

**WAC 173-901-080 How to test brake friction materials and report results.** (1) The manufacturer of brake friction material offered for sale in Washington state must ensure that its brake friction materials sold or offered for sale in Washington state are tested:

(a) By a laboratory accredited in accordance with WAC 173-901-070; and

(b) Using the testing protocol SAE J2975:2011 or an alternative testing method or protocol approved under subsection (9) of this section.

(2) Manufacturers of brake friction material must ensure that brake friction material is tested for each of the following:

- (a) Antimony;
- (b) Asbestiform fibers;
- (c) Cadmium;
- (d) Chromium (VI);
- (e) Copper;
- (f) Lead;
- (g) Mercury;
- (h) Nickel; and
- (i) Zinc.

(3) **Who is responsible for the accuracy of laboratory testing results?** The manufacturer of brake friction material is responsible for the accuracy of the laboratory testing results reported to the department.

(4) **How many times does each friction material need to be tested?** As SAE J2975:2011 recommends, all testing for the regulated constituents, copper, nickel, zinc, and antimony must be done at least in triplicate.

(a) Due to the margin of error in the test method, additional testing may be required to demonstrate that the brake friction material contains less than the specified concentrations of each of the regulated constituents and copper. For example, if a pad contains 4.9 percent copper, the first round of testing results could come back showing the average testing result is greater than 5 percent copper by weight. Consequently, these results would not be suitable for demonstrating compliance and the brake friction material would need to be retested in accordance with SAE J2975:2011. The additional testing results would then need to be calculated into the cumulative average of all testing results conducted on a given formula. To be used for certification, the cumulative average of all testing must show that the brake friction material contains less than the specified concentrations of the regulated constituents and copper.

(b) If an approved alternative testing method or protocol is used, all testing must be done in accordance with the alternative testing method or protocol.

(5) **How must laboratory testing results be reported to the department?**

(a) All laboratory testing results for a friction material must be transmitted from the testing laboratory directly to an industry-sponsored registrar.

(b) The cumulative average of all testing done on a given brake friction material formulation must be reported to the department, via the industry-sponsored registrar, on behalf of the brake friction material manufacturer.

(c) The cumulative average must show that the concentration of the regulated constituents and copper are less than the specified concentrations.

(6) **What happens if laboratory error occurs?** If laboratory error is suspected, the laboratory may, at its discretion and in accordance with its standard operating procedures, choose to retest the brake friction material. The results from the testing in which the error occurred do not need to be included in the testing results transmitted to the industry-sponsored registrar or in the testing reported to the department.

(7) **How long must a manufacturer of brake friction material retain copies of laboratory testing results used for certification?** A manufacturer of brake friction materials must maintain copies of laboratory testing results for a period of ten years after the date of certification and must provide copies of these documents to the department upon its request.

(8) **May a manufacturer of brake friction material certify compliance using testing results derived using a method or protocol other than SAE J2975:2011?** A manufacturer of brake friction material may use alternative testing and sampling preparation methods if the alternative is approved by the department in advance of using these testing methods or protocols for certification. The brake friction material manufacturer proposing the alternative shall be responsible for generating data sufficient to demonstrate to the department that the alternative is at least as effective as SAE J2975:2011. Once an alternative testing method or protocol has been approved by the department, any manufacturer of brake friction material may use the approved, alternative method for certification. The department may only approve alternative testing procedures:

(a) When a manufacturer of brake friction material proposes an alternative testing method or protocol;

(b) When the brake friction material manufacturer has provided sufficient evidence to demonstrate that the proposed alternative is at least as effective as SAE J2975:2011; and

(c) When the proposed alternative method or protocol is publicly available.

[Statutory Authority: Chapter 70.285 RCW. WSR 12-21-082 (Order 10-17), § 173-901-080, filed 10/19/12, effective 11/19/12.]