

**HOLDEN**

GM Holden Limited
Engineering Department

MATERIAL SPECIFICATION

NUMBER : HN 2145
SHEET : 1 of 3
RELEASE : October, 1994
REVISION : November, 2005

NAME: FOAM – HIGH TEMPERATURE RESISTANT

1. SCOPE

The material described in this specification is a sound absorbing foam capable of withstanding engine compartment temperature. The material may be attached to components by a pressure sensitive adhesive, in which case the adhesive must also withstand the same temperatures.

For engine bay applications the foam must have a tear resistant facing to protect the foam from undue fluid absorption and to optimise sound absorption via optimised flow resistance.

2. PROPERTIES

2.1 Sound Absorption Impedance Tube Method (AS1935)

Each grade of material must have a minimum sound absorption coefficient. This shall be determined by the standing wave method (AS 1935). Refer to Table for the minimum sound absorption and Noise Reduction Coefficients (N.R.C.) for each grade of material with no air space.

Frequency (Hertz)	Statistical Sound Absorption Coefficient	
	Grade 1 – 6mm	Grade 2 – 12mm
250		0.10
500	0.07	0.30
800	0.13	
1000		0.41
1250	0.35	0.52
2000	0.66	0.74
2500	0.80	
3200	0.62	
4000		0.85
5000	0.35	0.80
NRC		0.388

2.2 Flammability (GM6090M)

The material must be classed as self extinguishing when tested in the horizontal position in accordance with GM6090M (B4-A).

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2. PROPERTIES (continued)

2.3 Density (ISO 845)

The density of the foam shall be a minimum of 32 kg/m³.

2.4 Tear Resistance (ISO 8067)

The tear resistance of the foam shall be 400 N/m minimum.

2.5 Adhesion

The adhesive must support the foam during an overhead bake of 150 °C. Take a 50 mm square section of foam and adhere the foam to the underside of an engine cover. Place in a convection oven at 150 °C for 30 min. with the engine cover uppermost. Inspect the assembly when cool. Foam must remain adhered to the engine cover.

2.6 Airflow Resistance (ASTM C522)

The material as a foam/resistive layer composite shall have an airflow resistance between 800 and 1200 mks Rayls.

3. APPROVAL, INSPECTION AND REJECTION

Refer HN 1000, Clauses A and C.

4. HAZARDOUS MATERIALS

Refer HN 1000, Clause H.

5. RESTRICTED AND REPORTABLE SUBSTANCES

Refer HN 1000, Clause J.

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