric current at peak time is 30 A max. The electric current at stabilized time is 10 A max.	8.3
(3) Heating temperature	In the case of quick heating type, it reaches 850°C within 10 s, and 950°C within 30 s. In the case of standard type, it reaches 850°C within 20 s, and 900 °C within 60 s.	8.4
(4) Air-tightness	There is no leak of air from inside of the glow plug.	8.5
(5) Overvoltage property	After testing, it complies with the performances of (1), (2), (3) and (4).	8.6