

**§ 7.31 New technology.**

MSHA may approve brattice cloth and ventilation tubing that incorporates technology for which the requirements of this subpart are not applicable, if the Agency determines that the product is as safe as those which meet the requirements of this subpart.

**Subpart C—Battery Assemblies**

**§ 7.41 Purpose and effective date.**

This subpart establishes the specific requirements for MSHA approval of battery assemblies intended for incorporation in approved equipment in underground mines. It is effective August 22, 1988. Applications for approval or extensions of approval submitted after August 22, 1989, shall meet the requirements of this part.

**§ 7.42 Definitions.**

The following definitions apply in this subpart:

*Battery assembly.* A unit or units consisting of cells and their electrical connections, assembled in a battery box or boxes with covers.

*Battery box.* The exterior sides, bottom, and connector receptacle compartment, if any, of a battery assembly, excluding internal partitions.

**§ 7.43 Application requirements.**

(a) An application for approval of a battery assembly shall contain sufficient information to document compliance with the technical requirements of this subpart and include a composite drawing with the following information:

- (1) Overall dimensions of the battery assembly, including the minimum distance from the underside of the cover to the top of the terminals and caps.
- (2) Composition and thicknesses of the battery box and cover.
- (3) Provision for securing covers.
- (4) Documentation of flame-resistance of insulating materials and cables.
- (5) Number, type, and rating of the battery cells.
- (6) Diagram of battery connections between cells and between battery boxes, except when connections be-

tween battery boxes are a part of the machine's electrical system.

(7) Total weight of the battery, charged and ready for service.

(8) Documentation of materials and configurations for battery cells, intercell connectors, filler caps, and battery top:

- (i) If nonmetallic cover designs are used with cover support blocks; or
  - (ii) If the cover comes into contact with any portion of the cells, caps, filler material, battery top, or intercell connectors during the impact test specified by § 7.46.
- (b) All drawings shall be titled, dated, numbered, and include the latest revision number.

[53 FR 23500, June 22, 1988, as amended at 60 FR 33723, June 29, 1995]

**§ 7.44 Technical requirements.**

(a)(1) Battery boxes and covers constructed of AISI 1010 hot rolled steel shall have the following minimum thicknesses based on the total weight of a unit of the battery assembly charged and ready for service:

Weight of battery unit	Minimum required thickness
1,000 lbs. maximum .....	10 gauge or 1/8" nominal
1,001 to 2,000 lbs .....	7 gauge or 3/16" nominal
2,001 to 4,500 lbs .....	3 gauge or 1/4" nominal
Over 4,500 lbs .....	0 gauge or 5/16" nominal

(2) Battery boxes not constructed of AISI 1010 hot rolled steel shall have at least the tensile strength and impact resistance of battery boxes for the same weight class, as listed in paragraph (a)(1) of this section.

(3) Battery box covers constructed of materials with less than the tensile strength and impact resistance of AISI 1010 hot rolled steel or constructed of nonmetallic materials shall meet the acceptable performance criteria for the impact test in § 7.46. Nonmetallic covers shall be used only in the battery assembly configuration in which they pass the impact test.

(4) Nonmetallic materials for boxes and covers shall—

- (i) Be accepted by MSHA as flame-resistant material under part 18 of this chapter; and
- (ii) Meet the acceptable performance criteria for the deflection temperature test in § 7.47.