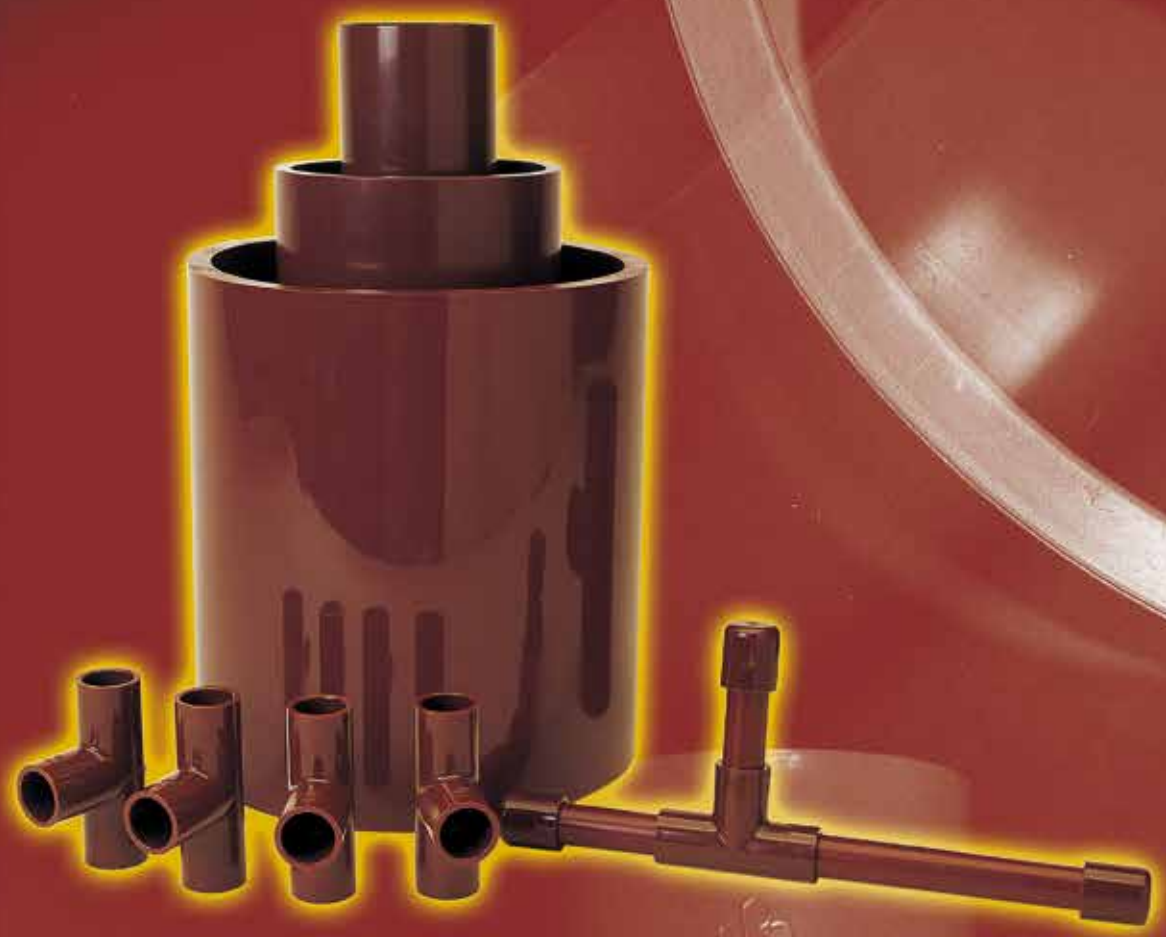
CPVC Pipes and Fittings



Contents

1 Preface

- Featuring excellent acid, alkali and corrosion resistance, high rigidity, minimum fluid resistance and no influence on water quality, the heat-resistant CPVC is a lightweight material for easy handling and installation. It meets a wide range of applications that include household hot water, hot spring water, chemical engineering works, heated fluid supply in semi-conductor Fab. or chamical factories; industrial heated waste water drainage as well as fire fighting works.

- As best-selling products, the CPVC pipes and fittings produced by NAN YA feature a full range of both physical and chemical properties that meet CNS 14664、CNS 14808、ASTM F441 for SCH40、SCH80 standards. CPVC material meet cell classification 23447 of ASTM D-1784.

- Currently, we have the largest and finest production equipment for CPVC pipes and fittings in Taiwan. The overall output, which is second to none in the local industry, is sold worldwide. At the same time, the intensive local marketing network is delivering satisfactory service as well.


經濟部標準檢驗局正字標記證書

廠商名稱 南亞塑膠工業股份有限公司

廠商地址 高雄市仁武區水管路101號

代表人姓名 吳嘉昭

生產製造工廠名稱 南亞塑膠工業股份有限公司嘉義廠

生產製造工廠地址 嘉義縣太保市北港路2段201號

品管評鑑制度 CNS 12681/ISO 9001:2008

產品名稱 氯化聚氯乙烯（CPVC）塑膠管

適用國家標準 總號 14464 類號 K3121

證書號碼 台正字第 7078 號

上記產品依標準法第11條第1項規定審查合格，核准使用正字標記。

局長 劉明忠

中華民國 92 年 5 月 28 日


經濟部標準檢驗局正字標記證書

廠商名稱 南亞塑膠工業股份有限公司

廠商地址 高雄市仁武區水管路101號

代表人姓名 吳嘉昭

生產製造工廠名稱 南亞塑膠工業股份有限公司嘉義廠

生產製造工廠地址 嘉義縣太保市北港路2段201號

品管評鑑制度 CNS 12681/ISO 9001:2008

產品名稱 氯化聚氯乙烯（CPVC）塑膠接頭配件

適用國家標準 總號 14808 類號 K3123

證書號碼 台正字第 7222 號

上記產品依標準法第11條第1項規定審查合格，核准使用正字標記。

局長 劉明忠

中華民國 94 年 2 月 17 日

2 Characteristies of CPVC Pipe and Fitting

1. Optimal heat resistance:
   This makes the product apt for the supply of heated water or heated chemical fluids, which under 93℃.
2. Good pharmacopoeia and corrosion resistance:
   The optimal resistance to acids, alkalis and corrosion makes the product apt for piping works for hot water and heated chemical fluids.
3. Optimal heat insulation:
   At minimum heat transmittance: The minimum heat transmittance that is rated at approximately 1/360 that of steel pipes, delivers heat insulation to the fluid inside the pipe.
4. No incrustation:
   Thanks to the glossy wall that invites n incrustation, the pipe delivers larger flow when compared with metal pipes of identical diameters.
5. No impacts on water quality:
   When used for long period of time, the pipe does not produce impacts on the water quality and it meets all solution requirements.
6. Good electrical insulation:
   The god electrical insulation makes the pipe apt for high-voltage and heat-resistant applications.
7. Easy installation:
   As other PVC pipes, this pipe is installable by using a simple method at minimum cost.

3 Applications of CPVC pipe and fitting

1. Hot water piping for households, restaurants and hotels.
2. Hot water piping works for manufacturing plants.
3. Delivery pipe for heated chemical fluids and wastewater in chemical plants.
4. Hot spring piping
5. Fire fighting pipes
6. A/C systems, hot water circulation piping system
7. High-voltage cable and heat-resistant power pipes
8. Piping for transfer heated water or heated chemical fluids in semi-conducter Fab.
9. Piping for heated chemical fluids in electroplating plant.
10. Buried piping for high voltage power cable.
11. Other types of heated fluid delivery pipes.

Hot water piping

Petrochemical plant

Hot Spring piping

Semi-conductor Fab.

4 Physical property of CPVC pipes and fitting

1. Temperature Pressure De-rating For Thermoplastic Materials

Elevated temperature fluid mediums require a de-rating of thermoplastic pipe maximum internal pressure ratings at 73°F. To determine the maximum internal pressure rating at an elevated temperature, simply multiply the product pressure rating at 73°F by the percentage specified for the desired temperature.

System Operating Temperature °F °C	73 (23)	80 (27)	90 (32)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
UPVC	100%	90%	75%	62%	50%	40%	30%	22%	-0-	-0-	-0-	-0-	-0-	-0-	-0-
CPVC	100%	100%	91%	82%	73%	65%	57%	50%	45%	40%	32%	25%	22%	20%	-0-

2. Physical property of CPVC pipe :

Test Item		Test Value
Tensile strength test		49.0Mpa (500kgf/cm^2) and up at 15℃
		11.8Mpa (120kgf/cm^2) and up at 90℃
Hydraulic pressure resistance test		3.92Mpa {40kgf/cm^2} showing no leakage or fracture
Flattening strength test		No leakage or fracture
Thermal internal-pressure breakage test		At 90℃ and 1.4Mpa{15kgf/cm^2}, no leakage or other flaws
Vicat softening temperature test		100℃ and over
Ash content test		4% and below
VCM content test		1.0mg/L and below
Solubility	Turbidity	0.5° and below
	Colorness	1.0° and below
	$KMnO_4$ consumption	2.0mg/L and below
	Pb extraction	0.008mg/L and below
	Zinc extraction	0.5mg/L and below
	Loss of reduced residual chlorine	1.0mg/l and below
	Odor & taste	No odor
	Molten extraction	0.0015mg/L and below
Immersion	Distilled water	Within±0.20mg/cm^2
	10% sodium chloride solution	
	30% sulfuric acid solution	
	40% sodium hydroxide solution	
	40% nitric acid solution	

Note: (1) No immersion test required for drinking water.
(2) No solution test for regular applications.

4 Physical property of CPVC pipes and fitting

3. Physical property of CPVC fitting :

Test Item		Test Value
Tensile strength test		49.0Mpa (500kgf/cm^2) and up at 15℃
		11.8Mpa (120kgf/cm^2) and up at 90℃
Hydraulic pressure resistance test		3.92Mpa {40kgf/cm^2} showing no leakage or fracture
Thermal internal-pressure breakage test		At 90℃ and 1.4Mpa{15kgf/cm^2}, no leakage or other flaws
Vicat softening temperature test		100℃ and over
Ash content test		4% and below
VCM content test		1.0mg/L and below
Solubility	Turbidity	0.5° and below
	Colorness	1.0° and below
	$KMnO_4$ consumption	2.0mg/L and below
	Pb extraction	0.008mg/L and below
	Zinc extraction	0.5mg/L and below
	Loss of reduced residual chlorine	1.0mg/l and below
	Odor & taste	No odor
	Molten extraction	0.0015mg/L and below
Immersion	Distilled water	Within±0.20mg/cm^2
	10% sodium chloride solution	
	30% sulfuric acid solution	
	40% sodium hydroxide solution	
	40% nitric acid solution	

Note: (1) No immersion test required for drinking water.
(2) No solution test for regular applications.

5 CPVC Chemical Properties

CPVC pipes shows an excellent chemical resistance to most acids, alkaline and salts.

But when it is used for organic solvents, it is remarkably swelled and physical properties fall down.

Chemicals	Concentration	20℃/68℉	60℃/140℉	80℃/176℉
Hydrochloric acid	20%	Excellent	Excellent	Good
Hydrochloric acid	35%	Excellent	Excellent	Good
Nitric acid	40%	Excellent	Fair	Fair
Nitric acid	60%	Good	Fair	Not good
Sulfuric acid	30%	Excellent	Good	Good
Sulfuric acid	50%	Excellent	Good	Not Good
Sulphurous acid	100%	Good	Not good	Not good
Acetic acid	60%	Excellent	Fair	Fair
Acetic acid	95%	Good	Not good	Not good
Cartonic acid	100%	Excellent	Fair	Fair
Caustic soda	40%	Excellent	Excellent	Good
Caustic soda	60%	Excellent	Excellent	Good
Sodium chloride	Saturate	Excellent	Excellent	Good
Sodium carbonate	Saturate	Excellent	Excellent	Good
Sodium sulfate	Saturate	Excellent	Excellent	Good
Hydrogen peroxide	Less than 30%	Excellent	Good	Not good
Ammonium carbonate	Saturate	Excellent	Excellent	Good
Methanol	100%	Excellent	Fair	Unavailable
Ethanol	100%	Excellent	Good	Unavailable
Isopropanol	100%	Excellent	Good	Good
Butanol	100%	Excellent	Good	Fair
Glycerine	100%	Excellent	Excellent	Excellent
Acetone	100%	Unavailable	Unavailable	Unavailable
Methyl othyl ketone	100%	Unavailable	Unavailable	Unavailable
Toluene	100%	Unavailable	Unavailable	Unavailable

6 Specifications of CPVC pipes

1. CNS 14664 Specifications of CPVC pipes (CNS 14664):

Unit: mm

Normal pipe size		Outside diameter & tolerance[1]	Wall thickness		Approx. inside diameter	Approx. weight (kg/m)[2]
			Minimum	Tolerance		
15	½"	22±0.1	2.86	+0.6	16	0.245
20	¾"	26±0.1	2.80	+0.6	20	0.326
25	1"W	32±0.13	3.20	+0.6	25	0.473
40	1½"	48±0.15	3.70	+0.6	40	0.822
50	2"	60±0.15	4.10	+0.8	51	1.186
65	2½	76±0.18	5.40	+0.8	65	1.912
80	3"	89±0.18	5.50	+0.8	78	2.303
100	4"	114±0.2	6.60	+0.8	100	3.601
125	5"	140±0.25	7.00	+1.0	125	4.668
150	6"	165±0.28	12.45	+1.2	140	9.523
200	8"	216±0.38	12.52	+1.4	191	12.774
250	10"	267±0.38	14.73	+1.8	237	18.632
300	12"	318±0.38	17.13	+2.2	280	25.842

Note :

1. Outer diameter shall refer to the arithmetic mean value of any 2 given O.D. at the right angle to each other.
2. Approximate weight shall be estimated by adding the minimum thickness to 1/2 of the allowable thickness tolerance at the specific gravity of 1.51.

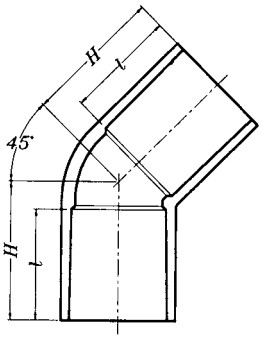
6 Specifications of CPVC pipes

2. ASTM Specifications of CPVC pipes :

Unit: Incs (mm)

ASTM					
SIZE	Outside Diameter & Tolerance	SCH40		SCH80	
		Thickness & Tolerance	Weight(Kg/m)	Thickness & Tolerance	Weight(Kg/m)
3/8"	0.675±0.004 (17.1±0.10)	0.091+0.020 (2.31+0.51)	0.179	0.126+0.020 (3.20+0.51)	0.226
1/2"	0.840±0.004 (21.3±0.10)	0.109+0.020 (2.77+0.51)	0.265	0.147+0.020 (3.73+0.51)	0.330
3/4"	1.050±0.004 (26.7±0.10)	0.113+0.020 (2.87+0.51)	0.351	0.154+0.020 (3.91+0.51)	0.448
1"	1.315±0.005 (33.4±0.13)	0.133+0.020 (3.38+0.51)	0.517	0.179+0.021 (4.55+0.53)	0.657
1 1/4"	1.660±0.005 (42.2±0.13)	0.140+0.020 (3.56+0.51)	0.699	0.191+0.023 (4.85+0.58)	0.909
11/2"	1.900±0.006 (48.3±0.15)	0.145+0.020 (3.68+0.51)	0.833	0.200+0.024 (5.08+0.61)	1.103
2"	2.375±0.006 (60.3±0.15)	0.154+0.020 (3.91+0.51)	1.117	0.218+0.026 (5.54+0.66)	1.526
2 1/2"	2.875±0.007 (73.0±0.18)	0.203+0.024 (5.16+0.61)	1.763	0.276+0.033 (7.01+0.84)	2.327
3"	3.500±0.007 (88.9±0.18)	0.216+0.026 (5.49+0.66)	2.309	0.300+0.036 (7.62+0.91)	3.117
4"	4.500±0.008 (114.3±0.20)	0.237+0.028 (6.02+0.71)	3.285	0.337+0.040 (8.56+1.02)	4.558
5"	5.563±0.010 (141.3±0.25)	0.258+0.031 (6.55+0.79)	4.456	0.375+0.045 (9.52+1.14)	6.322
6"	6.625±0.011 (168.3±0.28)	0.280+0.034 (7.11+0.86)	5.787	0.432+0.052 (10.97+1.32)	8.700
8"	8.625±0.015 (219.1±0.38)	0.322+0.039 (8.18+0.99)	8.716	0.500+0.060 (12.70+1.52)	13.216
10"	10.750±0.015 (273.1±0.38)	0.365+0.044 (9.27+1.12)	12.377	0.593+0.071 (15.06+1.80)	19.628
12"	12.750±0.015 (323.9±0.38)	0.406+0.049 (10.31+1.24)	16.332	0.687+0.082 (17.45+2.08)	26.961
14"	14.000±0.015 (355.6±0.38)	0.437+0.053 (11.10+1.35)	19.333	0.750+0.090 (19.05+2.29)	32.345
16"	16.000±0.019 (406.4±0.48)	0.500+0.060 (12.70+1.52)	25.256	0.843+0.101 (21.14+2.57)	41.584

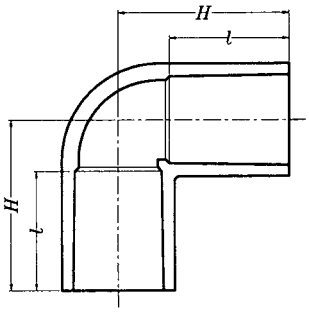
7 Specification of CPVC Fittings



45° Elbow

Unit: mm

Size		l	H
○ 15	½"	30	38
○ 20	¾"	35	44
○ 25	1"W	40	51
○ 40	1½"	55	69
○ 50	2"	63	80
◇ 65	2½"	69	90
◇ 80	3"	72	95
◇100	4"	92	121
◇125	5"	112	150
◇150	6"	140	186
◇200	8"	172	224



90° Elbow

Unit: mm

Size		l	H
○ 15	½"	30	43
○ 20	¾"	35	50
○ 25	1"W	40	58
○ 40	1½"	55	82
○ 50	2"	63	96
◇ 65	2½"	69	110
◇ 80	3"	72	120
◇100	4"	92	152
◇125	5"	112	188
◇150	6"	140	228
◇200	8"	172	288

Note:

○ Comply with the new version (October, 2018) of CNS 14808 standards— Chlorinated ploy (vinyl chloride) plastic fittings.

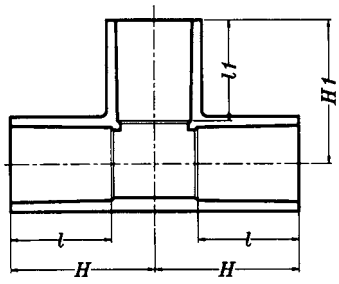
◇ CPVC fittings comply with CNS 1298 standards (specifications) and CNS 23447 standards (materials)— Grade of CPVC raw materials above 7.5kg/cm² of hydrostatic pressure resistance (23℃).Please contact our specialist for the actual grade of materials at any time.

7 Specification of CPVC Fittings

Tee

Unit: mm

Size		l	l1	H	H1
○ 15	½"	30	30	43	43
○ 20	¾"	35	35	50	50
○ 25	1"W	40	40	58	58
○ 40	1½"	55	55	82	82
○ 50	2"	63	63	96	96
◇ 65	2½"	61	61	110	110
◇ 80	3"	64	64	120	120
◇100	4"	84	84	152	152
◇125	5"	112	112	188	188
◇150	6"	140	140	228	228
◇200	8"	172	172	287.5	287



Reducer Tee

Unit: mm

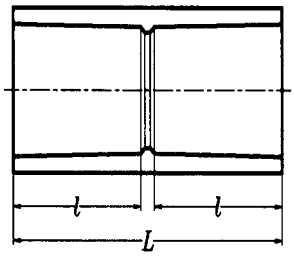
Size		l	l1	H	H1
◇ 65X40	2½"X1½"	61	55	100	96
◇ 65X50	2 ½"X2"	61	63	101	104
◇ 80X20	3"X¾"	72	35	90	82
◇ 80X40	3"X1½"	64	55	100	102
◇ 80X50	3"X2"	72	63	105	115
◇ 80X65	3"X2½"	72	69	113	117
◇ 100X40	4"X1½"	92	55	120	115
◇ 100X50	4"X2"	92	63	125	122
◇ 100X80	4"X3"	92	72	140	132
◇ 125X80	5"X3"	112	72	160	148
◇125X100	5"X4"	112	92	174	168
◇ 150X80	6"X3"	140	72	193	155
◇150X100	6"X4"	140	92	202	182
◇150X125	6"X5"	140	112	214.5	200
◇200X100	8"X4"	172	92	236.5	204
◇200X150	8"X6"	172	140	264	252

Note:

○ Comply with the new version (October, 2018) of CNS 14808 standards— Chlorinated ploy (vinyl chloride) plastic fittings.

◇ CPVC fittings comply with CNS 1298 standards (specifications) and CNS 23447 standards (materials)— Grade of CPVC raw materials above 7.5kg/cm² of hydrostatic pressure resistance (23℃).Please contact our specialist for the actual grade of materials at any time.

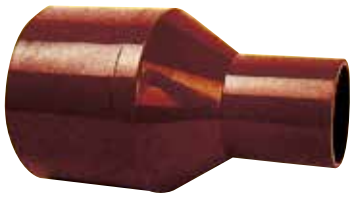
7 Specification of CPVC Fittings

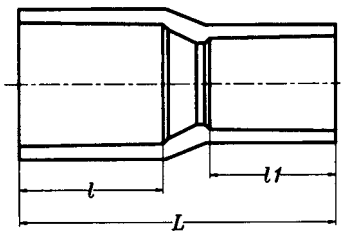


COUPLING

Unit: mm

Size		l	L
○ 15	½"	30	67
○ 20	¾"	35	77
○ 25	1"-W	40	87
○ 40	1½"	55	117
○ 50	2"	63	133
○ 65	2½"	61	145
◇ 80	3"	72	152
◇100	4"	92	200
◇125	5"	112	235
◇150	6"	140	300
◇200	8"	172	360





REDUCERCOUPLING

Unit: mm

Size		l	l1	L
○ 20X15	¾"X½"	35	30	71
○ 25X20	1"WX¾"	40	35	84
◇ 28X25	1"X1"W	40	40	90
○ 40X25	1½"X1"W	55	40	114
○ 50X40	2"X1½"	63	55	136
○ 65X40	2½"X1½"	69	55	150
○ 65X50	2½"X2"	69	63	153
◇ 80X40	3"X1½"	72	55	165
◇ 80X50	3"X2"	72	63	165
◇ 80X65	3"X2½"	72	69	165
◇ 100X40	4"X1½"	92	55	190
◇ 100X50	4"X2"	92	63	208
◇ 100X80	4"X3"	92	72	190
◇125X100	5"X4"	112	92	225
◇ 150X80	6"X3"	140	72	260
◇150X100	6"X4"	140	92	280
◇150X125	6"X5"	140	112	295
◇200X100	8"X4"	172	92	340
◇200X125	8"X5"	172	112	345
◇200X150	8"X6"	172	140	350

Note:

○ Comply with the new version (October, 2018) of CNS 14808 standards— Chlorinated ploy (vinyl chloride) plastic fittings.

◇ CPVC fittings comply with CNS 1298 standards (specifications) and CNS 23447 standards (materials)— Grade of CPVC raw materials above 7.5kg/cm² of hydrostatic pressure resistance (23℃).Please contact our specialist for the actual grade of materials at any time.

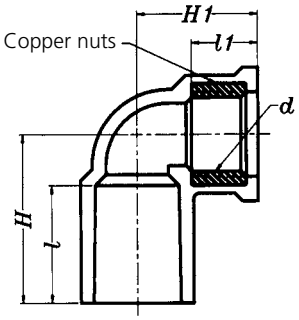
7 Specification of CPVC Fittings

FAUCET FITTING—90° Elbow

Unit: mm

Size		l	H	THREAD		H1
				d	l1	
○ 15	1/2"	30	43	PF1/2"	17	32
○ 20	3/4"	35	51	PF3/4"	19	36
○ 25	1"W	40	59	PF1"	21	40

Insert bronze nut

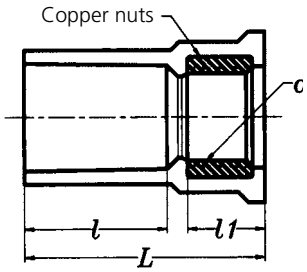


FAUCET FITTING—Female Adapter

Unit: mm

Size		l	THREAD		L
			d	l1	
○ 15	½"	30	PF ½"	17	52
○ 20	¾"	35	PF ¾"	19	59
○ 25	1"W	40	PF 1"	21	68

Insert bronze nut

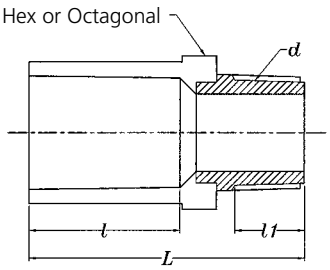


MALE ADAPTER

Unit: mm

Size		l	THREAD		L
			d	l1	
○ 15	½"	30	PF ½"	14	65
○ 20	¾"	35	PF ¾"	15	75
○ 25	1"W	40	PF 1"	17	85
○ 40	1½"	55	PF1 ½"	19	110
○ 50	2"	63	PF 2"	24	125

Insert bronze nut

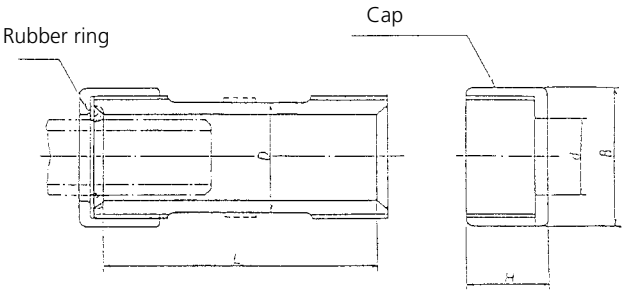


Note:

○ Comply with the new version (October, 2018) of CNS 14808 standards— Chlorinated ploy (vinyl chloride) plastic fittings.

◇ CPVC fittings comply with CNS 1298 standards (specifications) and CNS 23447 standards (materials)— Grade of CPVC raw materials above 7.5kg/cm² of hydrostatic pressure resistance (23℃).Please contact our specialist for the actual grade of materials at any time.

7 Specification of CPVC Fittings



EXPANSION ADAPTER

Unit: mm

Size		D	L	H	d	B
½"	15	33.8	90	28	22.8	42
¾"	20	37.8	90	29	26.8	47
1"W (Opening the mold)						
2"	50	73	144	40	61.5	90
2 ½"	65	93	183	49	77.5	112
3"	80	108	223	58	90.8	135
4"	100	138	251	67	116.0	168

FIG.1

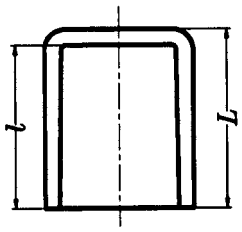
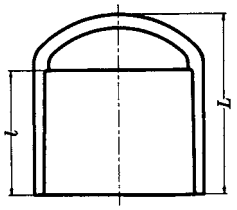


FIG.2



CAP

Unit: mm

Size			t	l	L
FIG.1	○ 15	½"	3.5	30	33.5
	○ 20	¾"	3.5	35	38.5
	○ 25	1"W	4.0	40	44
	○ 40	1½"	4.5	55	59.5
	○ 50	2"	5.0	63	68
FIG.2	◇ 65	2½"	6.6	69	100
	◇ 80	3"	8.0	72	107
	◇100	4"	10.0	92	137
	◇125	5"	11.0	112	166
	◇150	6"	13.0	140	202
	◇200	8"	15.0	172	257
	◇250	10"	15.0	185	295

Note:

○ Comply with the new version (October, 2018) of CNS 14808 standards— Chlorinated ploy (vinyl chloride) plastic fittings.

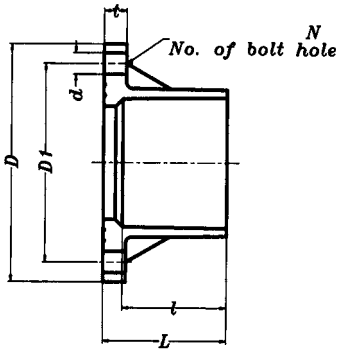
◇ CPVC fittings comply with CNS 1298 standards (specifications) and CNS 23447 standards (materials)— Grade of CPVC raw materials above 7.5kg/cm² of hydrostatic pressure resistance (23℃).Please contact our specialist for the actual grade of materials at any time.

7 Specification of CPVC Fittings

FLANGE

Unit: mm

Size		D	D1	l	THREAD		t	L
					d	N		
40	1½"	140	105	55	19	4	17	68
50	2"	155	120	63	19	4	17	76
65	2½"	175	140	69	19	4	18	83
80	3"	185	150	72	19	8	18	86
100	4"	210	175	92	19	8	18	107
125	5"	250	210	112	23	8	20	130
150	6"	280	240	140	23	8	22	165
200	8"	330	290	172	23	12	22	195



Note：

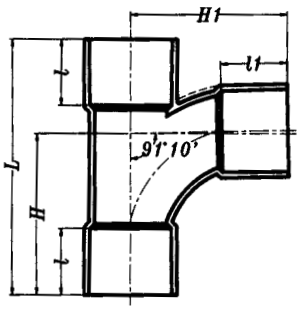
1.Each flanged connector comes with an 1PC washer.

2.Hydrostatic pressure resistance is up to 7.5kg/cm² (23℃).

SANITARY TEE

Unit: mm

規格 Size		l	l1	H	H1	L
40	1 1/2"	55	55	111	111	180
50	2"	63	63	114	127	200
65	21/2"	69	69	132	140	234
80	3"	72	72	177	172	280
100	4"	92	92	224	219	355
125	5"	112	112	252	233	416
150	6"	140	140	290	295	495
200	8"	172	172	347	360	615



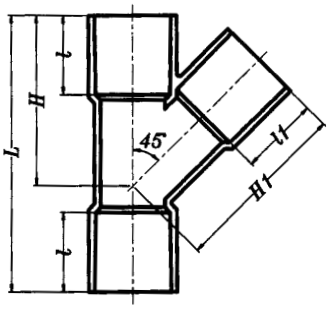
REDUCER SANITARY TEE

Unit: mm

規格 Size		l	l1	H	H1	L
50X40	2"X11/2"	63	55	114	118	192
80X50	3"X2"	72	63	140	145	235
100X50	4"X2"	92	63	154	152	270
100X80	4"X3"	92	72	194	182	318
125X80	5"X3"	112	72	235	198	350
125X100	5"X4"	112	92	235	219	388
150X50	6"X2"	140	63	215	180	420
150X80	6"X3"	140	72	230	207	420
150X100	6"X4"	140	92	246	234	425
150X125	6"X5"	140	112	273	252	468
200X50	8"X2"	172	63	307	210	440
200X80	8"X3"	172	72	307	235	470
200X100	8"X4"	172	92	307	263	510
200X150	8"X6"	172	140	307	320	560

Note： Sanitary T fitting is used for non-pressure drainage.

7 Specification of CPVC Fittings



WYE

Unit: mm

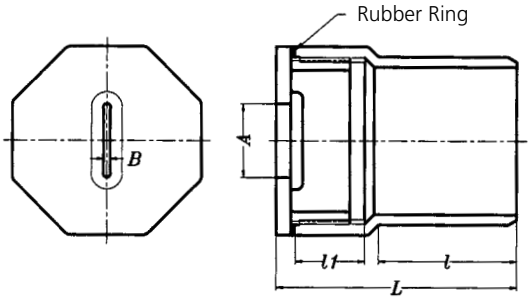
Size		l	l1	H	H1	L
40	1 1/2"	55	55	116	119	185
50	2"	63	63	141	142	220
65	21/2"	69	69	166	161	260
80	3"	72	72	180	188	280
100	4"	92	92	230	240	355
125	5"	112	112	282	292	434
150	6"	140	140	344	352	530
200X200	8"	172	172	446	433	690

REDUCER WYE

Unit: mm

Size		l	l1	H	H1	L
50X40	2"X11/2"	63	55	132	128	202
80X50	3"X2"	72	63	164	164	239
100X50	4"X2"	92	63	195	185	285
100X80	4"X3"	92	72	213	206	319
125X50	5"X2"	112	63	233	192	337
125X80	5"X3"	112	72	252	216	372
125X100	5"X4"	112	92	272	252	415
150X50	6"X2"	140	63	270	228	385
150X80	6"X3"	140	72	282	240	412
150X100	6"X4"	140	92	294	274	435
150X125	6"X5"	140	112	322	310	500
200X50	8"X2"	172	63	327	258	445
200X80	8"X3"	172	72	345	282	485
200X100	8"X4"	172	92	362	316	520
200X150	8"X6"	172	140	400	394	600

Note：45° Y fitting is used for non-pressure drainage.



Cleanout Bushing

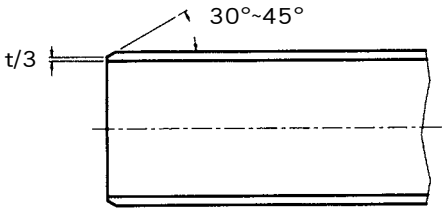
Unit: mm

Size		A	B	l	l1	L
50	2"	30	4.5	59	25	90
80	3"	50	4.5	75	38	120
100	4"	50	4.5	93	47	150
125	5"	80	10	120	50	180
150	6"	125	10	128	47	190
200	8"	160	10	175	50	240

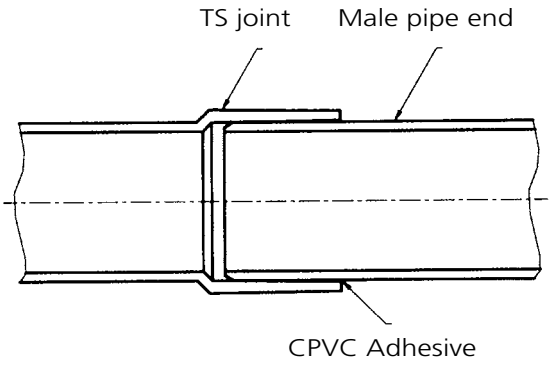
Note：Cleanout Bushing is used for non-pressuer drainage.

8 Installation of CPVC pipes (Unheating connection)

1. Whittle the outside angle of male pipe using a file or sander in 30~45° the remaining edge shall be of 1/3 t, but never less than 1mm (as shown below).



2. In order to increase the joint strength please smear the primer on the inside of fitting and outside of pipe for the primer to adequately penetrate. The primer must be cover the joint area.
3. Wipe clean the inside of the fitting and outside of the pipe using a piece of dry cloth. Apply vinyl adhesive in proper quantity on the inside of the fitting and the outside of the male pipe. When the solvent becomes partially volatilized and the adhesion reinforced, insert the pipe and turn it 90° to allow even spreading of the adhesive. Do not turn pipes of medium and large diameters. Though, after the insertion, pad in by slighting hammering in a thick plate or a corner lining into the pipe end.
4. Please don't move the pipes and fittings before the CPVC adhesive volatilied.



9 Instructions for installation of CPVC pipes

1. Range of heat resistance of CPVC pipe: The CPVC pipe is usually used for heated fluids of up to 200℉(93℃). The relationship between temperature and the applicable pressure is given in page 5.
2. Embedding in RC: Embedding of CPVC pipes in RC shall be avoided. When necessary, be sure to leave a proper expansion margin. Before grouting RC, a 1-hour static hydraulic test of 10 kgf/cm^2 shall be conducted and the test shall show no fracture of leakage.
3. Selection of adhesives: Adhesion of the CPVC pipe shall be carried out with a heat-resistant type for CPVC and no ordinary vinyl adhesive shall be used.
4. Prevention of site heating: No CPVC or UPVC fittings shall be heated or welded with a rod in the work site.
5. Prevention of freezing: Just like an ordinary PVC-U pipe, all adapters used in cold areas shall be provided with freezing measures and the insulation material shall be heat-resistant.
6. Prevention of ultraviolet rays: Direct sunshine on the surface of the pipe would make the pipe decolor. The protruding adapter shall be coated with insulation materials.
7. Decoloring CPVC: When used in environment of 80~90℃ for long periods of time, the surface of the pipe may turn whitish, though the quality remains the same.
8. Support of CPVC pipes: CPVC pipes shall be properly supported at the following pitch:

Unit : mm

Nominal diameter	Longitudinal pitch	Horizontal pitch
35mm(11/4")以下/and under	1.0	0.6
40mm(11/2")~65mm(21/2")	1.5	1.0
80mm(3")~150mm(6")	2.0	1.5
200mm(8")以上/and up	2.5	2.0

9 Instructions for installation of CPVC pipes

9. Handling and unloading of CPVC pipe: When handling or installing CPVC pipes, keep them from falling. When unloading them, do not drop them.

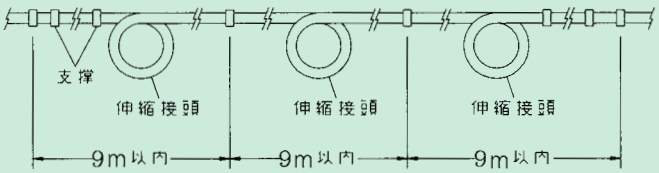
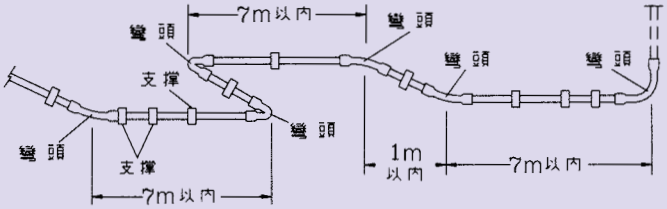
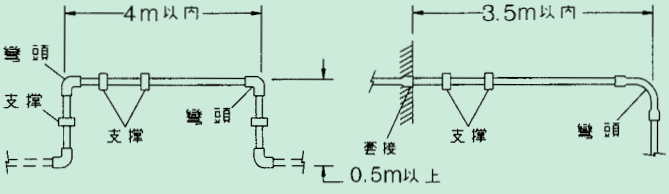
10. Expansion of CPVC pipes:

(1)As solution to the issue of expansion of CPVC pipes, use tubular adapters or adapters having a heat-resistance rubber ring.

(2)One expansion adapter shall be provided to the CVPC pipe in both horizontal and vertical direction at every 9 meters. If no expansion adapter is used, a flat bend of 90° shall be provided at every than 7 meters. The purpose of this adapter is to reduce the stretch of the linear piping and the bend would absorb the internal stress created by the expansion. For transverse piping works, the issue of expansion shall be dealt in the following manner.

Water temperature difference ℃	Expansion/ CPVC pipe straight line distance
20 ℃	1.4cm/10m
40 ℃	2.8cm/10m

11.The tops of CPVC pipe line, which has to instal automatic discharge valve.

Long straight lines	
Straight lines of 4~7 meters	
Straight lines of 2~4 meters	

12.CPVC adhesive can not touch with water.

13.Installation the insert bronze nut CPVC fittings, please follow the appropriate torque as below tightening the insert bronze nut CPVC fittings. Please note, do not use excessive force closure may cause crack CPVC fittings.

Unit : mm

SIZE	1/2” (16)	3/4” (20)	1” (28)	11/4” (35)	11/2” (40)	2” (50)
Torque	20-29	39-49	49-59	59-69	69-78	78-88

10 Nan Ya CPVC Adhesive

I. Applications

1. Gluing rigid CPVC pipes.
2. Gluing rigid CPVC pipe and CPVC fitting.

II. Characteristics

1.Superb adhesion with rigid CPVC materials.

2.With same CPVC characteristics after solidificatio when gluing PVC-U pipe with CPVC vinyl adhesive.

3.Easy for construction; quick-drying after installation.

III. Remarks

1.Gluing CPVC pipe (Size: below 2 inches) with AASBA vinyl adhesive (Viscosity: 80～100CPS).

2.Gluing PVC-U pipe (Size: 2～12 inches) with AASBH vinyl adhesive (Viscosity: above 1600CPS).

3.To ensure that nothing happened during PVC-U piping projects (Pipe size: above 12 inches), please glue PVC-U pipes over and over again with vinyl adhesive until there is not any gap in pipes.

4.Do not move the pipeline during the construction. Besides, according to CNS standards, it is suggested that water be transferred after 24 hours at normal temperature or after 48 hours at 5℃.

****To meet the requirement of pressure resistance, water supply pipe should pass the hydrostatic test before cement covering.**

NAN YA PLASTICS CORPORATION

PLASTICS 3rd DIV.

No.201 Dunhua N. Rd., Songshan Dist.,
Taipei City 105076, Taiwan(R.O.C.)
TEL：(02)2717-8230　FAX：(02)25140628

NAN YA Plastics Corp.

NAN YA Plastics Pipe

Test data, sizes, and pictures in the catalog are for reference only, and actual product information is based on the formal reports.

(2021.09)