

an arcing control device in the blasting circuit or by interrupting the circuit with an explosive device attached to one or both lead lines and initiated by a 25-millisecond delay electric detonator.

§ 57.6407 Circuit testing.

A blasting galvanometer or other instrument designed for testing blasting circuits shall be used to test the following:

- (a) In surface operations—
 - (1) Continuity of each electric detonator in the blasthole prior to stemming and connection to the blasting line;
 - (2) Resistance of individual series or the resistance of multiple balanced series to be connected in parallel prior to their connection to the blasting line;
 - (3) Continuity of blasting lines prior to the connection of electric detonator series; and
 - (4) Total blasting circuit resistance prior to connection to the power source.
- (b) In underground operations—
 - (1) Continuity of each electric detonator series; and
 - (2) Continuity of blasting lines prior to the connection of electric detonators.

NONELECTRIC BLASTING—SURFACE AND UNDERGROUND

§ 57.6500 Damaged initiating material.

A visual check of the completed circuit shall be made to ensure that the components are properly aligned and connected. Safety fuse, igniter cord, detonating cord, shock or gas tubing, and similar material which is kinked, bent sharply, or damaged shall not be used.

§ 57.6501 Nonelectric initiation systems.

- (a) When the nonelectric initiation system uses shock tube—
 - (1) Connections with other initiation devices shall be secured in a manner which provides for uninterrupted propagation;
 - (2) Factory-made units shall be used as assembled and shall not be cut except that a single splice is permitted

on the lead-in trunkline during dry conditions; and

- (3) Connections between blastholes shall not be made until immediately prior to clearing the blast site when surface delay detonators are used.
- (b) When the nonelectric initiation system uses detonating cord—
 - (1) The line of detonating cord extending out of a blasthole shall be cut from the supply spool immediately after the attached explosive is correctly positioned in the hole;
 - (2) In multiple row blasts, the trunkline layout shall be designed so that the detonation can reach each blasthole from at least two directions;
 - (3) Connections shall be tight and kept at right angles to the trunkline;
 - (4) Detonators shall be attached securely to the side of the detonating cord and pointed in the direction in which detonation is to proceed;
 - (5) Connections between blastholes shall not be made until immediately prior to clearing the blast site when surface delay detonators are used; and
 - (6) Lead-in lines shall be manually unreeled if connected to the trunklines at the blast site.
- (c) When nonelectric initiation systems use gas tube, continuity of the circuit shall be tested prior to blasting.

§ 57.6502 Safety fuse.

- (a) The burning rate of each spool of safety fuse to be used shall be measured, posted in locations which will be conspicuous to safety fuse users, and brought to the attention of all persons involved with the blasting operation.
- (b) When firing with safety fuse ignited individually using handheld lighters, the safety fuse shall be of lengths which provide at least the minimum burning time for a particular size round, as specified in the following table:

TABLE E-1—SAFETY FUSE—MINIMUM BURNING TIME

Number of holes in a round	Minimum burning time
1	2 min. ¹
2-5	2 min. 40 sec.
6-10	3 min. 20 sec.