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Subpart G—Trailing Cables

§ 75.600 Trailing cables; flame resistance.

[STATUTORY PROVISIONS]

Trailing cables used in coal mines shall meet the requirements established by the Secretary for flame-resistant cables.

§ 75.600–1 Approved cables; flame resistance.

Cables shall be accepted or approved by MSHA as flame resistant.

[57 FR 61223, Dec. 23, 1992]

§ 75.601 Short circuit protection of trailing cables.

[STATUTORY PROVISIONS]

Short circuit protection for trailing cables shall be provided by an automatic circuit breaker or other no less effective device approved by the Secretary of adequate current-interrupting capacity in each ungrounded conductor. Disconnecting devices used to disconnect power from trailing cables shall be plainly marked and identified and such devices shall be equipped or designed in such a manner that it can be determined by visual observation that the power is disconnected.

§ 75.601–1 Short circuit protection; ratings and settings of circuit breakers.

Circuit breakers providing short circuit protection for trailing cables shall be set so as not to exceed the maximum allowable instantaneous settings specified in this section; however, higher settings may be permitted by an authorized representative of the Secretary when he has determined that special applications are justified:

Conductor size AWG or MGM	Maximum allowable circuit breaker instantaneous setting (amperes)
14	50
12	75
10	150
8	200
6	300
4	500
3	600
2	800
1	1,000
1/0	1,250
2/0	1,500
3/0	2,000
4/0	2,500
250	2,500
300	2,500
350	2,500
400	2,500
450	2,500
500	2,500

§ 75.601–2 Short circuit protection; use of fuses; approval by the Secretary.

Fuses shall not be employed to provide short circuit protection for trailing cables unless specifically approved by the Secretary.

§ 75.601–3 Short circuit protection; dual element fuses; current ratings; maximum values.

Dual element fuses having adequate current-interrupting capacity shall meet the requirements for short circuit protection of trailing cables as provided in § 75.601, however, the current ratings of such devices shall not exceed the maximum values specified in this section:

Conductor size (AWG or MGM)	Single conductor cable		Two conductor cable	
	Ampacity	Max. fuse rating	Ampacity	Max. fuse rating
14	.....	.....	15	15
12	.....	.....	20	20
10	.....	.....	25	25
8	60	60	50	50
6	85	90	65	70
4	110	110	90	90
3	130	150	105	110
2	150	150	120	125
1	170	175	140	150
1/0	200	200	170	175
2/0	235	250	195	200
3/0	275	300	225	225
4/0	315	350	260	300
250	350	350	285	300
300	395	400	310	350
350	445	450	335	350
400	480	500	360	400
450	515	600	385	400
500	545	600	415	450

§ 75.602 Trailing cable junctions.

[STATUTORY PROVISION]

When two or more trailing cables junction to the same distribution center, means shall be provided to assure

against connecting a trailing cable to the wrong size circuit breaker.

§ 75.603 Temporary splice of trailing cable.

[STATUTORY PROVISION]

One temporary splice may be made in any trailing cable. Such trailing cable may only be used for the next 24-hour period. No temporary splice shall be made in a trailing cable within 25 feet of the machine, except cable reel equipment. Temporary splices in trailing cables shall be made in a workmanlike manner and shall be mechanically strong and well insulated. Trailing cables or hand cables which have exposed wires or which have splices that heat or spark under load shall not be used. As used in this section, the term ''splice'' means the mechanical joining of one or more conductors that have been severed.

§ 75.604 Permanent splicing of trailing cables.

[STATUTORY PROVISIONS]

When permanent splices in trailing cables are made, they shall be:

(a) Mechanically strong with adequate electrical conductivity and flexibility;

(b) Effectively insulated and sealed so as to exclude moisture; and

(c) Vulcanized or otherwise treated with suitable materials to provide flame-resistant qualities and good bonding to the outer jacket.

(d) Made using splice kits accepted or approved by MSHA as flame resistant.

[35 FR 17890, Nov. 20, 1970, as amended at 57 FR 61223, Dec. 23, 1992]

§ 75.605 Clamping of trailing cables to equipment.

[STATUTORY PROVISIONS]

Trailing cables shall be clamped to machines in a manner to protect the cables from damage and to prevent strain on the electrical connections.

§ 75.606 Protection of trailing cables.

[STATUTORY PROVISIONS]

Trailing cables shall be adequately protected to prevent damage by mobile equipment.

§ 75.607 Breaking trailing cable and power cable connections.

[STATUTORY PROVISIONS]

Trailing cable and power cable connections to junction boxes shall not be made or broken under load.

Subpart H—Grounding

§ 75.700 Grounding metallic sheaths, armors, and conduits enclosing power conductors.

[STATUTORY PROVISIONS]

All metallic sheaths, armors, and conduits enclosing power conductors shall be electrically continuous throughout and shall be grounded by methods approved by an authorized representative of the Secretary.

§ 75.700–1 Approved methods of grounding.

Metallic sheaths, armors and conduits in resistance grounded systems where the enclosed conductors are a part of the system will be approved if a solid connection is made to the neutral conductor; in all other systems, the following methods of grounding will be approved:

(a) A solid connection to a borehole casing having low resistance to earth;

(b) A solid connection to metal waterlines having low resistance to earth;

(c) A solid connection to a grounding conductor, other than the neutral conductor of a resistance grounded system, extending to a low resistance ground field located on the surface;

(d) Any other method of grounding, approved by an authorized representative of the Secretary, which ensures that there is no difference in potential between such metallic enclosures and the earth.