

This translation is provisional translation for reference, formally refer to the original text.

**ORDINANCE
FOR
TECHNICAL SPECIFICATIONS PERTAINING
TO SNAP OR SCREW TYPE METAL
COUPLINGS USED FOR FIRE HOSES AND
SCREW TYPE METAL COUPLINGS USED
FOR FIRE SUCTION HOSES**

**(Ordinance of the Ministry of Internal Affairs
and Communications No. 23 of March 27, 2013)**

In accordance with the provision of Article 21-16-3 paragraph (1) of the Fire Service Act (Act No. 186 of 1948), the Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses shall be provided as follows.

CONTENTS

CHAPTER 1 GENERAL PROVISIONS (Article 1 ~ 2)..... 3

CHAPTER 2 METAL COUPLINGS FOR FIRE DEFENSE (Article 3 ~ 20)..... 4

CHAPTER 3 SNAP TYPE METAL COUPLINGS FOR LARGE VOLUME FOAM
TURRET (Article 21 and 22)..... 10

CHAPTER 4 TWIST TYPE METAL COUPLINGS FOR LARGE VOLUME FOAM
TURRET (Article 23 ~ 27)..... 10

CHAPTER 5 MISCELLANEOUS PROVISIONS (Article 28)..... 12

SUPPLEMENTARY PROVISIONS 12

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 1~2)

CHAPTER 1 GENERAL PROVISIONS

(Purport)

Article 1 This Ordinance shall cover the technical specifications applicable to snap or screw type metal couplings used for fire hoses and screw type metal couplings used for fire suction hoses.

(Definitions)

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

- (i) Metal couplings for fire defense: Metal fittings to be mounted at the ends of hoses or suction hoses to couple fire hoses [meaning the hoses prescribed in Article 2 item (i) of the Ordinance for Technical Specifications Pertaining to Fire Hoses (Ordinance of the Ministry of Internal Affairs and Communications No. 22 of 2013; hereinafter referred to as “the Hose Specifications Ordinance”); hereinafter referred to as “hose(s)"] or fire suction hoses [meaning those prescribed in Article 2 item (i) of the Ordinance for Technical Specifications Pertaining to Fire Suction Hoses (Ordinance of the Ministry of Home Affairs No. 25 of 1986; hereinafter referred to as “the Suction Hose Specifications Ordinance”); hereinafter referred to as “suction hose(s)"] with other hoses, suction hoses, power fire pumps [meaning those prescribed in Article 2 item (i) of the Ordinance of the Ministry of Home Affairs No. 24 of 1986; hereinafter referred to as “the Power Pump Specifications Ordinance”], etc.
- (ii) Coupling section: A section where metal couplings for fire defense are to be engaged with each other
- (iii) Fixing section: A section where a hose or suction hose is to be fitted
- (iv) Snap type metal couplings: Metal couplings using the insertion method for coupling
- (v) Screw type metal couplings: Metal couplings using screws for coupling
- (vi) Snap type metal couplings for large volume foam turret: Among snap type metal couplings, those to be fixed at the ends of large volume hoses to couple hoses for large volume foam turret (meaning those prescribed in Article 2 item (iv) of the Hose Specifications Ordinance; hereinafter referred to as “large volume hose(s)”) which are only used for the intended purpose of disaster prevention equipment for large volume foam turret [meaning the equipment prescribed in Article 13 paragraph (3) of the Ministerial Ordinance for Enforcement of the Act on the Prevention of Disasters at Petroleum Industrial Complexes and Other Petroleum Facilities (Cabinet Order No. 129 of 1976); the same shall apply in the following item], with other large volume hoses, automotive fire appliances for large volume foam turret [meaning those prescribed in Article 2 item (iv) of the Power Pump Specifications Ordinance; the same shall apply in the following item] or portable fire pumps for large volume foam turret [meaning those prescribed in Article 2 item (v) of the Power Pump Specifications Ordinance; the same shall apply in the following item], etc. by the insertion method.
- (vii) Twist type metal couplings for large volume foam turret: Among screw type metal couplings, those to be fixed at the ends of large volume hoses or large volume suction hoses [meaning those prescribed in Article 2 item (ii) of the Suction Hose Specifications Ordinance; hereinafter referred to as “large volume suction hose(s)"] which are only used for the intended purpose of disaster prevention equipment for large volume foam turret to couple large volume hoses or large volume suction hoses with other large volume hoses or large volume suction hoses, automotive pump appliances for large volume foam turret or portable fire pumps for large volume foam turret, etc. by the twisting method.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 2~5)

- (viii) Nominal bore: Design inside diameter (Unit: mm) of the coupling section of snap type metal couplings for large volume foam turret or twist type metal couplings for large volume foam turret
- (ix) Working pressure: Design normal maximum working water pressure (Unit: MPa)

CHAPTER 2 METAL COUPLINGS FOR FIRE DEFENSE

(Classification)

Article 3 The metal couplings for fire defense (excluding snap type metal couplings for large volume foam turret and twist type metal couplings for large volume foam turret; the same shall apply in the rest of this chapter) shall be classified as shown in the following table.

Engagement Section	Intended Purpose	Nominal Diameter Class												
		150	140	125	115	100	90	75	65	50	40	30	25	20
Snap Type	For Fire Hose							75	65	50	40	30	25	
Screw Type	For Fire Hose	150		125		100	90	75	65	50	40	30	25	20
	For Fire Suction Hose	150	140	125	115	100	90	75	65	50	40		25	

(General Structure)

Article 4 The structure of the metal couplings for fire defense shall be as specified in the following.

- (i) Structure with little friction loss by water flow
- (ii) Use of uniform and good quality materials
- (iii) The fixing section shall be strong and have a structure whereby a fixed hose or suction hose is difficult to uncouple.
- (iv) Any portion which may be touched by a person shall be provided with the necessary measures, such as chamfering or the removal of burrs, etc., to prevent any hazard.
- (v) There shall be no auxiliary devices which may damage the functions of the metal couplings.
- (vi) Any portion where different metals are in contact with each other shall be provided with the necessary measures to prevent corrosion.

(Materials)

Article 5 The materials used for components or portions of metal couplings for fire defense which are listed in the left-hand column of the following table shall be those listed in the right-hand column of the said table or shall have strength in terms of tensile strength and elongation equivalent to or higher than those of the material(s) listed in the right-hand column of the said table in the case where the No. 4 specimen (No. 5 specimen for claw springs) sampled by the method specified by Japan Industrial Standards (hereinafter referred to as "JIS") Z2201 as specified in Article 17 paragraph (1) of the Industrial Standardization Act (Act No. 185 of 1949) is used to conduct the test in JIS Z2241.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 5~6)

Component or Portion	Material
Insert	JIS H4080: Aluminium and aluminium alloys -- extruded tubes and cold-drawn tubes
Bracket	JIS H4100: Aluminium and aluminium alloy -- extruded shape
Push Ring	JIS H5120: Copper and copper alloy castings – bronze castings and silzin bronze castings
Clamping Ring	JIS H5121: Copper alloy continuous castings – bronze continuous castings and silzin bronze continuous castings
Fixing Section	JIS H5202: Aluminum alloy castings
Claw	JIS H5120: Copper and copper alloy castings – bronze castings JIS H5121: Copper alloy continuous castings – bronze continuous castings
Claw Spring	JIS G4313: Cold rolled stainless steel strip for springs JIS G4314: Stainless steel wires for springs JIS H3110: Phosphor bronze and nickel silver sheets, plates and strips JIS H 3130: Copper beryllium alloy, copper titanium alloy, phosphor bronze, copper-nickel-tin alloy and nickel silver sheets, plates and strips for springs
Component to Prevent the Loosening of Clamping Ring	JIS G4308: Stainless steel wire rods JIS H3260: Copper and copper alloy wires JIS H4080: Aluminium and aluminium alloys extruded tubes and cold-drawn tubes JIS H5120: Copper and copper alloy castings – bronze castings JIS H5121: Copper alloy continuous castings – bronze continuous castings

- (2) With regard to the material of the packing used for metal couplings for fire defense, the value measured by the measuring method listed in the middle column of the following table in correspondence with the item listed in the left-hand column of the said table shall be within the range listed in the right-hand column of the said table or shall indicate a level of performance equivalent to or higher than what is indicated by the said value. In this case, the test temperature and test duration regarding the oil resistance and aging resistance shall be 100°C and 70 hours respectively.

Item		Measuring Method	Range
Tensile Strength (Unit: MPa)		JIS K6251	≥ 10
Elongation (Unit: %)		JIS K6251	≥ 500 (snap type metal couplings) ≥ 100 (screw type metal couplings)
Hardness		JIS K6253	$35 \leq \text{Hardness} \leq 45$ (snap type metal couplings) $75 \leq \text{Hardness} \leq 85$ (screw type metal couplings)
Oil Resistance	Volume-Change Modulus (Unit: %)	JIS 6258 No.3 Oil	$+50 \leq \% \text{ Change} \leq +120$ (snap type metal couplings) $+20 \leq \% \text{ Change} \leq +80$ (screw type metal couplings)
		JIS K6258 No.1 Oil	$-10 \leq \% \text{ Change} \leq +15$ (snap type metal couplings) $-5 \leq \% \text{ Change} \leq +10$ (screw type metal couplings)
Aging Resistance	Percentage Change of Tensile Strength (Unit: %)	JIS K6257	≥ -15
	Percentage Change of Elongation (Unit: %)	JIS K6257	≥ -40
	Change of Hardness	JIS K6257	+15

(Indications)

Article 6 The information specified in the following items shall be indicated on all metal couplings for fire defense in an easily visible place in such a manner that the subject information is not easily erased.

- (i) Name or trademark of the manufacturer
- (ii) Year of manufacture
- (iii) Nominal diameter class of individual metal couplings for fire defense
- (iv) Word “suction” for metal couplings for fire defense for fire suction hoses
- (v) Nominal diameter class of the hose or suction hose to which a metal coupling for fire

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 6~8)

defense is to be fixed in the case of a metal coupling for fire defense to which a hose or suction hose of a different nominal diameter class from the nominal diameter class of the said metal coupling for fire defense is to be fixed.

- (vi) Working pressure

(Structure of Snap Type Spigot)

Article 7 The structure of a snap type spigot (meaning a snap type metal coupling composed of an insert, push ring, etc.; the same shall apply hereinafter) shall be as specified in the following in addition to conforming to each item of Article 4.

- (i) The dimensions of each portion shall be as specified in Appended Table 1 in correspondence with the relevant nominal diameter class.
- (ii) The structure shall allow easy coupling and uncoupling with a snap type socket.
- (iii) The structure shall not prevent the detachment of the push ring in the state where a hose is not fixed.
- (iv) The push ring shall be sufficiently strong and shall not suffer from any deformation, etc. as a result of uncoupling from a snap type socket.

(Structure of Snap Type Socket)

Article 8 The structure of a snap type socket (meaning a snap type metal coupling composed of a bracket, claw, claw spring, packing, etc.; the same shall apply hereinafter) shall be as specified in the following in addition to conforming to each item of Article 4.

- (i) The dimensions of each portion shall be as specified in Appended Table 2 in correspondence with the relevant nominal diameter class.
- (ii) The structure shall allow easy coupling and decoupling with a snap type spigot.
- (iii) The claw chamber shall have a structure to prevent the easy incursion of sand and other foreign matters.
- (iv) The number of claws shall be three or more.
- (v) The claws shall be positioned at even intervals.
- (vi) The claws shall have the same shape.
- (vii) The total of the buckling strength of a claw (meaning the load required to make the center of the claw to which downward force is applied reach the top face F specified in Appended Table 2; the same shall apply in the following item) shall be the strength specified in the following table in correspondence with the nominal diameter class.

Nominal Diameter Class	Strength (Unit: newtons)
75	90
65	75
50	60
40	45
30	35
25	30

- (viii) The difference between the buckling strength of individual claws and their average value shall be within 20% of the average value.
- (ix) The structure shall be such that in the case of coupling with a snap type spigot, the tips of all the claws shall be in contact with the snap type spigot with some pressure.
- (x) The structure shall be such that the packing can be easily replaced.
- (xi) The packing shall not easily fall off.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 9-11)

(Structure of Screw Type Spigot)

Article 9 The structure of a screw type spigot (meaning a screw type metal coupling composed of an insert, etc.; the same shall apply hereinafter) shall be as specified in the following in addition to conforming to each item of Article 4.

- (i) The dimensions of each portion shall be as specified in Appended Table 3, Appended Table 4 and Appended Table 5 in correspondence with the relevant nominal diameter class.
- (ii) The structure shall allow easy coupling and uncoupling with a screw type socket.
- (iii) In the case of a screw type spigot which uses a tool for coupling and uncoupling with a screw type socket, the structure shall allow the easy use of the tool as well as coupling and uncoupling without fail.
- (iv) In the case of a screw type spigot which has a protrusion for coupling and uncoupling with a screw type socket, the material of such protrusion shall have a strength equivalent to or higher than that of an insert.
- (v) The threading start portion of a screw shall have any incomplete screw portion removed. In this case, the height of the cross-section after such removal shall be one-third or less of the thread height.

(Structure of Screw Type Socket)

Article 10 The structure of a screw type socket (meaning a screw type metal coupling composed of a clamping ring, bracket, packing, etc.; the same shall apply hereinafter) shall be as specified in the following in addition to conforming to each item of Article 4.

- (i) The dimensions of each portion shall be as specified in Appended Table 4, Appended Table 5 and Appended Table 6 in correspondence with the relevant nominal diameter class.
- (ii) The structure shall allow easy coupling and uncoupling with a screw type spigot.
- (iii) In the case of a screw type socket which uses a tool for coupling and uncoupling with a screw type spigot, the structure shall allow easy use of the tool as well as coupling and uncoupling without fail.
- (iv) In the case of a screw type socket which has a protrusion for coupling and uncoupling with a screw type spigot, the material of such protrusion shall have a strength equivalent to or higher than that of a clamping ring.
- (v) The structure shall be such that the clamping ring does not fall off.
- (vi) The clamping ring shall be able to freely rotate.
- (vii) The threading start portion of a clamping ring shall have any incomplete screw portion removed. In this case, the height of the cross-section after such removal shall be one-third or less of the thread height.
- (viii) The structure shall be such that the packing can be easily replaced.
- (ix) The packing shall not easily fall off.
- (x) The portion to prevent loosening of the clamping ring shall have a structure which prevents the easy disassembly of the relevant component.

(Coupling and Uncoupling Force)

Article 11 With regard to snap type metal couplings, the force required to couple a socket with a spigot or a spigot with a socket (meaning the load at the time when snap type couplings are completely coupled in the case where force is applied to the spigot in the direction of the coupling after the spigot is in contact with the socket) and the force required for uncoupling (meaning the load at the time when the claws reach the Column J value of the push ring specified in Appended Table 1 in the case where force is applied to the push ring of coupled snap type metal couplings in the direction of uncoupling) shall be equal to or less than the force specified in the following table in correspondence with the relevant nominal diameter class.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 11~14)

Nominal Diameter Class	Force (Unit: newtons)
75	150
65	135
50	105
40	90
30	85
25	75

(Pressure Test)

Article 12 Metal couplings for fire defense shall neither suffer from any cracks, conspicuous deformation, water leakage, etc. nor uncouple from the coupling section in the case where internal pressure equivalent to double the working pressure is applied for 5 minutes in the state of the said metal couplings for fire defense being coupled.

- (2) Metal couplings for fire defense to be used with hoses shall neither suffer from water leakage from the fixing section nor experience the detachment of a fixed hose in the case where internal pressure equivalent to double the working pressure is applied for 5 minutes in the state of the said metal couplings for fire defense being coupled with each other and each coupling fixed with a hose.
- (3) Metal couplings for fire defense to be used with suction hoses shall neither suffer from water leakage from the fixing section nor experience the detachment of a fixed suction hose in the case where internal pressure equivalent to double the working pressure is applied for 5 minutes in the state of the said metal couplings for fire defense being coupled with each other and each coupling being fixed with a suction hose.

(Water Leakage Test)

Article 13 Metal couplings for fire defense to be used with hoses shall not suffer from water leakage from the coupling section in the case where a given internal pressure not exceeding the working pressure is applied in the state of the said metal couplings for fire defense being coupled with each other.

(Negative Pressure Test)

Article 14 Metal couplings for fire defense to be used with suction hoses shall conform to each of the following items in the case where they are left standing for 10 minutes with the internal degree of vacuum being the value obtained by the following equation or higher in the state of the said metal couplings for fire defense being coupled with each other.

$$\text{Degree of vacuum (kPa)} = \text{atmospheric pressure in the test environment (kPa)} \div \text{standard atmospheric pressure (kPa)} \times 94 \text{ kPa}$$

- (i) Neither any cracks nor conspicuous deformation shall occur.
 - (ii) The leakage after 30 seconds shall not exceed the degree of vacuum of 1.33 kPa.
 - (iii) Coupling and uncoupling shall be easily conducted.
- (2) Metal couplings for fire defense to be used with suction hoses shall not experience leakage equivalent to the degree of vacuum of 1.33 kPa or more from the coupling section after 30 seconds in the case where they are left standing for 10 minutes with the internal degree of vacuum being equal to or higher than the degree of vacuum obtained by the equation in the preceding paragraph in the state of the said metal couplings for fire defense being coupled with each other and each being fixed with a suction hose of which the ends are blocked.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 15~19)

(Repetition Test)

Article 15 Snap type metal couplings shall conform to each of the following items after the repetition of coupling and uncoupling for 1,000 times.

- (i) Neither any cracks nor conspicuous deformation shall occur.
- (ii) Coupling and uncoupling shall be easily conducted.
- (iii) In the case of snap type metal couplings with an anti-corrosion covering, the anti-corrosion covering at the coupling section shall not peel off.

(Drop Test)

Article 16 Metal couplings for fire defense to be used with hoses shall not suffer detachment from the coupling section, cracks or conspicuous deformation and shall allow easy coupling and uncoupling in the case where each coupling is fixed with a 1 m long hose in the state of the said metal couplings for fire defense being coupled with each other and dropped freely from a position of 1 m in height with the coupling direction of the said metal couplings being horizontal on to a flat concrete surface.

- (2) Metal couplings for fire defense to be used with suction hoses shall not suffer detachment from the coupling section, cracks or conspicuous deformation and shall allow easy coupling and uncoupling in the case where each coupling is fixed with a suction hose in the state of the said metal couplings for fire defense being coupled with each other and dropped freely from a position of 70 cm in height with the coupling direction of the said metal couplings being horizontal on to a flat concrete surface.

(Dragging Test)

Article 17 Metal couplings for fire defense to be used with hoses shall not suffer detachment, cracks or conspicuous deformation and shall allow easy coupling and uncoupling in the case where each coupling is fixed with a hose in the state of the said metal couplings for fire defense being coupled with each other and the hoses being dragged by the ends (the ends which are not coupled) on a flat concrete surface for 20 m in the direction of coupling at a speed of not more than 10 km/hour with the said metal couplings for fire defense being in contact with the concrete surface.

(Bending Test)

Article 18 Snap type metal couplings shall not suffer detachment from the coupling section, cracks or conspicuous deformation and shall allow easy coupling and uncoupling in the case where one of the couplings is fixed in the state of the said snap type metal couplings being coupled with each other and internal pressure equivalent to the working pressure is applied and force is applied perpendicular to the insertion direction for 30 seconds so that the bending moment obtained by the following equation is generated at the coupling section.

$$\text{Bending moment (newtons.mm)} = 300 \text{ N} \times 1.5 \times (\text{nominal diameter class} \times 15) \text{ mm}$$

(Corrosion Test)

Article 19 Metal couplings for fire defense shall not suffer any corrosion which may impede their functions in the case where they have undergone a cycle of exposure to salt water (water solution with 5 % salt by mass) spray for eight hours and standing still for 16 hours as specified by JIS Z2371 (Methods of salt spray testing) 5 times followed by water cleaning and standing still for 24 hours for natural drying.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 20~24)

(Squashing Test for Fixing Section)

Article 20 Metal couplings for fire defense to be used with fire hoses shall not suffer detachment from the coupling section, cracks or conspicuous deformation and shall allow easy coupling and uncoupling in the case where a load of 1,000 newtons is applied perpendicular to the insertion direction for 5 minutes to a portion of 1 cm in width from the end of the fixing section in the state of the said metal couplings for fire defense being coupled with each other.

CHAPTER 3 SNAP TYPE METAL COUPLINGS FOR LARGE VOLUME FOAM TURRET

(Indications)

Article 21 The information specified in the following items shall be indicated on all metal couplings for large volume foam turret in such a manner that the subject information is not easily erased.

- (i) Name or trademark of the manufacturer
- (ii) Year of manufacture
- (iii) Nominal bore
- (iv) Nominal bore [meaning the nominal bore prescribed in Article 4 paragraph (2) of the Hose Specifications Ordinance] of a large volume hose to be fixed
- (v) Working pressure
- (vi) Indication that it is a metal coupling for large volume foam turret
- (vii) Indication that it is to be fixed only to a large volume hose which has been treated to prevent deterioration of the jacket [meaning the jacket prescribed in Article 2 item (viii) of the Hose Specifications Ordinance; the same shall apply in Article 26 item (viii)] of a large volume hose

(Application Mutatis Mutandis)

Article 22 The provisions of Article 4, Article 5, Article 7 [excluding item (i)], Article 8 [excluding item (i) and item (vii)], article 12 paragraph (1) and paragraph (2), Article 13, Article 15, Article 16 paragraph (1) and Article 17 through Article 20 shall apply *mutatis mutandis* to snap type metal couplings for large volume foam turret. In this case, the word "double" in Article 12 paragraph (1) and paragraph (2) shall be deemed to be replaced by "double [1.5 times for those giving the indication in Article 21 item (vii)]", the phrase "1,000 times" in Article 15 shall be deemed to be replaced by "100 times" and the phrase "nominal diameter class" in Article 18 shall be deemed to be replaced by "nominal bore".

CHAPTER 4 TWIST TYPE METAL COUPLINGS FOR LARGE VOLUME FOAM TURRET

(Classification)

Article 23 Twist type metal couplings for large volume foam turret shall be classified into either those for large volume hoses or those for large volume suction hoses depending on their intended purpose.

(Structure)

Article 24 The structure of twist type metal couplings for large volume foam turret shall be as specified in the following in addition to conforming to each item of Article 4.

Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses (Article 24~27)

- (i) The structure shall allow easy replacement of the packing.
- (ii) The packing shall not easily fall off.
- (iii) The coupling section shall allow easy coupling and uncoupling.
- (iv) The coupling section shall have a structure to prevent the easy incursion of sand and other foreign matters; provided, however, that this shall not apply to a coupling section which has a special structure which does not require the prevention of such incursion.
- (v) The coupling section shall be sufficiently strong and shall not suffer from any deformation, etc. due to coupling and uncoupling maneuvers.

(Materials)

Article 25 The materials used for the principal components and portions of twist type metal couplings for large volume foam turret shall conform to one of the following items.

- (i) JIS H4080: Aluminium and aluminium alloys --- extruded tubes and cold-drawn tubes
 - (ii) JIS H4100: Aluminium and aluminium alloys --- extruded shape
 - (iii) JIS H5120: Copper and copper alloy castings --- bronze castings and silzin bronze castings
 - (iv) JIS H5121: Copper alloy continuous castings --- bronze continuous castings and silzin bronze continuous castings
 - (v) JIS H5202: Aluminium alloy castings
 - (vi) JIS H3260: Copper and copper alloy wires
 - (vii) The tensile strength and elongation shall be equivalent to or higher than those listed in item (i) through item (vi) in the case where the test using the No. 4 specimen sampled in the manner specified in JIS Z2201 is conducted as specified in JIS Z2241.
- (2) In the case where a packing is used for a twist type metal coupling for large volume foam turret, the provision of Article 5 paragraph (2) shall apply *mutatis mutandis* to the material of the said packing.

(Indications)

Article 26 The information specified in the following items shall be indicated on all twist type metal couplings for large volume foam turret in such a manner that the subject information is not easily erased.

- (i) Name or trademark of the manufacturer
- (ii) Year of manufacture
- (iii) Nominal bore
- (iv) Nominal bore [meaning the nominal bore prescribed in Article 4 paragraph (2) of the Hose Specifications Ordinance or Article 2 item (iii) of the Suction Hose Specifications Ordinance] of a large volume hose or large volume suction hose to be fixed
- (v) Working pressure
- (vi) Word "suction" for those to be used with large volume suction hoses
- (vii) Indication that it is a twist type metal coupling for large volume foam turret
- (viii) Indication that it is to be fixed only to a large volume hose which has been treated to prevent deterioration of the jacket of a large volume hose

(Application Mutatis Mutandis)

Article 27 The provisions of Article 12 through Article 20 shall apply *mutatis mutandis* to twist type metal couplings for large volume foam turret. In this case, the word "double" in Article 12 paragraph (1) and paragraph (2) shall be deemed to be replaced by "double [1.5 times for those giving the indication in Article 26 item (viii)]", the phrase "1,000 times" in Article 15 shall be deemed to be replaced by "100 times" and the phrase "nominal diameter class" in Article 18 shall be deemed to be replaced by "nominal bore".

**Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses
(Article 28~ Supplementary Provisions)**

CHAPTER 5 MISCELLANEOUS PROVISIONS

(Special Provision for Standards)

Article 28 In the case where the Minister of Internal Affairs finds that a metal coupling for fire defense pertaining to new technological development has a performance equivalent to or higher than a metal coupling for fire defense which conforms to the provisions of this Ordinance, the technical specifications specified by the Minister of Internal Affairs and Communications shall apply notwithstanding the provisions of this Ordinance of the Ministry.

SUPPLEMENTARY PROVISIONS

(Effective Date)

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

Appended Table 1 Table of Dimensions of Snap Type Spigot (Re: Article 7)

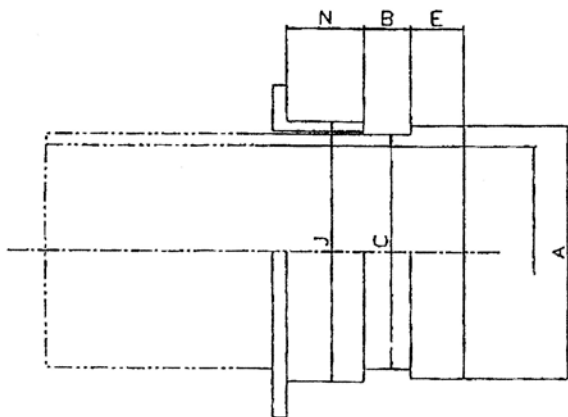
(Unit: mm)

Class	A	B	C	E	J	N
Tolerance	+0 -0.2		+0 -0.2	+0 -0.2	+0 -0.2	
NDC 75	81.5	15.0	76.2	18.0	83.0	22.8
NDC 65	68.5	13.0	63.5	15.5	70.5	19.5
NDC 50	55.6	10.5	51.0	14.5	56.5	14.7
NDC 40	43.6	8.5	39.0	11.7	44.0	12.5
NDC 30	35.6	7.7	32.5	10.0	36.0	11.3
NDC 25	28.6	7.0	26.0	8.5	29.0	10.2

Notes: 1) NDC: Nominal Diameter Class

2) The values in Columns B and N are the minimum values.

Figure of Ingo



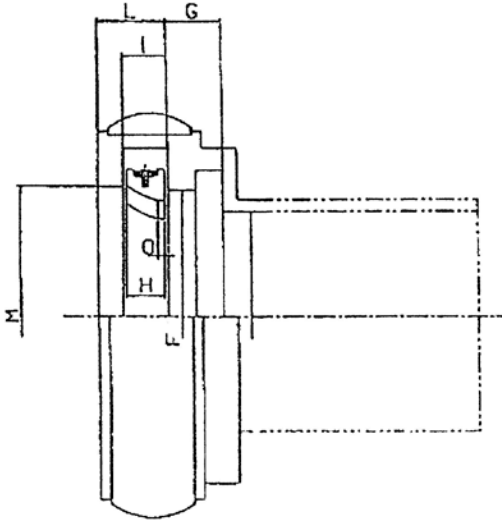
Appended Table 2 Table of Dimensions of Snap Type Socket (Re: Article 8)

(Unit: mm)

Class	F	G	H	I	L	M	O
Tolerance	+0.5 -0	+0.2 -0	+0 -0.1	+0.1 -0			
NDC 75	82.0	19.0	12.6	12.8	24.0	83.8	2.5
NDC 65	69.0	16.0	10.6	10.8	21.0	70.8	2.0
NDC 50	56.0	15.0	8.0	8.2	17.0	56.8	1.8
NDC 40	44.0	12.2	7.0	7.2	14.0	44.3	1.5
NDC 30	36.0	10.5	6.5	6.7	13.0	36.3	1.3
NDC 25	29.0	9.0	6.0	6.2	12.0	29.3	1.0

- Notes: 1) NDC: Nominal Diameter Class
 2) The values in Column L are the maximum values.
 3) The values in Columns M and O are the minimum values.

Figure of Socket



**Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses
(Article Supplementary Provisions)**

Appended Table 3 Variation of Tolerance of Male Screw of Insert for Screw Type Spigot (Re: Article 9)

(Unit: mm)

NDC	Nominal Diameter of Screw N	Outside Diameter K				Effective Diameter K ₂		Minor Diameter K ₁	
		Round Type		Flat Type		Upper Limit of Variation	Lower Limit of Variation	Upper Limit of Variation	Lower Limit of Variation
		Upper Limit of Variation	Lower Limit of Variation	Upper Limit of Variation	Lower Limit of Variation				
150	175	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
140	165	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
125	150	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
115	140	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
100	122.5	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
90	110	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
75	95	-0.08	-0.86	-0.55	-0.86	-0.08	-0.42	-0.08	-0.93
65	82.5	-0.08	-0.73	-0.46	-0.73	-0.08	-0.38	-0.08	-0.79
50	60	-0.06	-0.51	-0.30	-0.51	-0.06	-0.30	-0.06	-0.55
40	48	-0.06	-0.51	-0.30	-0.51	-0.06	-0.30	-0.06	-0.55
30	40	-0.06	-0.51	-0.30	-0.51	-0.06	-0.30	-0.06	-0.55
25	34	-0.06	-0.51	-0.30	-0.51	-0.06	-0.30	-0.06	-0.55
20	25	-0.06	-0.44	-0.25	-0.44	-0.06	-0.24	-0.06	-0.44

Note: NDC = Nominal Diameter Class

Appended Table 4 Table of Dimensions of Screw Type Spigot and Screw Type Socket (Re: Article 9 and Article 10)

(Unit: mm)

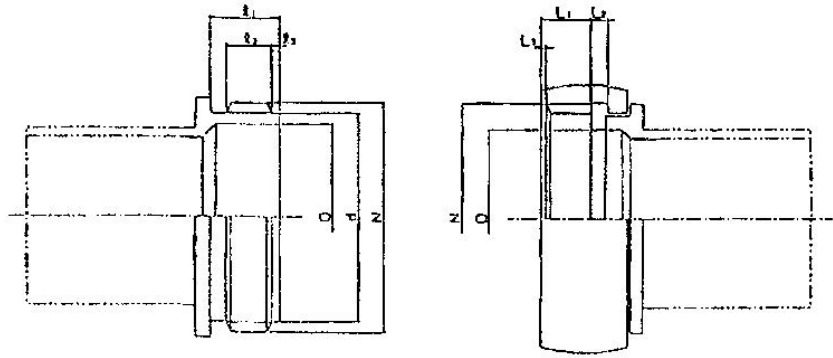
Class	Nominal Diameter of Screw N	D	Spigot				Socket		
			d	l ₁	l ₂	l ₃	L ₁	L ₂	L ₃
Tolerance			±0.2		+0.2	+0.2	+0.2	±0.2	+0.2
NDC					-0	-0	-0		-0
NDC 150	175	152.2	163	31	20	5	23	7.5	3
NDC 140	165	142.2	153	31	20	5	23	7.5	3
NDC 125	150	128.2	139	31	20	5	23	7.5	3
NDC 115	140	121.2	129	31	20	5	23	7.5	3
NDC 100	122.5	105.2	113	31	20	5	23	6.5	3
NDC 90	110	93.2	101	31	20	5	23	6.5	3
NDC 75	95	78.2	86	30	20	4	22	6.5	2.5
NDC 65	82.5	67.2	75	27	18	3	19	6.5	2
NDC 50	60	49.2	55	20	13.5	1.5	13	5.5	1
NDC 40	48	38.2	43	20	13.5	1.5	13	5.5	1
NDC 30	40	30.2	35	18	12	1.5	12	5	1
NDC 25	34	24.2	29	16	11	1.5	10	4.5	1
NDC 20	25	17.2	21	13	9	1	8	4	

Notes: 1) NDC = Nominal Diameter Class

2) The values in Column D are the maximum values.

3) The values in Column l₁ are the minimum values.

Figure



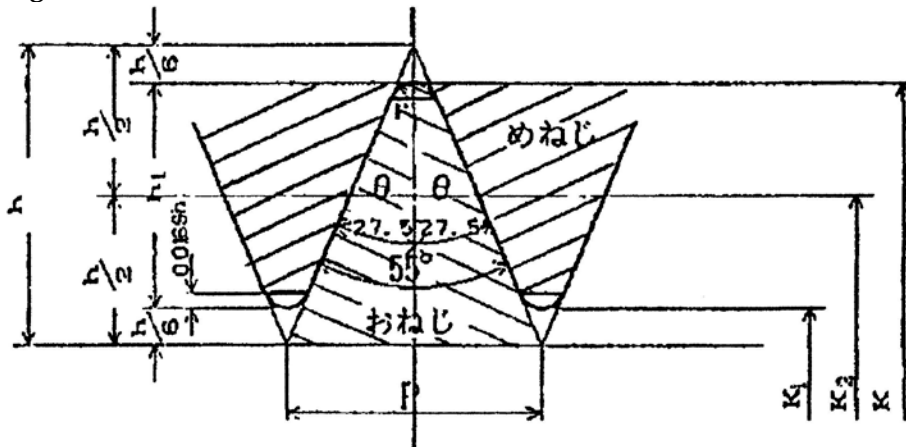
Appended Table 5 Basic Dimensions of Threads of Insert for Screw Type Spigot and Clamping Ring of Screw Type Socket (Re: Article 9 and Article 10)

(Unit: mm)

NDC	Nominal Diameter of Screw N	Number of Threads (per 25.4mm) n	Pitch p	Height of Threads of Male Screw h_1	Roundness r	Half Angle of Thread ($^\circ$) O	Effective Diameter K_2	Outside Diameter of Male Screw (Major Diameter) K	Minor Diameter (Inside Diameter of Female Screw) K_1
150	175	4	6.350	4.066	0.872	27.5	170.934	175.0	166.868
140	165	4	6.350	4.066	0.872	27.5	160.934	165.0	156.868
125	150	4	6.350	4.066	0.872	27.5	145.934	150.0	141.868
115	140	4	6.350	4.066	0.872	27.5	135.934	140.0	131.868
100	122.5	4	6.350	4.066	0.872	27.5	118.434	122.5	114.368
90	110	4	6.350	4.066	0.872	27.5	105.934	110.0	101.868
75	95	4	6.350	4.066	0.872	27.5	90.934	95.0	86.868
65	82.5	5	5.080	3.253	0.697	27.5	79.247	82.5	75.994
50	60	8	3.175	2.033	0.436	27.5	57.967	60.0	55.934
40	48	8	3.175	2.033	0.436	27.5	45.967	48.0	43.934
30	40	8	3.175	2.033	0.436	27.5	37.967	40.0	35.934
25	34	8	3.175	2.033	0.436	27.5	31.967	34.0	29.934
20	25	10	2.540	1.626	0.349	27.5	23.374	25.0	21.748

Note: NDC = Nominal Diameter Class

Figure



**Ordinance for Technical Specifications Pertaining to Snap or Screw Type Metal Couplings Used
for Fire Hoses and Screw Type Metal Couplings Used for Fire Suction Hoses
(Article Supplementary Provisions)**

Appended Table 6 Variation of Tolerance of Female Screw of Clamping Ring for Screw Type Socket (Re: Article 10)

(Unit: mm)

NDC	Nominal Di- ameter of Screw N	Major Diameter K		Effective Diameter K ₂		Inside Diameter K ₁	
		Upper Limit of Variation	Lower Limit of Variation	Upper Limit of Variation	Lower Limit of Variation	Upper Limit of Variation	Lower Limit of Variation
150	175	Not specified	Not specified	+0.42	+0.08	+1.52	+1.02
140	165			+0.42	+0.08	+1.52	+1.02
125	150			+0.42	+0.08	+1.52	+1.02
115	140			+0.42	+0.08	+1.52	+1.02
100	122.5			+0.42	+0.08	+1.52	+1.02
90	110			+0.42	+0.08	+1.52	+1.02
75	95			+0.42	+0.08	+1.52	+1.02
65	82.5			+0.38	+0.08	+1.30	+0.84
50	60			+0.30	+0.06	+0.90	+0.54
40	48			+0.30	+0.06	+0.90	+0.54
30	40			+0.30	+0.06	+0.90	+0.54
25	34			+0.30	+0.06	+0.90	+0.54
20	25			+0.24	+0.06	+0.63	+0.44

Note: NDC = Nominal Diameter Class

Although the lower limit of variation of the major diameter of a female screw is not specified, a small gap shall be introduced between the bottom and the maximum outside diameter of a round type male screw.