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**ORDINANCE  
FOR  
TECHNICAL SPECIFICATIONS PERTAINING  
TO FIRE HOSES**

**(Ordinance of the Ministry of Internal Affairs and  
Communications No. 22 of March 27, 2013)**

**Latest update: Ordinance of the Ministry of Internal Affairs and  
Communications No. 24 of March 31, 2014**

In accordance with the provision of Article 21-16-3 paragraph (1) of the Fire Service Act (Act No. 186 of 1948), the ordinance to wholly revise the Ordinance for Technical Specifications Pertaining to Fire Hoses (Ordinance of the Ministry of Home Affairs No. 27 of 1968) shall be specified as follows.

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## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 1~4)

### CHAPTER 1 GENERAL PROVISIONS

#### (Purport)

**Article 1** This Ordinance covers the technical specifications applicable to fire hoses.

#### (Definitions)

**Article 2** In this Ordinance, the meanings of the terms listed in the following shall be as prescribed respectively in these items.

- (i) Fire hoses: Jacket hoses, shape retaining hoses, hoses for large volume foam turret and wet fire hoses used for fire defense
- (ii) Jacket hoses: Fire hoses (excluding shape retaining hoses, hoses for large volume foam turret and wet fire hoses) with a rubber or synthetic resin lining being applied to the jacket
- (iii) Shape retaining hoses: Fire hoses of which a circular cross-section is maintained all the time
- (iv) Hoses for large volume foam turret: Fire hoses used solely as disaster prevention equipment for large volume foam turret prescribed in Article 13 paragraph (3) of the Cabinet Order for Enforcement of the Act on the Prevention of Disasters at Petroleum Industrial Complexes and Other Petroleum Facilities (Cabinet Order No. 129 of 1976)
- (v) Wet fire hoses: Fire hoses which become evenly wet throughout with water flow
- (vi) Working pressure: The maximum working water pressure (Unit: MPa) in normal usage in the case where water is conducted through a fire hose in the state of no bending
- (vii) Design rupture pressure: The maximum design water pressure (Unit: MPa) with which a hose does not rupture
- (viii) Jacket: A tube woven by warp and weft threads
- (ix) Double jacket: Jacket hoses or hoses for large volume foam turret where the jacket is clad with an outer jacket

#### (Structure of Fire Hose)

**Article 3** The structure of a fire hose shall be as specified in the following.

- (i) Its manufacturing method shall be appropriate and the high level of durability of the structure shall not hamper the use of a hose.
- (ii) A fire hose shall use good quality materials.
- (iii) In the case of a jacket without cladding (meaning an external cover made of rubber, synthetic resin or any other material with strong resistance against external force to protect the outer face of the jacket; the same shall apply hereinafter), it shall be evenly and firmly woven throughout.
- (iv) In the case of a jacket with cladding, it shall be evenly woven, knitted or wrapped throughout.
- (v) There shall be no irregularity in the weaving, etc., thread breakage, thread cast-offs, missing threads, conspicuous dirt, external damage, incursion of impurities, exposure of the weft threads or incomplete repair work.
- (vi) It shall have longitudinal color lines or longitudinal lines: provided, however, that shape retaining hoses and hoses for large volume foam turret shall not have longitudinal colour lines or longitudinal lines.

#### (Inside Diameter)

**Article 4** A fire hose (excluding those for large volume foam turret) shall have the inside diameter listed in the following table in accordance with its relevant nominal diameter class.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 4~5)

Nominal Diameter Class	Inside Diameter (Unit: mm)
150	$152 \leq ID \leq 156$
125	$127 \leq ID \leq 131$
100	$102 \leq ID \leq 105$
90	$89 \leq ID \leq 92$
75	$76 \leq ID \leq 79$
65	$63.5 \leq ID \leq 66.5$
50	$51 \leq ID \leq 54$
40	$38 \leq ID \leq 41$
30	$30.5 \leq ID \leq 33.5$
25	$26 \leq ID \leq 28$
20	$18 \leq ID \leq 20$

- (2) The inside diameter of a hose for large volume foam turret shall be within the range between the nominal bore [meaning the design inside diameter of a hose for large volume foam turret (Unit: mm); the same shall apply hereinafter] and the inside diameter which is 103% of the said nominal bore.

### (Indications)

**Article 5** The information specified in the following items shall be indicated on all fire hoses in an easily visible place in such a manner that the subject information may not be easily erased.

- (i) Description of the hose for fire defense
  - (ii) Name or trademark of the manufacturer
  - (iii) Year of manufacture
  - (iv) Notification number
  - (v) Nominal diameter class (excluding those for large volume foam turret), length (Unit: m) and the intended purpose in the case of fire hoses to which the proviso of Article 10 or the proviso of Article 22 is applicable
  - (vi) Words "Working Pressure" and the working pressure
  - (vii) Words "Design Rupturing Pressure" and the design rupturing pressure (excluding jacket hoses, shape retaining hoses and wet hoses of which the design rupturing pressure is three times the working pressure or more and hoses for large volume foam turret)
  - (viii) Information that the hose has a double jacket construction if this is the case
  - (ix) Minimum bend radius (meaning the minimum value of the radius of the inside circle when the outside diameter along the perpendicular direction to the bending direction increases by 5% in the case where the hose is bent into a circle; the same shall apply hereinafter) (Unit: mm)
  - (x) The following matters in the case of hoses for large volume foam turret
    - (a) Information that the hose is for a large volume foam turret
    - (b) Nominal bore
    - (c) Information that the hose shall be used for a power fire pump not exceeding the working pressure
  - (xi) Information that the hose is a wet fire hose if this is the case
- (2) The indication in item (vii) of the preceding paragraph shall be the value obtained by truncating a number to one decimal place.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 6~7)

### CHAPTER 2 JACKET HOSES

#### (Classification)

**Article 6** Jacket hoses shall be classified as shown in the following table.

Working Pressure	Nominal Diameter Class									
			100	90	75	65	50	40		
2.0			100	90	75	65	50	40		
1.6	150	125	100	90	75	65	50	40		
1.3	150	125	100	90	75	65	50	40		
0.9	150	125				65	50	40	30	25
0.7						65	50	40	30	25

#### (Qualities of Rubber and Synthetic Resin)

**Article 7** The rubber used for the lining and cladding of a jacket hose shall conform to each of the following items.

- (i) The tensile stress at break shall be 13 MPa or more in the case where a type 3 dumbbell shaped specimen (hereinafter referred to as “a Type 3 specimen” in the rest of this article) sampled by the method specified by the Japan Industrial Standards (hereinafter referred to as “JIS”) K6251 set forth in Article 17 paragraph (1) of the Industrial Standardisation Act (Act No. 185 of 1949) is used to measure the tensile stress at break in JIS K6152.
  - (ii) The tensile stress at break shall be 7.8 MPa or more in the case where the air oven aging test (meaning the test where the tensile test in JIS K6251 is conducted using a Type 3 specimen after standing for 96 hours at the temperature of  $70^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ) is conducted.
  - (iii) The elongation at break shall be 420% or more in the case where the elongation at break in JIS K6251 is measured using a Type 3 specimen.
  - (iv) The tension set calculated by the following equation shall be 25% or less.  
$$\text{Tension set (\%)} = \{(L_1 - L_0) \div L_0\} \times 100$$

Note: In this equation, the meaning of each symbol listed in the following shall be as specified in the following.

L<sub>0</sub>: Distance between the bench marks attached to a Type 1 dumbbell shaped specimen sampled by the method specified in JIS K6251 (hereinafter referred to as “a Type 1 specimen”) for the purpose of measuring the elongation (Unit: mm; hereinafter referred to as “the bench mark distance” in the rest of this item)

L<sub>1</sub>: The bench mark distance measured after a Type 1 specimen is stretched to a length equivalent to approximately one-half of the elongation calculated in the tensile test specified in JIS K6251 for a period of 10 minutes, followed by standing for 10 minutes after sudden contraction.
- (2) The rubber used for the lining, cladding and coating (meaning rubber coated with a paint, etc. to color the outside surface of the jacket) of jacket hoses shall not adhere to each other when a folded hose is subject to a load of 10 newtons/cm<sup>2</sup> and is left standing for 96 hours at the temperature of  $70^{\circ}\text{C} \pm 1^{\circ}\text{C}$ .
  - (3) The synthetic resin used for the lining and cladding of jacket hoses shall conform to the provisions of paragraph (1) item (i) and item (ii) and each of the following items.
    - (i) The elongation shall be 260% or more in the case where the elongation at break in JIS K6251 is measured using a Type 3 specimen.
    - (ii) When a 30 cm long portion of a hose is folded into three layers, is subject to a uniformly distributed load of 2 newtons/cm<sup>2</sup> and is left standing for 24 hours at the temperature of  $-25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , followed by overturning of the folded portion for 10 times after removal of the load, the said portion shall conform to the provisions of item (ii) and item (iii) of the following

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 7~11)

- article and the test in Article 12 (excluding the test which is conducted with the hose being bent).
- (iii) When a hose of 3 m or more in length is filled with an amount of water equivalent to 1% of its cubic capacity with both ends being blocked and is left standing for 360 hours at the temperature of  $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$  and for another 10 days or more at room temperature, the hose shall conform to the provisions of item (ii) and item (iii) of the following article and to the test in Article 12 (excluding the test which is conducted with the hose being bent).
  - (iv) In the case where the mass of a Type 1 specimen is measured after standing for 24 hours or more at room temperature and which is again measured after suspension in a dryer of which the temperature is  $100^{\circ}\text{C} \pm 2^{\circ}\text{C}$  for 48 hours, followed by cooling in a dryer at room temperature, the loss in weight calculated by the following equation shall be 2% or less.

$$\text{Loss in weight (\%)} = \{(W_1 - W_2) \div W_1\} \times 100$$

Note: In this equation, the meaning of each symbol listed in the following shall be as specified in the following.

$W_1$ : Mass before heating (Unit: grams)

$W_2$ : Mass after heating (Unit: grams)

### (Lining)

**Article 8** The lining of a jacket hose shall conform to each of the following items.

- (i) The thickness of the rubber or synthetic resin shall be 0.2 mm or more.
- (ii) With regard to the lining's adhesion strength to the jacket, the analysed minimum value based on JIS K6274 shall be 30 newtons or more when the adhesion to a textile fabric in JIS K6256-1 is measured along both the warp-wide and weft-wide directions of the jacket (the length of the test specimen shall be 100 mm or more; provided, however, that the length may be the length circumference in the case where the weft-wide length is less than 100 mm).
- (iii) The surface shall not have any uneven portions, such as creases, and the friction loss of the water flow shall be small.

### (Cladding and Coating)

**Article 9** The cladding and coating of a jacket hose shall have no uneven portions, such as creases.

- (2) The cladding of a jacket hose shall conform to the provision of item (ii) of the preceding article.

### (Length)

**Article 10** The length of a jacket hose shall be 10 m, 15 m, 20 m or 30 m in the dry state and shall be between the indicated length and a length which is 105% of the indicated length; provided, however, that this shall not apply to jacket hoses to be used for aerial ladder trucks, snorkels or ships and for other special intended purposes.

### (Mass)

**Article 11** The mass (Unit: grams/m) of a jacket hose in the dry state shall not exceed the mass listed in the following table in correspondence with its working pressure and nominal diameter class; provided, however, that this shall not apply to jacket hoses with double jackets or cladding as long as such feature does not hinder the use of the hose in question.

**Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 11~16)**

Nominal Diameter Class	150	125	100	90	75	65	50	40	30	25
Working Pressure										
2.0			1,640	1,280	940	650	470	350		
1.6	3,800	2,500	1,520	1,190	880	620	450	340		
1.3	3,400	2,200	1,350	1,060	780	550	400	300		
0.9	3,100	2,000				500	370	280	230	190
0.7						500	370	280	230	190

**(Pressure Test)**

**Article 12** A jacket hose shall not suffer from rupture, thread breakage, water spouting or water leakage in the case where the water pressure listed in the following table is applied for 5 minutes in correspondence with its working pressure and state of hose.

State of Hose	Straight (Unit: MPa)	Bent (Unit: MPa)
Working Pressure		
2.0	4.0	2.8
1.6	3.2	2.2
1.3	2.5	1.8
0.9	1.8	1.3
0.7	1.5	1.0

**(Rupture Test)**

**Article 13** A jacket hose shall not suffer from rupture in the case where water pressure equivalent to the design rupture pressure is applied to the said hose of which the length is 1.5 m or more and which is laid straight.

**(Elongation)**

**Article 14** The elongation of a jacket hose in the case where the working pressure is applied to the said hose which is laid straight shall be 10% or less using its length with a water pressure of 0.1 MPa as the reference.

**(Kinking)**

**Article 15** The kinking of a jacket hose shall occur rightwards and the angle (Unit: °/m) of such kinking under the working pressure shall be the angle listed in the following table or less in correspondence with the hose’s working pressure and nominal diameter class.

Nominal Diameter Class	150	125	100	90	75	65	50	40	30	25
Working Pressure										
2.0			80	100	120	140	160	200		
1.6	60	60	60	80	100	120	140	180		
1.3	40	40	40	60	80	100	120	160		
0.9	40	40				80	90	120	160	200
0.7						80	90	120	160	200

**(Distortion)**

**Article 16** The distortion (meaning the maximum value for the distance between the center line of the hose and the center line of the distorted portion; the same shall apply hereinafter) of a jacket hose in the case where the working pressure is applied to the said hose shall be 750 mm or less for a hose of which the working pressure is 1.6 MPa or more and 650 mm or less for a hose of which the working pressure is 1.3 MPa or less using the state of the hose with a water pressure of 0.1 MPa as the reference.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 17~23)

### (Abrasion Resistance)

**Article 17** A jacket hose shall not suffer from water leakage due to the number of frictions in correspondence with the working pressure listed in the following table in the case where the friction test is conducted at a given place under the test conditions specified in the Appended Table and Appended Figure.

Working Pressure	Number of Frictions
2.0	80
1.6	50
1.3	30
0.9	20
0.7	10

## CHAPTER 3 SHAPE RETAINING HOSES

### (Classification)

**Article 18** Shape retaining hoses shall be classified as shown in the following table.

Working Pressure	Nominal Diameter Class			
	40	30	25	20
2.0	40	30	25	20
1.6	40	30	25	20
1.0	40	30	25	20
0.7	40	30	25	20

### (Quality of Rubber and Synthetic Resin)

**Article 19** The rubber used for the lining and cladding of a shape retaining hose shall conform to the provision of each item of Article 7 paragraph (1).

(2) The synthetic resin used for the lining and cladding of a shape retaining hose shall conform to the provisions of Article 7 paragraph (1) item (i) and item (ii) and paragraph (3) item (i), item (iii) and item (iv).

### (Lining)

**Article 20** The lining of a shape retaining hose shall conform to the provision of each item of Article 8.

### (Cladding and Coating)

**Article 21** The cladding and coating of a shape retaining hose shall have no uneven portions, such as creases.

(2) The cladding of a shape retaining hose shall conform to the provision of Article 8 item (ii).

### (Length)

**Article 22** The length of a shape retaining hose shall be 10 m, 15 m, 20 m or 30 m in the dry state and shall be between the indicated length and a length which is 110% of the indicated length; provided, however, that this shall not apply to shape retaining hoses to be used for ships and other special intended purposes.

### (Mass)

**Article 23** The mass (Unit: grams/m) of a shape retaining hose shall not exceed the mass listed in the following table in correspondence with its working pressure and nominal di-



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iameter class; provided, however, that this shall not apply to shape retaining hoses of which the jacket has a cladding as long as such cladding does not hinder the use of the hose in question.

Nominal Diameter Class	40	30	25	20
Working Pressure				
2.0	500	400	300	260
1.6	500	400	300	260
1.0	450	300	250	210
0.7	450	300	250	210

**(Pressure Test)**

**Article 24** A shape retaining hose shall not suffer from rupture, thread breakage, water spouting or water leakage in the case where the water pressure listed in the following table is applied for 5 minutes in correspondence with its working pressure and state of the hose.

State of Hose	Straight (Unit: MPa)	Bent to Circular Shape of Which the Radius of the Inside Circle is the Minimum Bending Radius (Unit: MPa)
Working Pressure		
2.0	4.0	4.0
1.6	3.2	3.2
1.0	2.0	2.0
0.7	1.5	1.5

**(Rupture Test)**

**Article 25** A shape retaining hose shall not suffer from rupture in the case where water pressure equivalent to the design rupture pressure is applied to the said hose of which the length is 1.5 m or more and which is laid straight.

**(Elongation)**

**Article 26** The elongation of a shape retaining hose in the case where the working pressure is applied to the said hose which is laid straight shall be 10% or less using its length with a water pressure of 0.1 MPa as the reference.

**(Kinking)**

**Article 27** The kinking of a shape retaining hose shall take place rightward and the angle (unit: °/m) of such kinking under the working pressure shall be the angle listed in the following table or less in correspondence with the hose’s working pressure and nominal diameter class.

Nominal Diameter Class	40	30	25	20
Working Pressure				
2.0	200	200	200	250
1.6	180	180	200	250
1.0	120	160	200	250
0.7	120	160	200	250

**(Distortion)**

**Article 28** The distortion of a shape retaining hose in the case where the working pressure is applied to the said hose shall be 650 mm or less using the state of the hose with a water pressure of 0.1 MPa as the reference.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 29~30)

### (Abrasion Resistance)

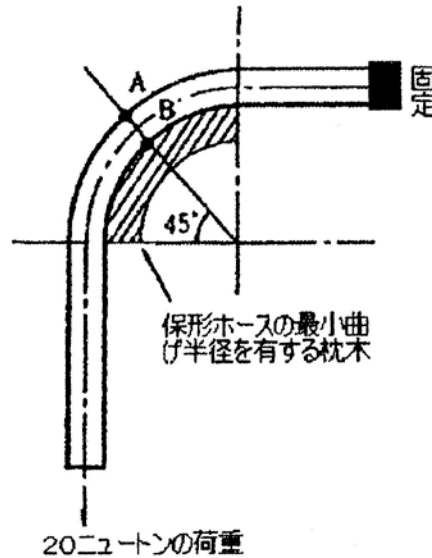
**Article 29** A shape retaining hose shall not suffer from any water leakage due to the number of frictions in correspondence with the working pressure listed in the following table in the case where the friction test is conducted in a given place under the test conditions specified in the Appended Table and Appended Figure.

Working Pressure	Number of Frictions
2.0	80
1.6	50
1.0	20
0.7	10

### (Shape Retention)

**Article 30** In the case where one end of a shape retaining hose is fixed as shown in the following figure, the hose is then bent by 90 along the tie with the radius of curvature of the minimum bending radius and the hose is left standing for 30 minutes with a load of 20 newtons being applied to the tip of the hose, the collapse (meaning the collapse calculated by the equation listed in the said figure; the same shall apply hereinafter) shall be 10% or less and the collapse after the removal of the load shall be 5% or less.

Figure



$$\text{Collapse (\%)} = \{(C_1 - C_2) \div C_1\} \times 100$$

Note: In this equation, the meaning of each symbol listed in the following shall be as specified in the following.

- C<sub>1</sub>: Outside diameter running through Point A and Point B before application of the load (Unit: mm)
  - C<sub>2</sub>: Outside dimension running through Point A and Point B after application of the load and after removal of the load (Unit: mm)
- (2) A shape retaining hose shall conform to each of the following items and shall not suffer from any damage, cracks or conspicuous deformation after a load of 600 newtons is applied to a portion with a length of 10 cm.
- (i) After the application of the working pressure for one minute, followed by removal of the water pressure, the residual strain calculated by the following equation shall be 5% or less.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 30~36)

$$\text{Residual strain (\%)} = \{(d_1 - d_2) \div d_1\} \times 100$$

Note: In this equation, the meaning of each symbol listed in the following shall be as specified in the following.

$d_1$ : Outside diameter of the hose before application of the load (Unit: mm)

$d_2$ : Outside diameter in the vertical direction of the hose after removal of the water pressure (Unit: mm)

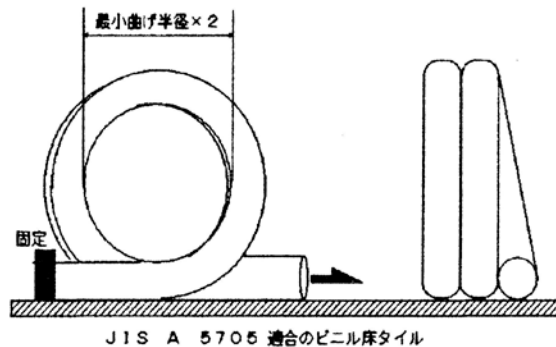
- (ii) A shape retaining hose shall not suffer from rupture, thread breakage, water spouting or water leakage in the case where the water pressure listed in the following table is applied for 5 minutes in correspondence with the working pressure and state of the hose.

State of Hose	Straight (Unit: MPa)	Bent to Circular Shape of Which the Radius of the Inside Circle is the Minimum Bending Radius (Unit: MPa)
Working Pressure		
2.0	4.0	4.0
1.6	3.2	3.2
1.0	2.0	2.0
0.7	1.5	1.5

### (Blockage Resistance)

**Article 31** A shape retaining hose shall not suffer from any folding or deformation which may block the flow of water in the case where a portion of the hose is made into double rings with the radius of the inside circle being the minimum bending radius and which is pulled at one end at a speed of 5 kg/hour with a maximum weight of 100 newtons on the smooth surface of a floor made of vinyl tiles conforming to JIS A5705 with the other end being fixed as shown in the following figure.

Figure



### (Cold Temperature Resistance)

**Article 32** A shape retaining hose shall conform to the provisions of Article 8 item (ii) and item (iii) and the test in Article 24 (excluding the test which is conducted in the state where the shape retaining hose is bent into a circular shape of which the radius of the inside circle is the minimum bending radius) in the case where it is left standing for 24 hours at the temperature of  $-25^{\circ}\text{C} \pm 2^{\circ}\text{C}$  in the state of it being wound once around a cylinder of which the radius is the minimum bending radius and which then undergoes the manoeuvre of repeating the cycle of stretching straight in 1 second and winding around the said cylinder once in 1 second for 10 times.

**Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 36~40)**

**CHAPTER 4 HOSES FOR LARGE VOLUME FOAM TURRET**

**(Length)**

**Article 33** The length (Unit: m) of a hose for large volume foam turret in the dry state shall be in the range of between the indicated length and 105% of the said length.

**(Pressure Test)**

**Article 34** A hose for large volume foam turret shall not suffer from rupture, thread breakage, water spouting or water leakage in the case where water pressure of 2.0 times (1.5 times in the case of those hoses to which a measure designed to prevent deterioration, etc. of the jacket is applied) of the working pressure is applied to the hose which is laid straight for 5 minutes.

**(Kinking)**

**Article 35** The kinking of a hose for large volume foam turret shall take place rightward and kinking in the case where the working pressure is applied shall be within the range which does not impede the use of the said hose.

**(Application Mutatis Mutandis)**

**Article 36** The provisions of Article 7 through Article 9, Article 14 and Article 16 shall apply *mutatis mutandis* for hoses for large volume foam turret. In this case, the phrase "a 30 cm long portion" and the phrase "the test in Article 12 (excluding the test which is conducted with the hose being bent)" in Article 7 paragraph (3) item (ii) shall be deemed to be replaced by "a portion" and "the test in Article 34" respectively, the phrase "the test in Article 12 (excluding the test which is conducted with the hose being bent)" in item (iii) of the said paragraph shall be deemed to be replaced by "the test in Article 34" and the phrase "a hose of which the working pressure is 1.3 MPa or less" in Article 16 shall be deemed to be replaced by "other hoses".

**CHAPTER 5 WET FIRE HOSES**

**(Classification)**

**Article 37** Wet fire hoses shall be classified as shown in the following table.

Working Pressure	Nominal Diameter Class					
1.3	90	75	65	50	40	25

**(Structure of Wet Hose)**

**Article 38** A wet hose shall have a proper measure designed to maintain its wet state.

**(Quality)**

**Article 39** The rubber used for the lining of wet fire hoses shall conform to the provision of Article 7 paragraph (2) and each of the following items.

- (i) The surface of the rubber shall have no uneven portions, such as creases, and shall evenly adhere to the jacket.
- (ii) The rubber shall conform to the provision of Article 45 after the test is conducted in accordance with the test conditions listed in the following table based on the test method for ozone resistance in JIS K6259 in the state of a 3 m long section of the hose being folded.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 41~46)

Item	Test Conditions
Ozone Concentration	50 pphm
Chamber Temperature	Between 38°C and 42°C
Test Duration	360 hours
State of Specimen and Placing Method	Placed near the center of the chamber with the hose being folded after the hose has been left standing for 24 hours in a sealed dark box
Measuring Frequency of Ozone Concentration	Every 15 minutes after placement of the specimen. However, this does not apply in the case where the level of concentration is adjusted by an automatic ozone concentration adjuster
Measuring Method of Ozone Concentration	Constant current electrolysis method in JIS K6259

- (2) The provisions of item (i) of the preceding paragraph and Article 7 paragraph (3) item (ii) and item (iv) shall apply *mutatis mutandis* to synthetic resins used for the lining of wet fire hoses. In this case, the phrase “the provisions of item (ii) and item (iii) of the following article and the test in Article 12 (excluding the test which is conducted with the hose being bent)” in Article 7 paragraph (3) item (ii) shall be deemed to be replaced by “the provision of Article 8 item (iii) and the test in Article 42”.

### (Length)

**Article 40** The length of a wet fire hose in the dry state shall be either 20 m or 30 m and shall be between the indicated length and 110% of the said length.

### (Mass)

**Article 41** The mass of a wet fire hose in the dry state shall be equal to or lower than the mass listed in the following table in correspondence with its nominal diameter class.

Nominal Diameter Class	Mass per 1 Meter of Hose (Unit: gram)
90	1,060
75	780
65	550
50	400
40	300
25	200

### (Pressure Test)

**Article 42** A wet fire hose shall not suffer from rupture or thread breakage in the case where the water pressure listed in the following table is applied for 5 minutes in correspondence with its working pressure and state of the hose.

State of Hose	Straight (Unit: MPa)	Bent (Unit: MPa)
Working Pressure		
1.3	2.5	1.8

### (Rupture Test)

**Article 43** A wet fire hose shall not suffer from rupture in the case where water pressure equal to the design rupture pressure is applied to the said hose of which the length is 1.5 m or more and which is laid straight.

### (Elongation)

**Article 44** The elongation of a wet fire hose in the case where the working pressure is applied to the said hose which is laid straight shall be 10% or less using its length with a water pressure of 0.1 MPa as the reference.

## Ordinance for Technical Specifications Pertaining to Fire Hoses (Article 47)

### (Volume of Water Leakage)

**Article 45** When a wet fire hose is kept for 35 minutes with a water pressure of 0.5 MPa, the average volume of water leakage in the last 5 minutes shall be equal to or lower than the volume of water leakage listed in the following table in correspondence with its nominal diameter class and the surface of the hose shall be evenly wet.

Nominal Diameter Class	Volume of Water Leakage per 1 Meter of Hose (Unit: cm <sup>3</sup> /minute)
90	350
75	300
65	250
50	200
40	150
25	100

### (Abrasion Resistance)

**Article 46** A wet fire hose shall not suffer from an increased volume of water leakage with friction of 30 times in the case where the friction test is conducted in a given place under the test conditions specified in the Appended Table and Appended Figure.

## CHAPTER 6 MISCELLANEOUS PROVISIONS

### (Special Provision for Standards)

**Article 47** In the case where the Minister of Internal Affairs and Communications finds that a wet fire hose pertaining to new technological development has a performance equal to or higher than a wet fire hose which conforms to the provisions of this Ordinance based on a reasonable judgement in terms of its shape, structure, materials and performance, the technical specifications specified by the Minister of Internal Affairs and Communications shall apply notwithstanding the provisions of this Ordinance of the Ministry.

Ordinance for Technical Specifications Pertaining to Fire Hoses (Supplementary Provisions)

SUPPLEMENTARY PROVISIONS

Excerpt

(Effective Date)

(1) This Ordinance shall come into force as from April 1, 2014.

Supplementary Provisions (Ordinance of the Ministry of Internal Affairs and Communications No. 24 of March 31, 2014)

This Ordinance shall come into force as from the day of promulgation.

Appended Table (Re: Article 17, Article 29 and Article 46)

Item	Test Conditions
Inside Pressure of the Hose	Water pressure of 0.5 MPa
Friction Surface	Waterproof abrasion paper specified in JIS R6253 of which the dimensions are equal to or more than the dimensions of the friction plate and the grain size number of the abrasive is 100.
Special Measure for Friction Surface	Application of a special measure designed to prevent clogging of the friction surface (such as replacement of the friction surface at certain intervals or air blow of the friction surface)
Dimensions of the Friction Plate	Rectangular shape of 25 mm or more x 250 mm or more with a radius of curvature of 250 mm
Load on the Friction Plate	10 newtons at every position throughout the total amplitude
Vibration Duration of the Friction Plate	At an angle of 45° against the hose
Total Amplitude of the Friction Plate	200 mm
Vibration Frequency of the Friction Plate	20 reciprocations per minute

Appended Figure (Re: Article 17, Article 29 and Article 46)

