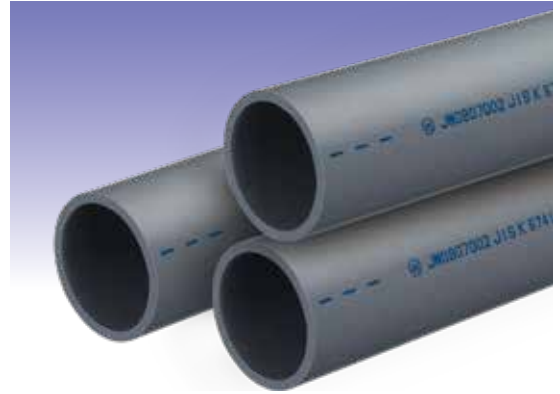


# ESLON™ PLANT VP PIPE

- VP Pipe is specialized for chemicals, achieving an optimal composition that is highly resistant against corrosion and impact.
- Complies with the Food Sanitation Law and RoHS (Restriction of Hazardous Substances).
- Compliant with Japanese Industrial Standard JIS K6741. (PVC Pipe Standards (JIS Standard for General Fluid Transport Pipes))
- Can be used with ESLON TS Fittings highly chemical resistant pipe lines.



**Use with TS Fittings.**

**Recommended solvent cements**

NO.73S



\*250A and up can also be used with the following.

NO.95C



\*Refer to page 60 to confirm usability with other solvent cements.

**Chemical resistance (pipe and fittings immersion test)**

Plant VP and ESLON TS Fittings are highly resistant to chemicals.

Chemical	Blank State	Hydrochloric Acid	Sulfuric Acid	Nitric Acid	Chromic Acid
Concentration		35%	90%	60%	50%
Immersion Period	180 Days				
Plant VP Pipe					
Normal PVC Pipe					
ESLON TS Fittings					
Normal PVC Fittings					

<Test method> 2mm-thick pressed samples of each pipe and fitting are immersed in a chemical at 55°C, with the surface then examined via microscope.

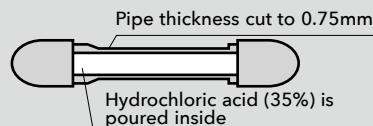
**Chemical resistance (permeation test by hydrochloric acid)**

Permeation in pipes with hydrochloric acid is dramatically suppressed.

Test sample



Actual image



Cross section diagram

Sample surface examined through microscope



Plant VP Pipe

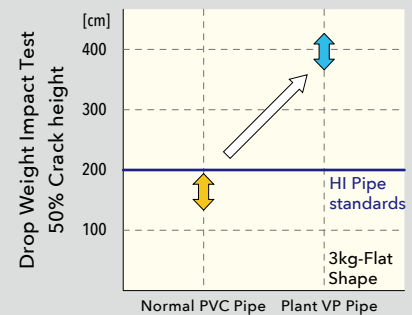


Normal PVC Pipe

<Test method> Hydrochloric acid (35%) is poured into a pipe cut at a set thickness and left for 26 days at 55°C. It is then removed and the surface is examined via microscope.

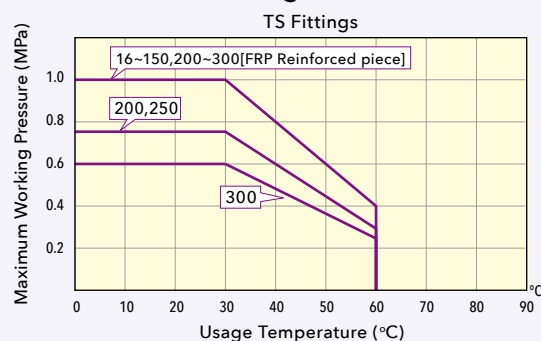
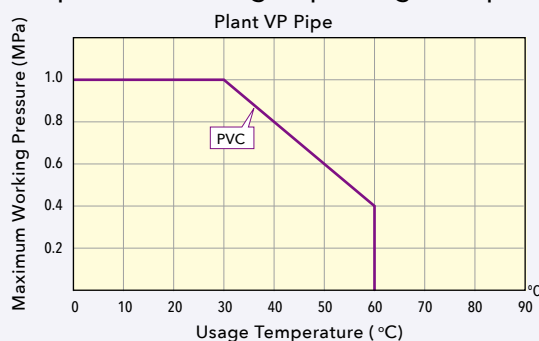
**Impact strength**

Impact resistance complies with that of HIVP pipe (impact resistant PVC pipe).



<Test method> Diameter Size: 50A, Weight: 3kg flat shape, Temperature: 0°C

**Plant VP Pipe and TS Fittings Pipe Usage Temperature and Maximum Working Pressure**

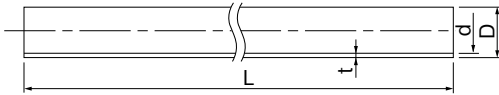


# PLANT VP PIPE · TS FITTINGS SPECIFICATIONS

## PLANT VP PIPE

### Pipe

Unit:mm



Size		φ D	t	φ d	L	Weight (kg/m)	Item No.
A	B						
16	1/2	22±0.2	2.7+0.6	16	4000±10	0.256	PVP164J
20	3/4	26±0.2	2.7+0.6	20	4000±10	0.310	PVP204J
25	1	32±0.2	3.1+0.8	25	4000±10	0.448	PVP254J
30	1·1/4	38±0.2	3.1+0.8	31	4000±10	0.542	PVP304J
40	1·1/2	48±0.2	3.6+0.8	40	4000±10	0.791	PVP404J
50	2	60±0.2	4.1+0.8	51	4000±10	1.122	PVP504J
65	2·1/2	76±0.3	4.1+0.8	67	4000±10	1.445	PVP654J
75	3	89±0.3	5.5+0.8	77	4000±10	2.202	PVP754J
100	4	114±0.4	6.6+1.0	100	4000±10	3.409	PVP1H4J
125	5	140±0.5	7.0+1.0	125	4000±10	4.464	PVP1Q4J
150	6	165±0.5	8.9+1.4	146	4000±10	6.701	PVP1F4J
200	8	216±0.7	10.3+1.4	194	4000±10	10.129	PVP2H4J
250	10	267±0.9	12.7+1.8	240	4000±10	15.481	PVP2F4J
300	12	318±1.0	15.1+2.2	286	4000±10	21.962	PVP3H4J

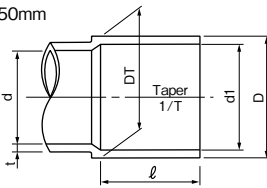
Notes : 1.the reference weight is the standard value.  
2.The tolerance for D is average.

## TS Fitting (JIS K6743)

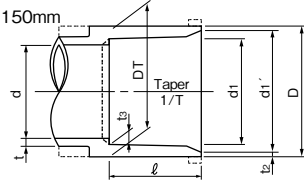
### Socket Dimension

Unit:mm

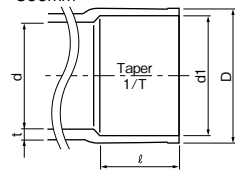
13~50mm



65~150mm



200~300mm



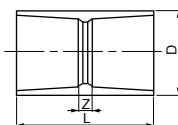
Size	d1		1/T	ℓ	d1' (Min.)	d (Min.)	Outer dia.			t2	t3	t2,t3 Tolerance	t	
	Basic dimension	Tolerance					D	DT	Tolerance				Basic dimension	Tolerance
13	18.40	±0.20	1/30	26.0	—	13	24.0	24.0	-0.6	—	—	—	3.0	-0.3
16	22.40	±0.20	1/34	30.0	—	16	29.0	29.0	-0.7	—	—	—	3.5	-0.3
20	26.45	±0.20	1/34	35.0	—	20	33.0	33.0	-0.8	—	—	—	3.5	-0.3
25	32.55	±0.25	1/34	40.0	—	25	40.0	40.0	-1.0	—	—	—	4.0	-0.4
30	38.60	±0.25	1/34	44.0	—	31	46.0	46.0	-1.0	—	—	—	4.0	-0.4
40	48.70	±0.30	1/37	55.0	—	40	57.0	57.0	-1.2	—	—	—	4.5	-0.4
50	60.80	±0.30	1/37	63.0	—	51	70.0	70.0	-1.5	—	—	—	5.0	-0.5
65	76.60	±0.30	1/48	61.0	76.90	67	87.0	88.5	-1.5	5.0	6.6	-0.5	6.6	-0.5
75	89.60	±0.30	1/49	64.0	89.90	77	102.0	104.5	-1.5	6.0	8.0	-0.5	8.0	-0.5
100	114.70	±0.30	1/56	84.0	115.00	100	130.0	133.5	-1.8	7.5	10.0	-0.6	10.0	-0.6
125	140.85	±0.35	1/58	104.0	141.20	125	157.0	161.0	-1.8	8.0	11.0	-0.6	11.0	-0.6
150	166.00	±0.40	1/63	132.0	166.40	146	186.0	190.0	-2.0	10.0	13.0	-0.8	13.0	-0.8
200	217.40	±0.70	1/50	145.0	—	196	243.0	—	—	—	—	—	13.0	-0
250	268.60	±0.70	1/50	175.0	—	242	300.0	—	—	—	—	—	14.5	-0
300	319.80	±0.80	1/50	185.0	—	288	356.0	—	—	—	—	—	16.0	-0

Notes : 1. The tolerance for ℓ is +4 and -0.5 mm.  
2. The shape represented by the dotted line is also available.  
3. There is no limit to the tolerance for the plus side of D, DT, t, t2, and t3.

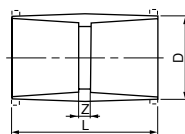
### Coupling

Unit:mm

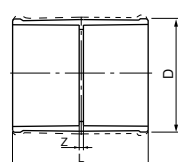
13~50mm



65~150mm



200~300mm



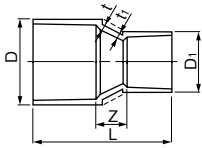
Size	D	L	Z(Ref.)	Weight (kg/pc)	Item No.
13	24.0	57	5	0.018	TSS13
16	29.0	67	7	0.028	TSS16
20	33.0	77	7	0.040	TSS20
25	40.0	87	7	0.061	TSS25
30	46.0	95	7	0.078	TSS30
40	57.0	117	7	0.142	TSS40
50	70.0	133	7	0.210	TSS50
65	87.0	145	23	0.366	TSS65
75	102.0	155	27	0.515	TSS75
100	130.0	200	32	1.077	TSS1H
125	157.0	240	24	1.715	TSS1Q
150	186.0	300	36	2.846	TSS1F
200	243.0	300	10	3.400	TSS2H6K
250	300.0	384	34	6.900	TSS2F6K
300	356.0	408	38	9.100	TSS3H6K

Notes : The tolerance for L is ±4 mm.

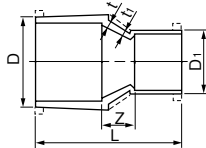
## Reducing Coupling

Unit:mm

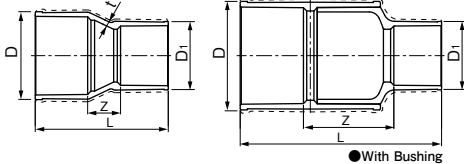
13~50mm



65~150mm



200~300mm



Size	D	t	D1	t1	L	Z (Ref.)	Weight (kg/pc)	Item No.
16×13	29.0	3.5	24.0	3.0	61	5	0.024	TSS161
20×13	33.0	3.5	24.0	3.0	68	7	0.031	TSS202
20×16	33.0	3.5	29.0	3.5	71	6	0.036	TSS201
25×13	40.0	4.0	24.0	3.0	86	20	0.046	TSS253
25×16	40.0	4.0	29.0	3.5	85	15	0.048	TSS252
25×20	40.0	4.0	33.0	3.5	84	9	0.053	TSS251
30×13	46.0	4.0	24.0	3.0	95	25	0.058	TSS304
30×20	46.0	4.0	33.0	3.5	93	14	0.060	TSS302
30×25	46.0	4.0	40.0	4.0	93	9	0.071	TSS301
40×20	57.0	4.5	33.0	3.5	113	23	0.095	TSS404
40×25	57.0	4.5	40.0	4.0	114	19	0.110	TSS403
40×30	57.0	4.5	46.0	4.0	114	15	0.118	TSS402
50×20	70.0	6.5	33.0	6.5	116	18	0.180	TSS505
50×25	70.0	5.0	40.0	4.0	140	37	0.180	TSS504
50×30	70.0	5.0	46.0	4.0	136	29	0.167	TSS503
50×40	70.0	5.0	57.0	4.5	136	18	0.185	TSS501
65×50	87.0	6.6	70.0	5.0	149	25	0.336	TSS651
75×50	102.0	8.0	70.0	5.0	165	38	0.450	TSS752
75×65	102.0	8.0	87.0	6.6	159	34	0.487	TSS751
100×75	130.0	10.0	102.0	8.0	190	42	0.890	TSS1H1
125×100	157.0	11.0	130.0	10.0	229	41	1.531	TSS1Q1
150×100	186.0	13.0	130.0	10.0	295	79	2.348	TSS1F2
150×125	186.0	13.0	157.0	11.0	272	36	2.369	TSS1F1
200×150	243.0	13.0	186.0	13.0	368	91	3.900	TSS2H16
※250×150	300.0	14.5	186.0	—	557	250	12.100	TSS2F26
250×200	300.0	14.5	243.0	14.5	400	80	6.100	TSS2F16
※300×150	356.0	16.0	186.0	—	605	288	35.100	TSS3H36
※300×200	356.0	16.0	243.0	—	601	271	16.400	TSS3H26
300×250	356.0	16.0	300.0	16.0	435	75	9.100	TSS3H16

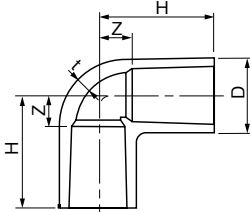
Notes : The tolerance for L is ±4 mm.

※With Bushing

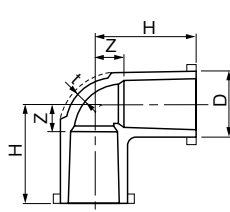
## Elbow

Unit:mm

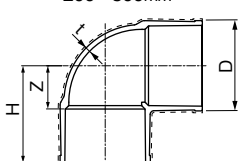
13~50mm



65~150mm



200~300mm



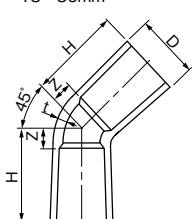
Size	D	t	H	Z (Ref.)	Weight (kg/pc)	Item No.
13	24.0	3.0	36	10	0.022	TSL13
16	29.0	3.5	43	13	0.036	TSL16
20	33.0	3.5	50	15	0.050	TSL20
25	40.0	4.0	58	18	0.076	TSL25
30	46.0	4.0	65	21	0.105	TSL30
40	57.0	4.5	82	27	0.201	TSL40
50	70.0	5.0	96	33	0.309	TSL50
65	87.0	6.6	110	49	0.536	TSL65
75	102.0	8.0	120	56	0.803	TSL75
100	130.0	10.0	155	71	1.653	TSL1H
125	157.0	11.0	187	83	2.760	TSL1Q
150	186.0	13.0	230	98	4.584	TSL1F
200	243.0	13.0	262	117	6.600	TSL2H6K
250	300.0	14.5	318	143	10.800	TSL2F6K
300	356.0	16.0	355	170	15.500	TSL3H6K

Notes : The tolerance for H is +5 and -1 mm.

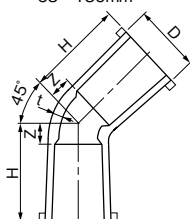
## 45° Elbow

Unit:mm

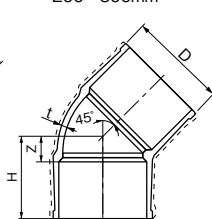
13~50mm



65~150mm



200~300mm



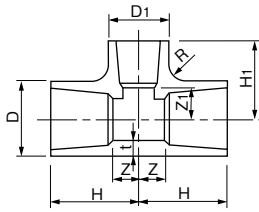
Size	D	t	H	Z (Ref.)	Weight (kg/pc)	Item No.
13	24.0	3.0	33	7	0.018	TS4L13
20	33.0	3.5	44	9	0.039	TS4L20
25	40.0	4.0	51	11	0.068	TS4L25
30	46.0	4.0	56	12	0.084	TS4L30
40	57.0	4.5	69	14	0.142	TS4L40
50	70.0	5.0	81	18	0.245	TS4L50
65	87.0	8.0	94	33	0.515	TS4L65
75	102.0	8.0	98	34	0.660	TS4L75
100	130.0	10.0	123	39	1.262	TS4L1H
125	160.0	11.0	149	44	1.970	TS4L1Q
150	190.0	13.5	184	51	3.445	TS4L1F
200	243.0	13.0	205	60	5.600	TS4L2H6
250	300.0	14.5	254	79	9.000	TS4L2F6
300	356.0	16.0	280	95	13.600	TS4L3H6

Notes : The tolerance for H is +5 and 0 mm.

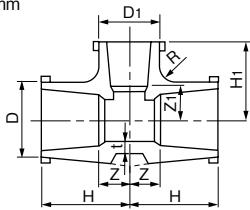
## Tee/Reducing Tee

Unit:mm

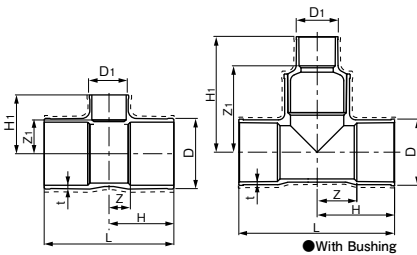
13~50mm



65~150mm



200~300mm



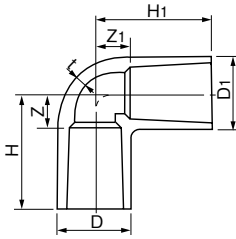
Size	D	t	H	D1	H1	Z (Ref.)	Z1	Weight (kg/pc)	Item No.
13× 13	24.0	3.0	36	24.0	36	10	10	0.030	TST13
16× 13	29.0	3.5	41	24.0	38	11	12	0.045	TST161
16× 16	29.0	3.5	43	29.0	43	13	13	0.050	TST16
20× 13	33.0	3.5	46	24.0	40	11	14	0.059	TST20
20× 16	33.0	3.5	48	29.0	45	13	15	0.059	TST201
20× 20	33.0	3.5	50	33.0	50	15	15	0.070	TST20
25× 13	40.0	4.0	51	24.0	43	11	17	0.078	TST253
25× 16	40.0	4.0	53	29.0	48	13	18	0.086	TST252
25× 20	40.0	4.0	55	33.0	53	15	18	0.091	TST251
25× 25	40.0	4.0	58	40.0	58	18	18	0.119	TST25
30× 13	46.0	4.0	55	24.0	46	11	20	0.099	TST304
30× 16	46.0	4.0	57	29.0	51	13	21	0.106	TST303
30× 20	46.0	4.0	59	33.0	56	15	21	0.111	TST302
30× 25	46.0	4.0	62	40.0	61	18	21	0.132	TST301
30× 30	46.0	4.0	65	46.0	65	21	21	0.145	TST30
40× 13	57.0	4.5	66	24.0	52	11	26	0.152	TST406
40× 16	57.0	4.5	68	29.0	57	13	27	0.173	TST405
40× 20	57.0	4.5	70	33.0	62	15	27	0.182	TST404
40× 25	57.0	4.5	73	40.0	67	18	27	0.208	TST403
40× 30	57.0	4.5	76	46.0	71	21	27	0.200	TST402
40× 40	57.0	4.5	82	57.0	82	27	27	0.276	TST40
50× 13	70.0	5.0	74	24.0	58	11	32	0.227	TST507
50× 16	70.0	5.0	76	29.0	63	13	33	0.258	TST506
50× 20	70.0	5.0	78	33.0	68	15	33	0.280	TST505
50× 25	70.0	5.0	81	40.0	73	18	33	0.283	TST504
50× 30	70.0	5.0	84	46.0	77	21	33	0.297	TST503
50× 40	70.0	5.0	90	57.0	88	27	33	0.345	TST501
50× 50	70.0	5.0	96	70.0	96	34	34	0.443	TST50
65× 50	87.0	6.6	101	70.0	104	40	41	0.616	TST651
65× 65	87.0	6.6	110	87.0	110	49	49	0.769	TST65
75× 25	102.0	8.0	93	40.0	88	29	48	0.670	TST756
75× 40	102.0	8.0	100	57.0	102	36	47	0.816	TST753
75× 50	102.0	8.0	105	70.0	110	41	47	0.907	TST752
75× 65	102.0	8.0	113	87.0	117	49	56	1.012	TST751
75× 75	102.0	8.0	120	102.0	120	56	56	1.158	TST75
100× 50	130.0	10.0	125	70.0	122	41	59	1.486	TST1H3
100× 75	130.0	10.0	140	102.0	132	56	68	1.818	TST1H1
100×100	130.0	10.0	152	130.0	152	68	68	2.254	TST1H
125×100	157.0	11.0	173	130.0	167	69	83	3.317	TST1Q1
125×125	157.0	11.0	187	157.0	187	83	83	3.980	TST1Q
150× 75	186.0	13.0	195	102.0	158	63	94	4.246	TST1F3
150×100	186.0	13.0	208	130.0	182	76	98	4.954	TST1F2
150×125	186.0	13.0	217	157.0	201	85	97	5.125	TST1F1
150×150	186.0	13.0	230	186.0	230	98	98	6.365	TST1F
200×75	243.0	13.0	201	102.0	180	56	116	5.600	TST2H46
200×100	243.0	13.0	218	130.0	200	73	116	6.500	TST2H36
200×150	243.0	13.0	245	186.0	257	100	125	8.400	TST2H16
200×200	243.0	13.0	267	243.0	267	122	122	8.200	TST2H6K
250×75	300.0	14.5	246	102.0	210	71	146	8.800	TST2F56
250×100	300.0	14.5	267	130.0	225	92	141	9.800	TST2F46
※250×150	300.0	14.5	355	186.0	524	180	392	24.100	TST2F26
250×200	300.0	14.5	335	243.0	335	160	190	16.100	TST2F16
250×250	300.0	14.5	355	300.0	355	180	180	18.800	TST2F6K
300×75	356.0	16.0	260	102.0	236	75	172	12.900	TST3H66
300×100	356.0	16.0	266	130.0	257	81	173	13.400	TST3H56
※300×150	356.0	16.0	375	186.0	561	190	429	30.800	TST3H36
※300×200	356.0	16.0	410	243.0	599	225	454	37.700	TST3H26
300×250	356.0	16.0	375	300.0	392	190	217	25.500	TST3H16
300×300	356.0	16.0	410	356.0	375	225	225	30.400	TST3H6K

Notes : The tolerance for H is +5 and -1 mm.

※With Bushing

## Reducing Elbow

Unit:mm

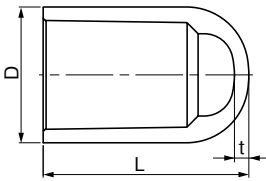


Size	D	H	Z (Ref.)	D1	H1	Z1 (Ref.)	t	Weight (kg/pc)	Item No.
20× 13	33.0	46	11	24.0	40	14	3.0	0.035	TSL202
25× 13	40.0	51	11	24.0	43	17	3.0	0.048	TSL253
25× 20	40.0	55	15	33.0	53	18	3.5	0.064	TSL251

Notes : The tolerance for H is +5 and -1 mm.

## Cap

Unit:mm



Size	D	t	L	Weight (kg/pc)	Item No.
13	24.0	3.0	36.5	0.011	TSC13X
16	29.0	3.5	43.0	0.017	TSC16X
20	33.0	3.5	50.0	0.025	TSC20X
25	40.0	4.0	58.5	0.039	TSC25X
30	46.0	4.0	65.5	0.053	TSC30X
40	57.0	4.5	82.0	0.091	TSC40X
50	70.0	5.0	96.5	0.146	TSC50X
75	102.0	8.0	105.0	0.442	TSC75
100	130.0	10.0	138.0	0.775	TSC1H
150	186.0	13.0	205.0	1.745	TSC1F

Notes : The tolerance for H is +5 and 0 mm.

# APPLYING ESLON PLANT VP PIPE • TS FITTINGS / ESLON PLANT HT PIPE AND FITTINGS

## Installation Method (TS)

### Pipe Tools and Materials

- PVC Pipe Saw • File (Flat Coarse File for Iron Work) • Tape Measure • Oil-Based Marker
- ESLON Solvent Cement • Shop Cloth • Industrial Alcohol • Wire Rope Sling or Insertion Fixture Tool
- ESLON Insertion Device or Cargo Fastener • Electric Saw



### 1 Cutting pipe

Accurately measure the area to be cut and mark a right angle on the pipe with an oil-based marker. Use a PVC pipe saw or electric saw to make the cut.

- ⚠Precaution** Make sure to file off any scrapes or warps in the pipe.
- ⚠Precaution** Use sufficient caution when handling the electric saw to avoid injury.



### 2 Chamfer the pipe opening

Use a file to chamfer the inside and outside of the pipe opening. Once cut, pay particular attention to ensure that there are no burrs or flash on the edge of the pipe.

- ⚠Precaution** If not performed properly, the solvent cement on the pipe spigot will scrape off when connecting and may disconnect. Be sure to properly chamfer the edge.



### 3 Mark the insertion line

Lightly insert the pipe spigot into the fitting socket. Verify that the pipe stops at a position (at the zero point) roughly 1/3-2/3 into the length of the socket (ℓ). \*For sizes under 40, mark an insertion line at the point that the spigot inserts into the socket. For sizes over 50, mark an insertion line, adding 1/3 the length of the socket to the zero point.

\*If the zero point is out of range, alter the configuration of the fitting with the connecting pipe.

Size		13	16	20	25	30	40	50	65	75	100	125	150
TS Fittings	ℓ	26	30	35	40	44	55	63	61	64	84	104	132
	ℓ×1/3	—	—	—	—	—	—	21	20	21	28	35	44
HT Fittings	ℓ	22	27	33	38	42	47	52	70	75	94	104	132
	ℓ×1/3	—	—	—	—	—	—	17	23	25	31	35	44

Units: mm

Size		200	250	300
Large Diameter TS Fittings	ℓ	145	175	185
	ℓ×1/3	48	58	61
TS Flange	ℓ	155	185	185
	ℓ×1/3	51	61	61



### 4 Clean the pipe spigot and socket

Carefully wipe off any dust, dirt, or water that has adhered to the spigot or socket using a shop cloth.

\*If there is any oil adhered to the joint area, clean the area using a small amount of industrial alcohol.

- ⚠Precaution** Any dust, water, or oil adhered to the connection area may decrease adhesive strength and lead to disconnection.



### 5 Mount wire rope and insertion device

Under favorable conditions, connection for sizes under 50 can be performed by hand without requiring use of an insertion device. Use an ESLON Insertion Device or a cargo fastener for sizes over 65.



### 6 Coat solvent cement

Use a dedicated solvent cement suitable for the pipe type. Use a sufficient amount of solvent cement to evenly coat the entire surface of the fitting interior followed by the pipe exterior.

**⚠️ Caution** Apply a thin coat to the entire surface of the fitting interior.



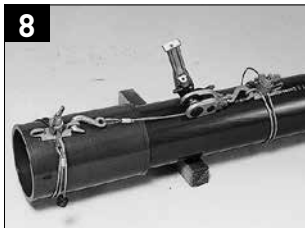
### 7 Pipe insertion

Place the insertion tool around the axis of the pipe spigot and fitting socket and insert to the marked position.

**⚠️ Caution** Insert as quickly as possible after applying the solvent cement coat. Wipe off any protruding solvent cement.

**⚠️ Caution** Insert in one single, swift motion. Do not stop midway. (Do not twist while inserting.)

**⚠️ Caution** Be sure not to pound the pipe or insert diagonally, as this may cause leaks.



### 8 Hold and cure

Maintain pressure and hold together as per the diagram below. Make sure the pipes do not separate after reducing pressure.

Temperature (season)	Size	
	Under 50	Above 65
Summertime	More Than 30 Seconds	More Than 1 Minute
Wintertime		More Than 2 Minutes



### 9 Remove solvent vapor

**⚠️ Warning** After connecting the pipes, be sure to ventilate with air in order to remove adhesive solvent vapor inside.