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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 7956.3-2014

Fire fighting vehicles-Part 3: Foam fire fighting vehicle

消防车 第3部分：泡沫消防车

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1 Scope

GB 7956.3-2014 is the Chinese national standard on fire fighting vehicles-part 3: foam fire fighting vehicle, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 3 September 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2015. Classification: ICS 13.220.10, CCS C84. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Part of GB 7956 specifies terms and definitions, technical requirements, test methods, inspection rules and marking, packaging, transportation and storage of foam fire-fighting vehicles. This Part is applicable to foam fire-fighting vehicles. This Part is not applicable to

compressed air foam system fire-fighting vehicles and high-expansion foam fire-fighting vehicles.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 3181 Color standard for paint film

GB 4351.1-2005 Portable fire extinguishers - Part 1: Performance and construction GB 6245-2006 Fire pumps

GB 7956.1-2014 Fire-fighting vehicles - Part 1: General technical specifications

GB 19156 General specifications for fire monitors

3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB 6245 and GB 7956.1 and the following apply. For the convenience of application, some terms and definitions given in GB 7956.1-2014 are listed below. 3.1

4.2.1.4 Each automatic control mechanism of foam vehicle shall be provided with manual emergency measures.

4.2.1.5 The junction of fire pump outlet and inlet pressure gauges on operation panel shall be provided with connecting pipe for testing, and external thread with interface specification of M10 x

1.5 mm and with length not less than 15 mm. The interface position shall be convenient for external connection with pressure gauge and be marked.

4.2.2 Operating instructions and identifications

4.2.2.1 Operating instructions and identifications shall cover the following items: - fire pump rated flow, outlet pressure and operating instructions; - type (if applicable) and mixture ratio of the adopted foam; - fire pump outlet pressure display (with precision not less than Grade 2.5); - fire pump inlet pressure display (with precision not less than Grade 2.5); - fire pump rotational speed display and accumulated operating time display; - liquid level display of water tank and concentrated tank; - engine water temperature display; - engine oil temperature display; - panel light and switch; - emergency stop button; - washing mark and switch position; - application instruction plate for instrument and switch on panel.

4.2.2.2 The control and adjustment device of foam proportioning system shall be installed on operation panel so as to be convenient for personnel operation.

4.2.2.3 Operation panel shall be provided with water and foam pipeline system sketch and basic operating instructions.

4.2.2.4 Water tank inlet shall be equipped with "Water Tank Inlet" sign which shall be permanently fixed.

4.2.2.5 Concentrated tank inlet or its adjacent position shall be equipped with "Concentrated Tank Inlet" sign. The type of applicable foam concentrate shall 4.4.2.2.1 If the fire pump inlet is arranged at side, both sides of vehicle shall be equipped with water inlet. Single-side water inlet shall meet the requirements for rated pressure and flow rate demand of foam vehicle. 4.4.2.2.2 The inlet pipeline of foam vehicle with rated flow rate not less than 100 L/s shall be equipped with valves. 4.4.2.2.3 Inlet pipeline shall ensure that the residual water in inlet pipeline shall be totally discharged within 45 s. 4.4.2.2.4 Corrosion-resistant filter screen shall be installed between each water inlet and suction pipe of fire pump, and the overflow area of which shall not reduce the rated pressure and flow rate of fire pump. The holes on filter screen shall not filter: - particles greater than or equal to 8 mm for fire pump with rated flow rate not greater than 30 L/s; - particles greater than or equal to 13 mm for fire pump with rated flow rate greater than 30 L/s. 4.4.2.2.5 Inlet pipeline shall be free from pipeline leakage, water seepage or sealing element leakage phenomena under

0.8 MPa hydrostatic pressure. It shall be free from rupture and permanent deformation affecting the normal use under

1.2 MPa hydrostatic pressure. 4.4.2.2.6 Suction pipe shall be arranged on foam vehicle and the length of which carried on each vehicle shall not be less than 8 m.

4.4.2.3 Outlet pipeline of fire pump 4.4.2.3.1 The diameter and quantity of outlet pipeline shall ensure the water flow rate of foam vehicle under rated condition. 4.4.2.3.2 Outlet pipeline shall ensure that the residual water in the lowest point of outlet pipeline shall be totally discharged within 45 s, and the residual water shall be convenient for discharging. 4.4.2.3.3 When the ground clearance of water outlet center is greater than

1.2 m, the water outlet shall be downslope and the height of it to the upper plane of operating pedal shall not be greater than

1.2 m. 4.4.2.3.4 Outlet pipeline shall be equipped with check valve which can close the connection between outlet pipeline and fire pump. 4.4.2.3.5 Outlet pipeline shall be subject to hydrostatic pressure sealing test, and

1.1 times the maximum operating pressure borne by outlet pipeline is 4.4.2.5.2 The diameter of concentrated tank transmission pipeline shall meet the maximum flow rate requirements of foam proportioner, be able to bear 85 kPa vacuum degree for 5 min under 101 kPa atmospheric pressure and be free from leakage and visible deformation. The inlet of foam concentrate transmission pipeline shall be equipped with filter screen.

4.4.3 Water tank and concentrated tank

4.4.3.1 Tank requirements 4.4.3.1.1 Where the tank volume of foam vehicle is larger than or equal to 12 m3, the volume error shall not exceed ±2 %. Where the volume is less than 12 m3 but not less than 1 m3, the absolute value of error is increased by 0.1% along with each reduction by 1 m3. Where the volume is less than 1 m3, the volume error shall not exceed 10 %. 4.4.3.1.2 The tank and valve shall be made of anti-corrosion material or subject to anti-corrosion treatment. 4.4.3.1.3 The tank shall be equipped with anti-swinging plate where its volume exceeds 2 m3 and shall be equipped with longitudinal anti-swinging plate where its volume exceeds 3 m3. The single-cavity volume separated by the anti- swinging plate shall not be greater than 2 m3. 4.4.3.1.4 Manhole and manhole cover shall be arranged on the top of tank with volume greater than 1 m3, and the manhole diameter shall not be less than

0.4 m. Where the pressure in tank exceeds

0.1 MPa, the manhole cover of water tank may automatically relieve pressure. 4.4.3.1.5 Sewage hole shall be arranged at the lowest part of water tank and concentrated tank. The discharged silt shall not contact the vehicle or the parts of chassis. 4.4.3.1.6 Water tank and concentrated tank shall be equipped with indication devices for liquid level or liquid volume. 4.4.3.1.7 Water tank and concentrated tank shall be able to withstand

0.1 MPa hydrostatic pressure. After being subject to

0.1 MPa hydrostatic strength test, both sides of the tank shall be free from visible residual deformation and the pipeline and valves which are connected to each other shall be free from leakage. 4.4.3.1.8 Concentrated tank shall be equipped with breathing hole to ensure normal foam concentrate transmission.

4.4.3.2 Liquid filling device 4.4.3.2.1 The water filling pipeline from fire pump to water tank shall be equipped with valve, which shall be convenient for operation. The diameter of water filling pipeline shall not be less than 65 mm, and the pipeline shall be free from accumulated water. 4.4.3.2.2 The diameter of water filling pipeline from the exterior of vehicle to water tank shall not be less than 65 mm. The pipeline shall ensure that the water in tank is free from backflow, and shall be free from accumulated water. The water inlet shall be equipped with protecting cover. 4.4.3.2.3 The liquid filling pipeline from foam concentrate pump to concentrated tank shall be equipped with stainless valve, which shall be convenient for operation. Stainless steel pipe with wall thickness not less than

1.5 mm and diameter not less than 40 mm shall be adopted for liquid filling pipeline. 4.4.3.2.4 The inlet of concentrated tank shall be equipped with protecting cover.

4.4.3.3 Overflow device Overflow pipeline open to atmosphere shall be arranged within the water tank and higher than the tank top. The diameter of the overflow pipeline shall not be less than 30 % that of the transmission pipeline between water tank and fire pump.