



## Flammability of Materials

Do Not Use on New Programs; No Replacement

**1 SCOPE.** This standard provides a system for specifying flammability requirements for certain materials used in passenger cars, multipurpose passenger vehicles, trucks, and buses. It is based on the testing of materials according to GM9070P, GM Standard Test for Flammability of Materials.

### 2 DESCRIPTION OF SYSTEM.

2.1 The system consists of a basic specification number, GM6090M, to which is appended a succession of letter and numeral suffix symbols, each designating a specific condition of testing or a required test result.

Example: GM6090M(B4-AB).

2.2 One to five letters are used first in the suffix symbol to specify the maximum permitted flammability rating. See Table 1. In the case of symbols SE/NBR, SE/B and B, it is anticipated that future situations may arise which will require the specification of test conditions other than 60 s and 2 inches and 4 inches. Therefore, the system provides for additions by establishing three numerals for the SE/NBR symbol and one numeral for the SE/B and B symbols. In the case of SE/NBR, the first two digits designate time in seconds and the third digit

designates maximum burn distance from point where timing was started (in the present situation 60 s and 2 inches, respectively). Similarly, in the case of SE/B and B, the present situation requires 4 inches/min. If it is desired to specify a 3, 5 or other inches/minute, the appropriate numeral would be substituted for the "4" shown in Table 1.

2.3 A final suffix letter or double letter separated from the remaining portion of the symbol by a dash (-), is used to specify that the material shall be tested in the as received condition, and/or after aging by one of the procedures (B through M) outlined in Paragraph 4.3. Letters for other aging conditions will be assigned and details for each will be published herein as the need arises.

**3 ENGINEERING DRAWING NOTE.** It is desirable that this standard system be used on engineering drawings and other documents in a uniform manner, as in the following examples:

- (1) FLAMMABILITY PER GM6090M(SE/NBR602-A)
- (2) FLAMMABILITY PER GM6090M(B4-AB)
- (3) FLAMMABILITY PER GM6090M(B4-A) or GM6090M(SE/NBR602-A)

**TABLE 1**

GM Specification Number and Suffix Symbol (See Note 2)	Material Tested As Received <sup>1</sup> or After Aging	Test Results Flammability Rating
GM 6090-M (DNI-		Does Not Ignite. Material does not support combustion during or after ignition.
GM 6090-M (SE-		Self-Extinguishing. Material ignites but does not burn to the timing zone.
GM 6090-M (SE/NBR 602-	-A) — As Received <sup>1</sup>	Self-Extinguishing/No Burn Rate. Material ignites but stops burning before it has burned for 60 seconds from start of timing, and does not burn more than 2 inches from the point where timing was started.
	-B) — See Par 4.3.1	
	-C) — See Par 4.3.2	
	-D) — See Par 4.3.3	
	-E) — See Par 4.3.4	
	-F) — See Par 4.3.5	
	-G) — See Par 4.3.6	
GM 6090-M (SE/B4-	-H) — See Par 4.3.7	Self-Extinguishing/With a Maximum Burn Rate of 4 inches Per Minute. Material does not burn, nor transmit a flame front across its surface <sup>3</sup> , at a rate of more than 4 inches per minute. Material stops burning before it has burned for 60 seconds from start of timing, and has not burned more than 2 inches from point where timing was started. Burn rate calculated from formula at right.
	-J) — See Par 4.3.8	
	-K) — See Par 4.3.9	
	-L) — See Par 4.3.10	
GM 6090-M (B4-	-M) — See Par 4.3.11	Maximum Burn Rate of 4 inches Per Minute. Calculate from formula at right: (See Note 3)

$$B = 60 \frac{D}{T}$$

where:

B = Burn rate in inches per minute.

D = Distance the flame travels in inches.

T = Time in seconds for the flame to travel "D" inches.

<sup>1</sup> Condition specimen at 70 F (±3.5 F) and 50 percent RH (±5%) for 24 hours prior to testing.

<sup>2</sup> Examples. GM 6090-M (DNI-K); GM 6090-M (SE/B4-B); GM 6090-M (B4-A).

<sup>3</sup> The requirement concerning transmission of a flame front shall not apply to a surface created by the cutting of a test specimen for purposes of testing per GM 9070-P.