

**SAE STANDARD
J554b**

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BY AMERICAN NATIONAL
STANDARDS INSTITUTE

**Electric Fuses (Cartridge Type) –
SAE J554b**

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1. Scope—The fuses shown are for use in motor vehicles, boats, and trailers to protect electrical wiring and equipment. This standard is for the construction shown and is not intended to restrict the design and use of other configurations and materials capable of meeting the vehicle requirements.

2. Definition—A fuse is a device designed to open the electrical circuit when subjected to overcurrents that could damage the circuit or equipment. This action is to be nonreversible, and the fuse is intended to be replaced after the circuit malfunction has been corrected.

3. Materials—The fuses shown shall have clear glass tubes. End caps shall be of brass, copper, or other copper alloy and shall be plated with nickel, cadmium, or other suitable material having satisfactory electrical and corrosion protective properties.

4. Construction—Fuse caps shall be tightly attached to the glass tube and the ends shall be square and free of solder externally. Fuse elements shall be clearly visible through the glass tube. Fuses shall be capable of being passed through a tubular gage having a length as long as the fuse and having a uniform inside diameter of 0.258–0.259 in (6.55–6.58 mm). Preferred and other fuse dimensions are shown in Fig. 1.

5. Application

5.1 General—This standard applies to fuses of all lengths. However, the fuse derating chart shown in Fig. 2 applies specifically to the preferred length of 1.250 in (31.75 mm). The fuse manufacturer should be contacted for recommendations on other available lengths. (See Fig. 1.)

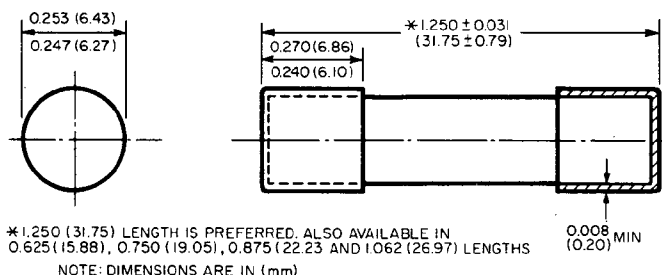


FIG. 1—FUSE DIMENSIONS

5.2 Ampere Rating—This standard covers ampere ratings up to and including 30 A. Preferred ampere ratings are shown in Table 1. These ratings are determined at 75°F (24°C) ambient temperature. Approximate capacity change with respect to temperature is shown in Fig. 3 for all length fuses. The use of fuses in ambient temperatures beyond the limits shown is not recommended without thorough testing experimentally in the vehicle. It is further recommended that fuses not be loaded to 100% of the adjusted capacity, according to ambient temperature, due to electrical system variances. See Fig. 2 for additional deratings when fuses are used on cable gage sizes other than the test gage wire.

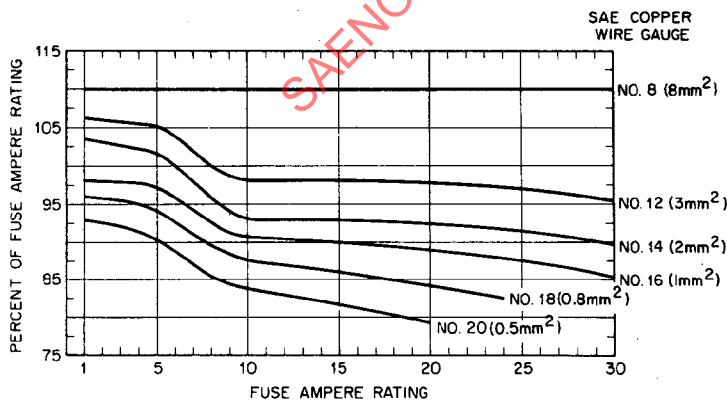


FIG. 2—FUSE DERATING FOR VARIOUS WIRE SIZES (1.250 IN (31.75 MM) LENGTH)

TABLE 1—FUSE COLOR CODES

Ampere Rating	Color	Ampere Rating	Color
1	Dark green	9	Orange
2	Gray	10	Red
2-1/2	Purple	14	Black
3	Violet	15	Light blue
4	Pink	20	Yellow
5	Tan	25	White
6	Gold	30	Light green
7-1/2	Brown		

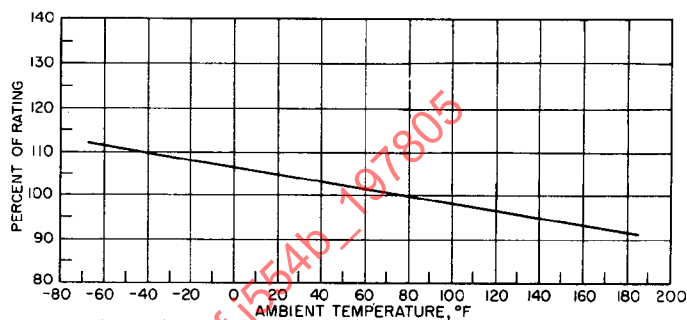


FIG. 3—EFFECT OF AMBIENT TEMPERATURE ON AMPERE RATING OF SAE SPECIFICATION FUSES

5.3 Voltage Rating—Fuses shall be capable of interrupting any voltage up to and including 32 VDC.

5.4 Maximum Voltage Drop—The maximum voltage drop (in millivolts) at rated current across the fuse only, shall be as shown in Fig. 4, when measured across the fuse from ferrule to ferrule.

6. Performance—Tests shall be conducted within an ambient temperature range of 75 ± 9°F (24.0 ± 5°C) except for the overcurrent test which is to be conducted at 75 ± 2°F (23.9 ± 1.2°C).

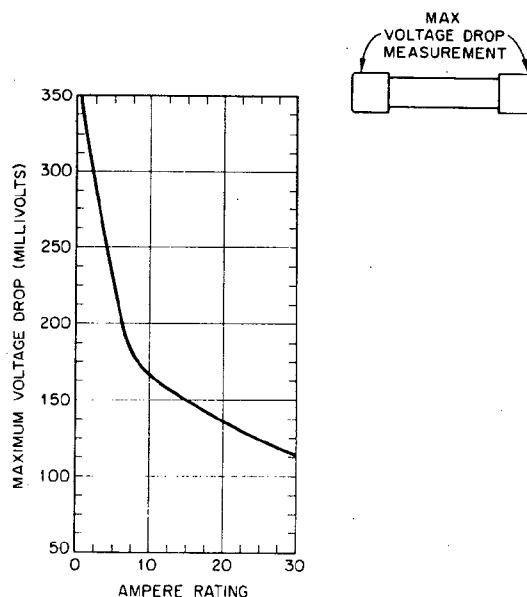


FIG. 4—MAXIMUM VOLTAGE DROP OF FUSE AT RATED CURRENT