

by the applicant and as required by this part.

(b) The application and related material(s) will be examined by MSHA to determine whether testing of the modified hydraulic fluid will be required. Testing will be necessary if there is a possibility that the modification may affect adversely the performance characteristics of the fluid. MSHA will inform the applicant in writing whether such testing is required.

(c) If the proposed modification meets the requirements of this part, a formal extension of certification will be issued, accompanied by a list of new and corrected specifications to be added to those already on file, as the basis for the extension of certification.

[Schedule 30, 24 FR 10201, Dec. 17, 1959, as amended at 52 FR 17515, May 8, 1987; 68 FR 36422, June 17, 2003]

§ 35.13 Withdrawal of certification.

MSHA reserves the right to rescind for cause, at any time, any certificate of approval granted under this part.

Subpart B—Test Requirements

§ 35.20 Autogenous-ignition temperature test.

(a) *Purpose.* The purpose of this test, referred to hereinafter as the ignition-temperature test, is to determine the lowest autogenous-ignition temperature of a hydraulic fluid at atmospheric pressure when using the syringe-injection method.

(b) *Description of apparatus—(1) Test flask.* The test flask, which is heated and into which the test sample is injected, shall be a commercial 200 ml. borosilicate glass Erlenmeyer flask.

(2) *Thermocouples.* Calibrated thermocouples—iron-constantan or chromelalumel—and a potentiometer shall be used for all temperature measurements.

(3) *Syringe.* A hypodermic syringe (0.25 or 1 cc. capacity) equipped with a 2-inch No. 18 stainless steel needle and calibrated in hundredths of a cubic centimeter (0.01 cc.) shall be used to inject samples into the heated test flask.

(4) *Timer.* An electric timer or stopwatch calibrated in not more than 0.2 second intervals shall be used to determine the time lag before ignition.

NOTE: Time lag is the time that elapses between the instant of injection and that of ignition of the test sample, as evidenced by flame.

(5) *Furnace.* The furnace in which the ignition-temperature test is conducted shall consist of a refractory (alundum or equivalent) cylinder 5 inches in internal diameter and 5 inches in height; a transite-ring top and a transite-disk bottom, each of which is attached to a metal cylinder. The furnace is heated by three elements as follows: (i) A circumferential heater embedded in the refractory cylinder; (ii) a top or toroidal-neck heater that surrounds the neck of the test flask; and (iii) a flat base heater on which the test flask rests. The temperature of each heating element shall be controlled independently by an autotransformer. Means shall be provided for applying thermocouples at the neck, mid-section, and base of the test flask, which shall be inserted upright in the furnace.

(c) *Test procedures—(1) Temperature control.* Each autotransformer shall be so adjusted that the temperature at the neck, mid-section, and base of the test flask is uniform within ± 2 °F. of the desired test temperature.

(2) *Sample injection and timing.* A 0.07 cc. test sample shall be injected into the heated test flask with the hypodermic syringe, and the syringe shall be withdrawn immediately. Measurement of time shall start at the instant the sample is injected.

(3) *Observations.* (i) If flame does not result in 5 minutes or more after injection of the test sample, the sample shall be considered nonflammable at the test temperature, and the timer shall be stopped. The test flask shall then be flushed well with clean dry air and, after a lapse of 15 minutes or more, the test shall be repeated with the test flask temperature raised 50 °F. ± 2 °F. above the first test temperature.

(ii) If ignition (flame) is observed in 5 minutes or less after the injection of the test sample (0.07 cc.), the time lag (time interval) shall be noted. After an ignition occurs the temperature of the test flask shall be reduced 5 °F., and the test procedure repeated in decrements of 5 °F. until ignition no longer occurs and this temperature shall be noted as the first nonignition