

HEPA vacuum cleaner to prevent this exposure is under development.

Non-Asbestos Brake Linings

The use of non-asbestos friction materials is increasing. Available information suggests that none of these substitute materials is as dangerous as asbestos. Unless a mechanic is certain before brake work starts that a particular vehicle's brakes are not lined with asbestos, it should be assumed for the sake of caution that there is asbestos in the brake dust. In addition, friction materials often contain adhesives, toxic metals, and other hazardous chemicals which can harm the body. Thus, even for non-asbestos friction products, an enclosure system can control exposures to materials which may be harmful.

What to Look for in Enclosure Equipment for Brake Cleaning

Recommended features to look for in selecting enclosure equipment include:

1. Features which prevent hand contact with asbestos, including rubber (or other non-permeable) gloves to cover both hands. Look for attached gloves with no spaces for leakage. If attached gloves are not standard with the equipment, they should be selected as an option.
2. Enclosures large enough to fit around the biggest size brake drums likely to be encountered to prevent exposure during drum removal.
3. Reports of air sampling with analysis by transmission electron microscopy that show no release of asbestos fibers when this equipment during brake maintenance. This helps ensure against design defects against design defects.
4. A sturdy seal behind the backing plate to prevent leakage during blow out.
5. A pressure gauge or manometer indicating when vacuum filter change or cleaning of renewable filter is needed. This helps ensure effective suction during use.
6. Safety of filter change or renewable filter cleaning. Ideally, future models of these devices will have a feature that prevents opening the filter housing while the vacuum motor is switched off.

Enclosure system manufacturer information is discussed in references 32-35.

Machining and Bevelling

Whenever possible, pre-ground, installation-ready brake linings and clutch facings should be used. If friction materials must be arced, this should be done by lathe-turning at low speed, rather than by grinding. Linings should not be ground to fit brake systems for which they were not designed. Where friction materials must be machined, bevelled, or lathe-turned, adequate local exhaust ventilation equipment connected to a HEPA vacuum collector should be used to prevent mechanic exposure and shop contamination. Such equipment should be designed and set up by a professional ventilation engineer, using specifications such as those found in the American Conference of Governmental Industrial Hygienists' ventilation manual as a minimum design standard. There must be a comprehensive asbestos control and monitoring program where machining, bevelling, or lathe-turning is done.

Special Areas for Brake Work

Eating, drinking, and smoking should not be done in an area where brake work is done. Mechanics should wash their hands and face before eating and wash all exposed skin and change clothes before going home. If possible, work clothes should be laundered at special facilities equipped to wash clothing contaminated with asbestos. Smokers should be urged to quit and, if necessary, be provided assistance in entering a smoking cessation program. Accidental spillage of brake dust should be promptly vacuumed with a HEPA vacuum.

VI. RESPIRATORS

The National Institute for Occupational Safety and Health (NIOSH) recommends the use of engineering controls and good work practices as the primary means of reducing exposures. Proper use of a respirator specially