Designation: D6107 – 97 (Reapproved 2012)

Standard Specification for
Stop-Leak Additive for Engine Coolants Used in Light Duty Service[1]

This standard is issued under the fixed designation D6107; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers the requirements of a stop-leak additive to function effectively in automobile and light duty service. The stop-leak is intended to seal small leaks in engine cooling systems without adversely affecting heat transfer and fluid flow.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D1176 Practice for Sampling and Preparing Aqueous Solutions of Engine Coolants or Antirusts for Testing Purposes

D1881 Test Method for Foaming Tendencies of Engine Coolants in Glassware

D3147 Test Method for Testing Stop-Leak Additives for Engine Coolants

3. Performance Requirements

3.1 The following performance requirements of stop-leak additives must be achieved in order to meet this specification.

3.2 The stop-leak additive must be capable of plugging a minimum hole size of 0.254 mm (0.010 in.) and a minimum slot size of 12.7 mm (0.50 in.) long by 0.254 mm (0.010 in.) wide when tested in accordance with Test Method D3147.

3.3 The stop-leak additive must not plug a slot size larger than 12.7 mm (0.50 in.) long by 0.635 mm (0.025 in.) wide.

3.4 Fluid removed from the Test Method D3147 stop-leak test must not leave any residue or particulate matter on the surface of an ASTM E-11 No. 10 sieve, when poured through the sieve.

3.5 Stop-leak additives passing the tests detailed above must be tested for foaming tendency in accordance with the Test Method D1881. A volume of 150-mL maximum foam is allowable with a break time of 5 s max. The foam test must be run on fluid removed from the apparatus used, at the completion of the Test Method D3147 stop-leak test.

3.6 Duplicate test runs must be conducted for each stop-leak additive tested. Both sets of results are to be reported. Both sets of results must satisfy all the requirements outlined in this specification.

4. General Requirements

4.1 Testing shall be performed according to the methods designated in Test Methods D1881 and D3147. Follow Test Method D1176 for sampling and preparation of coolant dilutions.

4.2 The minimum hole and slot plugging requirements must be achieved in each of the duplicate tests required.

4.3 The stop-leak additive, when installed in a vehicle cooling system in accordance with manufacturer's recommendations and those on the product label, shall be suitable for use in a properly maintained cooling system without adversely affecting heat transfer or fluid flow.

5. Keywords

5.1 engine coolant; light-duty service; stop-leak