

*We have one goal — improving the noise and vibration quality of our customers' products. Roush delivers innovative, effective noise and vibration control products and solutions. By combining advanced analysis capabilities, comprehensive engineering services, and state-of-the-art facilities, Roush has become a proven partner in identifying and resolving challenging noise and vibration issues. Backed by the diverse capabilities of the Roush family of companies, we are uniquely equipped to provide turnkey noise and vibration solutions.*

*Roush... your silent partner in developing smoother, quieter products.*

## Damping Foam — RA750 HiTemp

### Product Description

RA750 HiTemp is a high density damping foam used in constrained layer damping treatments to attenuate noise and vibration.

### Features

The RA750 Damping Foam offers superior damping performance for applications to relatively stiff structures requiring damping over broad temperature and frequency ranges. The self-adhering material is used in conjunction with a rigid constraining layer such as steel or aluminum. The treatment can be applied to the structure at room temperature under light contact pressure.

This material is best suited for reducing noise and vibration in cast aluminum or magnesium covers on gasoline/diesel engines, transmissions and compressors. It is especially effective at controlling noise and vibration due to resonances in cast front covers, cam covers, and oil pans at the elevated temperature range typical of underhood applications. RA750 is tolerant of typical engine and transmission fluids and due to the material's thick, compliant nature, it is easily bonded to rough, irregular casting surfaces.

Roush provides this product in sheet form or in combination with a constraining layer for add-on applications.

### Typical Physical Properties

Material Thickness.....	1.5 to 3 mm
Material Loss Factor (ASTM E756, 1000 Hz @ 200 F) .....	>0.3
Density (ASTM D1056).....	0.024 lbs./in
Compression Deflection (ASTM D1056).....	40 psi
Tensile Strength (ASTM D412) .....	80 psi minimum
Ultimate Elongation (ASTM D412) .....	150% minimum
Durometer Hardness (ASTM D2240).....	70 Shore 00
High Temp. Resistance .....	Excellent
Low Temp. Resistance .....	No cracks
Ozone Resistance (ASTM D1149) .....	No cracks
Water Absorption (ASTM D1056) .....	10% maximum by mass
Oil, gasoline and diesel fuel resistance .....	Excellent

**Shelf Life:** Two years when stored under cool, dry conditions.





## NOISE AND VIBRATION CONTROL PRODUCTS

### RA750 HiTemp Damping Foam

#### Engine Cover Noise Issues

- Flat covers are efficient noise radiators
- Large flat panels have resonance problems that contribute to high noise levels
- Surface irregularities such as die checking make traditional thin layer CLD treatments impractical

#### RA750 Solution

- RA750 material has exceptional damping at elevated temperatures
- Thicker material is well suited for irregular surface of typical cast parts
- “Peel and Stick” application doesn’t require heat or excessive pressure to apply
- Material resistant to typical underhood environmental conditions
- Provides excellent damping of typical cover panel modes
- Works well over broad temperature range

#### Experimental Test Results

- Frequency response of front cover with treatment is much flatter and less peaky. See Figure 1. This leads to a smoother increase in noise levels as engine speed increases.
- In one application, noise levels near the front cover were reduced by as much as 5.5 dB and a more linear sound level was generated. See Figure 2.

FIGURE 1: FREQUENCY RESPONSE MEASUREMENT

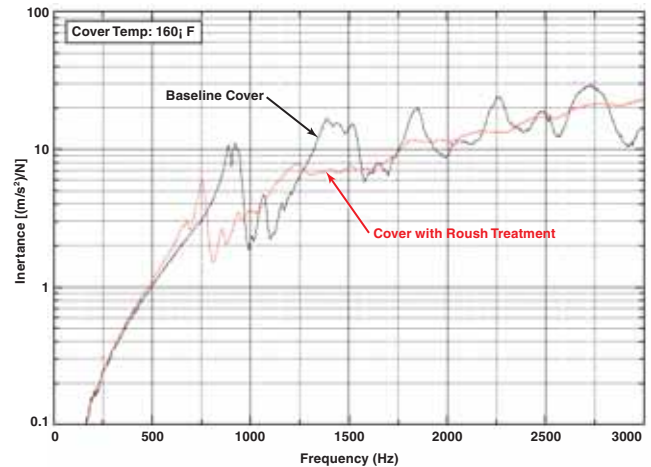
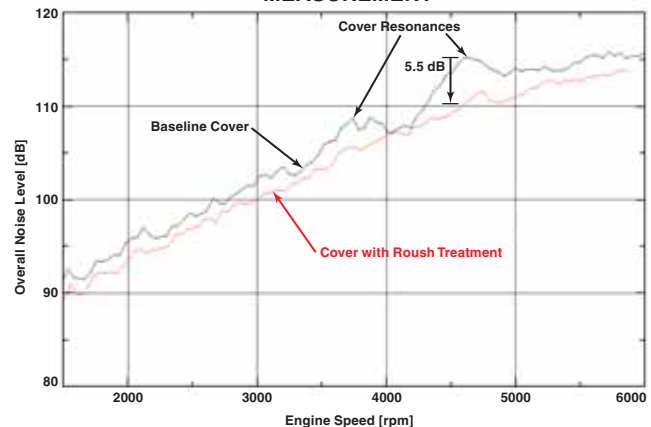


FIGURE 2: NEARFIELD SOUND PRESSURE MEASUREMENT



### Full Service Noise and Vibration Control Support

Let Roush assist you with your noise and vibration control activities. We offer a full range of design, engineering, testing, and manufacturing capabilities.

As an alternative to this material, we can search our database of over 3,000 materials to identify other potential material solutions. Once selected, Roush uses design and analyses to optimize the configuration of the material for your specific application.

Roush provides manufacturing operations to convert this material into a finished part that can be delivered to your specifications. Roush has many worldwide partners that provide a wide array of low cost manufacturing processes with high quality production output.

Contact us or visit our website at [www.roushind.com/NVH](http://www.roushind.com/NVH) for more detailed information on Roush’s full-service capabilities.

#### Product Performance and Suitability:

All information regarding the use of Roush products identified in this datasheet is believed to be reliable by Roush, but are not product specifications and must only be used as a guide. Roush does not represent or warrant that its products are fit for a particular purpose or that they do not infringe any U.S. or foreign patents. Purchaser must independently determine the suitability of the Roush products for their particular application. Unless written otherwise in Roush’s Terms and Conditions of Sale for the product, this datasheet or any verbal statements made by any other distributor, salesman or representative about the product will not be deemed to create an express warranty of any kind.

**ROUSH**®

12011 Market St.  
Livonia, MI 48150  
Phone: 734-779-7003 or  
800-215-9658  
Fax: 734-779-7903  
E-mail:  
[sales@roushind.com](mailto:sales@roushind.com)

[www.roushind.com/nvh](http://www.roushind.com/nvh)

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*Roush. From start to finish.*