

rise in temperature, or other no less effective means approved by the Secretary of controlling fire, shall be installed at main and secondary belt-conveyor drives.

**§ 75.1101-1 Deluge-type water spray systems.**

(a) Deluge-type spray systems shall consist of open nozzles attached to branch lines. The branch lines shall be connected to a waterline through a control valve operated by a fire sensor. Actuation of the control valve shall cause water to flow into the branch lines and discharge from the nozzles.

(b) Nozzles attached to the branch lines shall be full cone, corrosion resistant and provided with blow-off dust covers. The spray application rate shall not be less than 0.25 gallon per minute per square foot of the top surface of the top belt and the discharge shall be directed at both the upper and bottom surfaces of the top belt and to the upper surface of the bottom belt.

**§ 75.1101-2 Installation of deluge-type sprays.**

Deluge-type water spray systems shall provide protection for the belt drive and 50 feet of fire-resistant belt or 150 feet of nonfire-resistant belt adjacent to the belt drive.

**§ 75.1101-3 Water requirements.**

Deluge-type water spray systems shall be attached to a water supply. Water so supplied shall be free of excessive sediment and noncorrosive to the system. Water pressure shall be maintained consistent with the pipe, fittings, valves, and nozzles at all times. Water systems shall include strainers with a flush-out connection and a manual shut-off valve. The water supply shall be adequate to provide flow for 10 minutes except that pressure tanks used as a source of water supply shall be of 1,000-gallon capacity for a fire-resistant belt and 3,000 gallons for a nonfire-resistant belt may be provided.

**§ 75.1101-4 Branch lines.**

As a part of the deluge-type water spray system, two or more branch lines of nozzles shall be installed. The maximum distance between nozzles shall not exceed 8 feet.

**§ 75.1101-5 Installation of foam generator systems.**

(a) Foam generator systems shall be located so as to discharge foam to the belt drive, belt takeup, electrical controls, gear reducing unit and the conveyor belt.

(b) Foam generator systems shall be equipped with a fire sensor which actuates the system, and each system shall be capable of producing and delivering the following amounts of foam within 5 minutes:

(1) At fire-resistant belt installations, an amount which will fully envelop the belt drive, belt takeup, electrical controls, gear reducing unit, and the conveyor belt over a distance of 50 feet; and,

(2) At nonfire-resistant belt installations, an amount which will fully envelop the belt drive, belt takeup electrical controls, gear reducing unit, and the conveyor belt over a distance of 150 feet.

(c) The foam generator shall be equipped with a warning device designed to stop the belt drive when a fire occurs and all such warning devices shall be capable of giving both an audible and visual signal when actuated by fire.

(d) Water, power, and chemicals required shall be adequate to maintain water or foam flow for no less than 25 minutes.

(e) Water systems shall include strainers with a flush-out connection and a manual shut-off valve.

**§ 75.1101-6 Water sprinkler systems; general.**

Water sprinkler systems may be installed to protect main and secondary belt-conveyor drives, however, where such systems are employed, they shall be installed and maintained in accordance with §§ 75.1101-7 through 75.1101-11.

**§ 75.1101-7 Installation of water sprinkler systems; requirements.**

(a) The fire-control components of each water sprinkler system shall be installed, as far as practicable in accordance with the recommendations set forth in National Fire Protection Association 1968-69 edition, Code No. 13, "Installation of Sprinkler Systems" and such systems' components shall be

## **§ 75.1101-8**

of a type approved by the Underwriters' Laboratories, Inc., Factory Mutual Research Corp.

(b) Each sprinkler system shall provide protection for the motor drive belt takeup, electrical controls, gear reducing unit, and the 50 feet of fire-resistant belt, or 150 feet of nonfire-resistant belt adjacent to the belt drive.

(c) The components of each water sprinkler system shall be located so as to minimize the possibility of damage by roof fall or by the moving belt and its load.

### **§ 75.1101-8 Water sprinkler systems; arrangement of sprinklers.**

(a) At least one sprinkler shall be installed above each belt drive, belt takeup, electrical control, and gear-reducing unit, and individual sprinklers shall be installed at intervals of no more than 8 feet along all conveyor branch lines.

(b) Two or more branch lines, at least one of which shall be above the top belt and one between the top and bottom belt, shall be installed in each sprinkler system to provide a uniform discharge of water to the belt surface.

(c) The water discharge rate from the sprinkler system shall not be less than 0.25 gallon per minute per square foot of the top surface of the top belt and the discharge shall be directed at both the upper and bottom surfaces of the top belt and to the upper surface of the bottom belt. The supply of water shall be adequate to provide a constant flow of water for 10 minutes with all sprinklers functioning.

(d) Each individual sprinkler shall be activated at a temperature of not less than 150 °F. and not more than 300 °F.

(e) Water systems shall include strainers with a flush-out connection and a manual shut-off valve.

### **§ 75.1101-9 Back-up water system.**

One fire hose outlet together with a length of hose capable of extending to the belt drive shall be provided within 300 feet of each belt drive.

### **§ 75.1101-10 Water sprinkler systems; fire warning devices at belt drives.**

Each water sprinkler system shall be equipped with a device designed to stop the belt drive in the event of a rise in

## **30 CFR Ch. I (7-1-23 Edition)**

temperature and each such warning device shall be capable of giving both an audible and visual warning when a fire occurs.

### **§ 75.1101-11 Inspection of water sprinkler systems.**

Each water sprinkler system shall be examined weekly and a functional test of the complete system shall be conducted at least once each year.

### **§ 75.1101-12 Equivalent dry-pipe system.**

Where water sprinkler systems are installed to protect main and secondary belt conveyor drives and freezing temperatures prevail, an equivalent dry-pipe system may be installed.

### **§ 75.1101-13 Dry powder chemical systems; general.**

Self-contained dry powder chemical systems may be installed to protect main and secondary belt conveyor drives, however, where such systems are employed, they shall be installed and maintained in accordance with the provisions of §§ 75.1101-14 through 75.1101-22.

### **§ 75.1101-14 Installation of dry powder chemical systems.**

(a) Self-contained dry powder chemical systems shall be installed to protect each belt-drive, belt takeup, electrical-controls, gear reducing units and 50 feet of fire-resistant belt or 150 feet of non-fire-resistant belt adjacent to the belt drive.

(b) The fire-control components of each dry powder chemical system shall be a type approved by the Underwriters' Laboratories, Inc., or Factory Mutual Engineering Corp.

(c) The components of each dry powder chemical system shall be located so as to minimize the possibility of damage by roof fall or by the moving belt and its load.

### **§ 75.1101-15 Construction of dry powder chemical systems.**

(a) Each self-contained dry powder system shall be equipped with hose or pipe lines which are no longer than necessary.

(b) Metal piping and/or hose between control valves and nozzles shall have a