Specification 5100-304b
Amendment No. 2
June 6, 2005

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

SPECIFICATION FOR

LONG TERM RETARDANT, WILDLAND FIRE,
AIRCRAFT OR GROUND APPLICATION

This amendment provides a definition, requirement, and test method for the evaluation of fugitive-colored retardant. This is the same requirement as is found in Forest Service Specification 5100-304a.

Add the a new heading and classification:

3.3.3.3. Fugitive Colored. The "F" designation shall be assigned to a mixed retardant that contains one or more ingredients that impart visibility from the air and loses visibility with exposure to sunlight over several months.

Replace section 3.13 with the following.

3.13. Visibility.

3.13.1. Fugitive-Colored Retardant Laboratory Fading. Following the exposure of the retardant-treated test panels in accordance with 4.5.10.1, the appearance of the test panels treated with fugitive-colored, mixed retardant shall not be different from the test panels treated with the uncolored, mixed retardant.

3.13.2. Field Visibility.

3.13.2.1. Uncolored Retardant. When tested in accordance with 4.5.10.2, during the operational field evaluation, as defined in 3.14, mixed retardant shall not be noticeably visible as determined by an experienced observer team. This team is designated by the Forest Service and may consist of an Air Tactical Group Supervisor (ATGS), lead plane pilot, air tanker pilot, and/or others.

3.13.2.2. Colored, including Fugitive-Colored, Retardant. When tested in accordance with 4.5.10.2, during the operational field evaluation, as defined in 3.14, mixed retardant visibility shall be determined to be acceptable by an experienced observer team. This team is designated by the Forest Service and may consist of an Air Tactical Group Supervisor (ATGS), lead plane pilot, air tanker pilot, and/or others.

Replace section 4.5.10 with the following.

4.5.10. Visibility Tests.

4.5.10.1. Fugitive-Colored Retardant Laboratory Fading Test. As required by 3.13.1, one quart of fugitive-colored mixed retardant and one quart of the same formulation without color will be used to prepare the test panels. The test panels will be 5 inches in width by 30 inches in length by 0.25 inch thick plate glass.

A coating of mixed retardant with a thickness of 0.022 inch (1.5 GPC) will be applied to each test panel with a Gardner knife (manufactured by Gardner Lab, Inc., Bethesda, Maryland) or equivalent. Five test panels will be prepared with the fugitive-colored retardant and five test panels will be prepared with the uncolored retardant, as a test control. The test panels will be exposed to natural light in accordance with ASTM G-24, Standard Recommended Practice for Conducting Natural Light Exposures at an acceptable test facility until 18,000 Langleys are accumulated.

The appearance of the test panels will be examined and compared with the appearance of the control panels exposed at the same time.

4.5.10.2 Field Visibility Tests. As required by 3.13.2, the mixed retardant shall be tested to determine visibility on a variety of fuel types and conditions (slope, aspect, daylight conditions, and weather). An experienced aerial observer team shall evaluate the visibility of each product, applied by air or ground application depending on manufacturer's designated use. Detailed test methods are described in 9951 1803 Standard Test Procedures for the Evaluation of Wildland Fire Chemical Products.