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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

MT/T 696-1997

**General technical condition of high-ratio-foam fire extinguisher
equipment for coal mine
(English Translation)**

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Appendix A (Appendix to the Standard) Technical Requirements for Use 6

General technical requirements for high-expansion foam fire extinguishing devices for coal mines

1 Scope

This standard specifies the technical requirements, test methods, inspection rules, signs, packaging, transportation and storage of high-expansion foam fire extinguishing devices for coal mines.

Save, etc.

This standard applies to high-expansion foam fire extinguishing devices for coal mines (hereinafter referred to as high-foam devices).

2 Reference standards the following standards contain provisions that, through reference in this standard, constitute provisions of this standard. When this standard was published, the editions shown were all is effective. All standards will be revised, and all parties using this standard should explore the possibility of using the latest versions of the following standards.

GB 191-90 Packing, storage and transportation icon GB 3836.1-83 General requirements for explosion-proof electrical equipment for explosive environments GB 3836.2-83 Explosion-proof electrical equipment for explosive atmospheres Flameproof electrical equipment "d" GB 3836.3-83 Explosion-proof electrical equipment for explosive environments Increased safety electrical equipment "e" JB8-82 Product label JB2759-80 General technical requirements for packaging of mechanical and electrical products

3 Definition

This standard uses the following definition.

3.1 foam water contenttofoam Water content per unit volume of foam.

3.2 Windtofoamratio

The ratio of the volume of air consumed to the volume of foam used to generate foam

3.3 Foamingfoamratio the foam extinguishing agent solution (hereinafter referred to as foam solution) that can form foam in the foam extinguishing agent solution consumed by the high-holding device percentage.

3.4 Negativ pressuremixer it is a pump using the Venturi jet principle. The pressure water is sprayed from the nozzle, and the water flow is caused by the nozzle effect and the high-speed jet.

A vacuum is generated in the surrounding area, and the foam solution is sucked in through the drug delivery tube and mixed with water, and then sprayed by a negative pressure proportional mixer. Is to suck foam and form the main component of foam.

3.5 Driving pressure drivingpressue the pressure used to push the bubble forward.

4 Classification

4.1 Classification by driving method.

--- Electric drive;

--- Hydraulic drive.

4.2 Classification by foaming volume.

--- Large, foaming volume above 500m³/min;

--- Medium, foaming volume is 100m³/min ~ 500m³/min;

--- Small, foaming volume is below 100m³/min.

5 Technical requirements

5.1 High-bubble devices shall comply with the provisions of this standard and shall be manufactured in accordance with the drawings and technical documents approved by prescribed procedures.

5.2 Use environmental conditions.

The inert gas device should work normally under the following conditions.

--- Temperature. -5 ~ 40 °C;

--- Relative humidity. 98%;

--- Atmospheric pressure. 86 ~ 106kPa.

5.3 The high foam device consists of a foaming system and a foam solution system.

5.4 General requirements.

5.4.1 The electrical equipment used in high-bubble devices shall comply with the relevant explosion-proof regulations in GB 3836.1, GB 3836.2 and GB 3836.3.

Claim.

5.4.2 The coating and plating of high-bubble devices shall be uniform without blistering, cracking and peeling.

5.4.3 The foaming system should generally consist of a foaming net, a nozzle, an air supply device, a pressure gauge and a water column meter.

5.4.4 The foaming net should be composed of two layers of wire mesh with a distance of 20mm ~ 30mm. The net bar should be made of cotton thread, and the outer layer diameter is 2mm x 2mm, the inner hole diameter is 4mm x 4mm.

5.4.5 Air flow and liquid flow shall be evenly distributed on the net surface.

5.4.6 The structure of the nozzle should ensure that it is not easy to block, and the spraying should be uniform. Its installation position must be in the center of the foaming device.

5.4.7 The foam solution system should be well sealed and properly sealed.

--- When driven by electric power, it includes submersible pumps, water filters, water pipes, negative pressure proportional mixers and suction pipes;

--- Hydraulic drive includes pressure water pipes, negative pressure proportional mixers and suction pipes.

5.4.8 The foam outlet of the high foam device should be provided with an interface to the water column gauge above 5cm ~ 10cm.

5.4.9 A damper or a tight cover can be installed at the inlet of the high-bubble device.

5.5 Performance requirements.

5.5.1 Water consumption should meet the requirements specified in the corresponding product standards.

5.5.2 Use foam solution concentration percentage should be 3% ~ 6%.

5.5.3 Foaming amount it shall meet the requirements of the corresponding product standards and be calculated according to formula (1).

Where.

QP --- foaming volume, m³/min;

Q_f --- Air supply volume of the corresponding model, m³/min;

K --- wind bubble ratio.

5.5.4 Air bubble ratio should be 1.1 to 1.3 times.

5.5.5 Foam multiple

Should be 500 times to 800 times.

5.5.6 Foam stability should not be less than 30min.

5.5.7 Foaming rate

Should be greater than 95%.

5.5.8 Pressure of foam solution.

--- The water pressure at the inlet of the negative pressure proportional mixer should not be less than 0.3MPa;

--- The pressure at the nozzle of the spray foam solution should not be less than 0.15MPa.

5.5.9 Driving foam pressure the driving pressure for conveying foam in a horizontal roadway should not be less than 1kPa.

6 Test method

6.1 Test environmental conditions.

--- Water should be free of impurities;

--- Ambient temperature is 15 °C ~ 45 °C;

--- Relative humidity is 70%;

--- The wind speed is within 5m/s.

6.2 Test tools.