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(JPPFA/JPIF/JSA)

**Unplasticized poly (vinyl chloride)
(PVC-U) pipe fittings for drain**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan PVC Pipe and Fittings Association (JPPFA)/The Japan Plastics Industry Federation (JPIF)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS K 6739**:2004 is replaced with this Standard.

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Unplasticized poly (vinyl chloride) (PVC-U) pipe fittings for drain

Introduction

This Japanese Industrial Standard has been prepared based on the second edition of **ISO 3633** published in 2002 with some modifications of the technical contents, i.e. addition of requirements concerning product dimensions, performance and their test methods that are widely used in the Japanese market.

The portions with continuous sidelines or dotted underlines are the matters in which the contents of the original International Standard have been modified. A list of modifications with explanations is given in Annex JA.

1 Scope

This Standard specifies the unplasticized poly (vinyl chloride) (PVC-U) pipe fittings (hereafter referred to as “fittings”) for adhesive jointing of VP and IDVP unplasticized poly (vinyl chloride) (PVC-U) pipes for drain specified in **JIS K 6741**.

NOTE : The International Standard corresponding to this Standard and the symbol which denotes the degree of correspondence are as follows.

ISO 3633:2002 *Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings—Unplasticized poly (vinyl chloride) (PVC-U) (MOD)*

The symbol, (MOD), as defined in **ISO/IEC Guide 21**, indicates that the standard has been modified.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. For the normative references with the year indication (Christian Era), only the edition of the indicated year, and for those without, the most recent edition (including amendments) shall be applied.

JIS B 7502 *Micrometer callipers*

JIS B 7507 *Vernier, dial and digital callipers*

JIS K 6741 *Unplasticized poly (vinyl chloride) (PVC-U) pipes*

JIS K 6815-1:2002 *Thermoplastics pipes—Determination of tensile properties—Part 1: General test method*

JIS K 6815-2 *Thermoplastics pipes—Determination of tensile properties—Part 2: Pipes made of unplasticized poly (vinyl chloride) (PVC-U), chlorinated poly (vinyl chloride) (PVC-C) and high-impact poly (vinyl chloride) (PVC-HI)*

JIS K 6900 *Plastics—Vocabulary*

JIS S 3200-1 *Equipment for water supply service—Test methods of hydrostatic pressure*

JIS Z 8401 *Guide to the rounding of numbers*

ISO 265-1 *Pipes and fittings of plastics materials—Fittings for domestic and industrial waste pipes—Basic dimensions: Metric series—Part 1: Unplasticized poly (vinyl chloride) (PVC-U)*

ISO 580:2005 *Plastics piping and ducting systems—Injection-moulded thermoplastics fittings—Methods for visually assessing the effects of heating*

ISO 2507-1:1995 *Thermoplastics pipes and fittings—Vicat softening temperature—Part 1: General test method*

ISO 2507-2:1995 *Thermoplastics pipes and fittings—Vicat softening temperature—Part 2: Test conditions for unplasticized poly (vinyl chloride) (PVC-U) or chlorinated poly (vinyl chloride) (PVC-C) pipes and fittings and for high impact resistance poly (vinyl chloride) (PVC-HI) pipes*

EN 1053 *Plastics piping systems—Thermoplastics piping systems for non-pressure applications—Test method for watertightness*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in **JIS K 6900** and the following apply.

3.1 type inspection

the inspection to judge whether the quality of fittings conforms to all the performances indicated by design

3.2 delivery inspection

the inspection to judge whether the fittings conform to the performance recognized as necessary at the time of delivery

4 Classification, symbols and abbreviations by shape

4.1 Classification and symbols

The classification and symbols shall be in accordance with table 1.

Table 1 Classification and symbols

Classification	Symbols	Symbols of pipe to be applied
Unplasticized poly (vinyl chloride) (PVC-U) pipe fittings for drain	DV	VP
	IDDV ^{a)}	IDVP
Note ^{a)} IDDV is a type of fittings in accordance with ISO 3633 .		

4.2 Abbreviations by shape

The abbreviations by shape of fittings shall be in accordance with table 2.

Table 2 Abbreviation by shape

Shape	Abbreviation
90° elbow	DL
90° long turn elbow	LL
90° long turn elbow reducer	
45° elbow	45L
90° lateral	DT
90° lateral reducer	
90° long turn lateral	LT
90° long turn lateral reducer	
90° long turn lateral branch	WLT
90° long turn lateral branch reducer	
45° lateral	Y
45° lateral reducer	
Socket	DS
Increaser	IN

5 Performance

The performance of fittings shall conform to the requirements of performance items as shown in table 3.

Table 3 Performance

Performance item	Performance	Symbols of pipe to be applied	Applicable test subclause
Tensile strength at yield MPa	45 min. for the tensile strength at yield at 23 °C	DV	9.1.1
Pressure resistance	Leakage and other defects shall not exist	DV	9.1.2
Flattening resistance	Fissures and cracks shall not exist	DV	9.1.3
Vicat softening temperature °C	76 min.	DV	9.1.4
	79 min.	IDDV	
Watertightness	Leakage shall not occur	IDDV	9.1.5
Thermal relaxation	Defects shall not exist	IDDV	9.1.6

6 Appearance and shape

6.1 Appearance

The appearance of fittings shall be smooth on the outside and inside surface and free from burrs, flaws, fissures, torsion and others which are detrimental to use.

6.2 Shape

The shape of fittings shall be in accordance with tables 6 to 19 for DV and **ISO 265-1** for IDDV. The joint part shall have the practically right-circular cross-section, and the cross-section shall be right-angled to the axis of fittings.

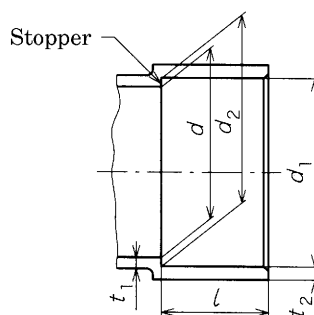
The reinforcing ribs may be attached at the adequate portion on the outside surface.

7 Dimensions and tolerance thereof

7.1 DV fittings

The dimensions of DV fittings and tolerance thereof shall conform to table 4 and tables 6 to 19.

Table 4 Dimensions of joint part of DV fittings and tolerance thereof



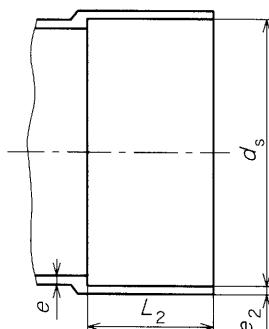
Unit: mm

Nominal diameter	d_1		d_2		l		d		t_1	t_2
	Basic dimension	Tolerance	Basic dimension	Tolerance	Basic dimension	Tolerance	Basic dimension	Tolerance	Minimum dimension	Minimum dimension
30	38.25	± 0.25	37.85	± 0.25	18	± 1	31.0	± 0.8	2.7	2.5
40	48.30	± 0.30	47.80	± 0.30	22		40.0	± 0.9		
50	60.35		59.75		25		51.0		3.1	3.0
65	76.40		75.70		35		67.0			
75	89.45		88.65		40		± 2	77.2	3.6	3.4
100	114.55	± 0.35	113.55	± 0.35	50	98.8		± 1.0	4.5	4.3
125	140.70	± 0.40	139.40	± 0.40	65	125.0		± 1.2	5.4	4.7
150	165.85	± 0.45	164.25	± 0.45	80	145.8		± 1.3	6.3	5.6

7.2 IDDV fittings

The dimensions of joint part of IDDV fittings and tolerance thereof shall conform to table 5 and **ISO 265-1**.

Table 5 Dimensions of joint part of IDDV fittings and tolerance thereof



Unit: mm

Nominal outside diameter	d_s		L_2	e	e_2
	Minimum dimension	Maximum dimension	Minimum dimension	Minimum dimension	Minimum dimension
ND 40	40.1	40.4	26	3.0	2.0
ND 50	50.1	50.4	30		
ND 63	63.1	63.4	36		
ND 75	75.2	75.5	40		
ND 90	90.2	90.5	46	3.2	2.3
ND 110	110.2	110.6	48		2.4
ND 125	125.2	125.7	51		
ND 160	160.3	160.8	60		

8 Materials

The materials of fittings shall be mainly vinyl chloride polymer, compounded with stabilizer, pigment and others of good quality which do not affect badly the performance of pipes.

Plasticizer or any material containing plasticizer shall not be added.

9 Test methods

9.1 Performance test

9.1.1 Tensile test

The tensile strength test of fittings shall be in accordance with **JIS K 6815-1 : 2002** and **JIS K 6815-2**. However, requirements in clauses **5** and **6** of **JIS K 6815-1 : 2002** may be replaced with the following.

a) Test piece

The test piece shall be prepared from the fittings to be tested according to the agreement between the parties concerned with delivery.