ISO 9001 KA INNOBIZ 기술혁신형중소기업

Daeyang Platec

PVC&HDPE PIPE INDUSTRIES
EXPORTER&IMPORTER

Daeyang Platec CO.,LTD

Daeyang Platec is a company where continuously strives for more comfortable environment in domestic PVC pipe industry.

We have been recognized for excellence in quality as Housing construction, utilities, civil engineering, agriculture in all areas ranging from general construction and construction materials producers.
In order to develop with you together and become trustful to customers,
Daeyang Platec promises that we will do our best.

Contents


ATEC

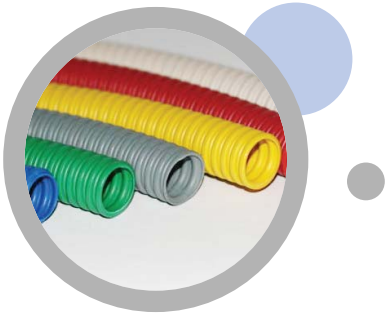
Daeyang Platec
will lead your future with trusty, reliable technological company image.

Thank you for using Daeyang Platec products usual and caring about us well.
Since our establishment in 1988, we have been growing continuously and finally became plastic pipe material comprehensive Maker. Currently, we are admitted as studying and trying hard company in PVC PIPE industry where have annually more than 15,000 ton PVC PIPE and productive ability of other synthetic resin products; we are striving to develop with you as much as possible.

Our staff of Daeyang Platec practice moral sense of duty of economic theory "company's profits will be back to society". We, in order to supply affordable and high quality products to customers, develop affordable and quality products, modernization of facilities, and new technologies. With settlement of internal standardization in enterprise, we are trying to commit quality management the best.

Please, support and encourage us constantly. Thank you.

Daeyang Platec History



1998. 04. 15. Establish Daeyang Industry Co., Ltd.(Capital 100 million won)
05. 18. New product development(Agricultural-use water level controlling drainer).
07. 21. Register Utility Model(No. 47,146 : Synthetic resine self-assembly ace control).
07. 21. Register Utility Model(No. 52,882 : pipes for irrigation).
07. 24. Register Utility Model(No. 92,005 : Agricultural-use water level controlling drainer)
09. 28. Saemangeum project DF 2200®™ (culvert drains) adopt supply contracts
10. 01. Korea Industrial Standard license (KS) acquisition (General Purpose Rigid Polyvinyl Chloride Pipe KS M3404)
10. 01. Korea Industrial Standard license (KS) acquisition (Plasticized vinyl chloride water stop KS M3805)
10. 01. Korea Industrial Standard license (KS) acquisition (rigid plastic conduit KS M8431)
10. 01. Korea Industrial Standard license (KS) acquisition (Coextrusion polyvinyl chloride pipe that has discharge central layer KS M3413)
10. 01. Korea Industrial Standard license (KS) acquisition (Water-use Rigid Polyvinyl Chloride Pipe KS M3401)
10. 08. New Product Development (Expantion Joint W / S, Construction Joint W / S)
12. 10. Korea High Speed Rail delivery-use PVC water stop Development (400 X 12t)
03. 25. Register Utility Model (No. 0,149,404 Water Affiliate internal buoyancy polyethylene pipe)
1999. 10. 25. Contract with Sungkyunkwan University Production Technology Research Institute for research drug(Study for characteristics and structural roles of PVC water stop which is applied to concrete structures)
10. 27. Register Utility Model (No. 0,166,618 : Pipe leaving protective structure)
12. 18. Quality system certification acquisition (KS A 9001: 1998 / ISO 9001: 1994)
2000. 03. 08. Register Utility Model (No. 0,182,641 : Concrete structure water stop)
03. 13. Register Utility Model (No. 0,183,158 Culvert-use perforated drainpipe)
03. 20. Other than Sukmoon Lake Project, Delivery Contract for Agricultural-use water level controlling drainer
05. 24. Ministry of Defence Defense Procurement Agency FC (Front) pipe supply Contract
2001. 11. 15. LG Chem (Chung Joo Factory) 'LG Yedatyi' doorframe OEM supplier selection, contract delivery
2002. 03. 11. Good Product Mark (GQ - Obtain plasticized vinyl chloride water stop)
04. 01. Quality innovation promote competition and ceremony
05. 08. Agricultural-based construction well Materials (VP PIPE - water pipe) supply Contract
2003. 05. 15. Korea Industrial Standard license allowance (KS) acquisition(synthetic resine (Warp) conduit KSC8454)
2006. 04. 17. KRC Saemangeum Project low-rise PE drainage pipe supply contract (Hyundai Engineering and Construction)
06. 12. PVC, CD Conduit Development
10. 02. Acquire Korean Polyvinyl Chloride pipe Standard (Internal-shock-use sewage-use Rigid Polyvinyl Chloride pipe HIVG1, HIVG2 KPPS M 306)M
2007. 01. 03. Regular screening of Korea Standards Association
2008. 10. 15. Select Technology-innovation-type Minor enterprise certification (INNO-BIZ)
10. 28. Venture Contractor Certification (New Technology Assessment)
2011. 02. 07. Research Institute establishment

Daeyang Platec Certificate


Confirmation of Technology-innovation-type Minor enterprise


Certificate of Venture Company


Quality Management System Certificate


Product Certificates (Rigid polyvinyl chloride conduit)


Product certificates in English (Rigid polyvinyl chloride conduit)


Product Certificates (synthetic resine warp conduit)


Product certificates in English (Synthetic resine warp conduit)


Product Certificate (Standard Rigid polyvinyl chloride)


Product certificates in English (Standard rigid polyvinyl chloride binilgwan)

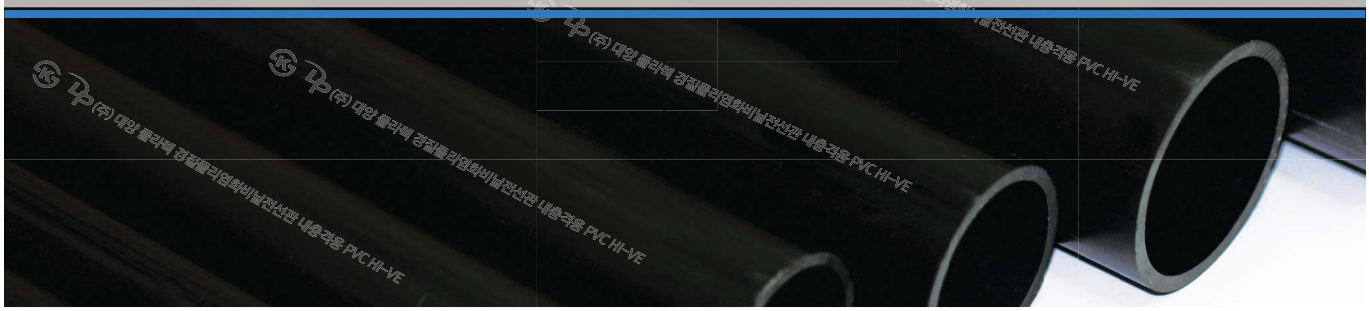

Product Certificates (rigid polyvinyl chloride for water)


Product Certificates (polyvinyl chloride water stop)

Certification No. 9329

RIGID POLYVINYL CHLORIDE CONDUIT HI-VE(U-PVC)

(Internal Shock-use KS C 8431)



Title(display)	Diameter		Thickness		Approximation diameter	Length of Tolerance
	mm	Tolerance(mm)	mm	Tolerance(mm)		
HI-VE 14	18.0	±0.20	2.0	±0.20	14.0	±10
HI-VE 16	22.0	±0.20	2.0	±0.20	18.0	±10
HI-VE 22	26.0	±0.25	2.0	±0.20	22.0	±10
HI-VE 28	34.0	±0.30	3.0	±0.30	28.0	±10
HI-VE 36	42.0	±0.40	3.5	±0.40	35.0	±10
HI-VE 42	48.0	±0.40	4.0	±0.40	40.0	±10
HI-VE 54	60.0	±0.40	4.5	±0.40	52.0	±10
HI-VE 70	76.0	±0.40	4.5	±0.40	67.0	±10
HI-VE 82	89.0	±0.40	5.9	±0.40	78.0	±10
HI-VE 114	114.0	±0.60	6.5	±0.50	100.0	±10
HI-VE 104	111.0	±0.60	5.5	±0.50	100.0	±10

※HI-VE 104 is not KS standard. It is electrical appliances form Approval standard.

Daeyang HI-VE features

1. Excellent impact
   the best impact with old experiences

2. Excellent Durability
   Durability is outstanding and guaranteed lifetime

3. Excellent fire resisting capacity
   performance of fire reduced by self-extinguishing and fire resisting capacity

4. Excellent chemical resistance
   Use semipermanent because of outstanding chemical resistance

Test items	Performance	Test Method
Compression resilience	up to 10% or less restore	KSC8431
Impact test	In pendulum natural fall test, destroyed not more than 3	
tensile tests	Impact 40 ㎫	
Dielectric strength	2000V during 15 min.	
Insulation resistance	should be more than 100 ㏁	
heat resisting transmutability	Pass Gauge	
flame-retardant	flame OFF naturally	

HI-VE Use

for Communication and electricity

Warnings and Cautions on Use

1. If you want to keep the tube in the outdoors, please away from direct sunlight and to avoid the latency of heat, cover with tent, etc. Be careful Children not to touch.
2. Do not spray organic chemicals that can affect the pipe material of any kind.
3. When Cutting the tube, hold it strongly not to shake, and wear safety glasses and protective equipment when you working.
4. In case of fire, toxic gas occurs where it is exposed from, so do not keep firearms.
5. If you use it incorrectly, it can cause serious accidents.
6. Do not throw or force when you carry something or work on something (especially in winter).
7. When you keep it, you should put it on flat surface, so you can prevent warpage.

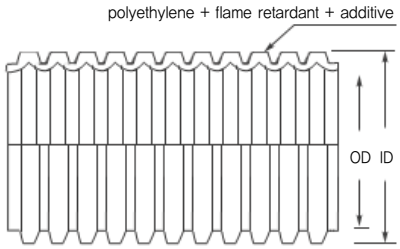
PLABLE PLASTIC CONDUIT

(KS C 8454)

Pabu pipe

Name	Title	OD (mm)	ID (mm)	Standard of Roll			Length of Roll
				OD	ID	Width	
Daeyang CD	16	16	21	425	710	195	100m
Daeyang CD	22	22	28	425	810	215	100m
Daeyang CD	28	28	34	425	725	225	50m

※black, red, blue, yellow, green, and grey, off-white and other colors



Flame retardant CD features

1. Flame retardant CD Tube is pabu-shape conduit. It uses during concrete laying and concealment exposure because mechanical strength resilience is excellent by heightening flexibility.
2. Since it is made of ROLL, its weight is light so it is easy to transport and handle in difficult field conditions.
3. Since it has less dew condensation than STEEL pipe, so can be used in freezing temperatures.
4. We can use it confidently because here is little shrinkage in the temperature change even at thalposis and cooling.
5. Since it is made of Flame-retardant PP, PE and PVC, chemical resistance is outstanding and corrosion resistance also is outstanding. Therefore, there is no needs of other tools such as Vendor or Toohchi lamp, etc. and it is easy to work for plumbing.
6. Since the pipe's inside is Pabu form, the number of friction is low. Piping penetrations of wires is easy even three right angles or more than 30m.
7. It is synthetic resin product. Compared to other pipes, the noise does not occur at all, and can easily cut, etc. with blade.

Smooth pipe (CD-P flame retardant)

Title	OD(mm)	OD Tolerances(mm)	ID(mm)	Noting length
14	19.0	±0.30	14	100m
16	21.0		16	100m
22	27.5	±0.50	22	90m
28	34.0		28	90m
36	42.0		36	60m
42	48.0		42	60m
*54	60.0		48.8over	60m
*70	76.0	±0.80	64.5over	40m
*82	89.0		74.2over	40m
*100	114.0		90.0over	4-6m

Warnings and Cautions on Use

1. Please check bent parts at reinforcement and bent parts.
2. Please, do Solidarity and attachment joint enough.
3. After Plumbing, Please check the seal status (concrete and dirt intrusion prevention).
4. Please when you construct other builddings, do it after presence of plumbers.
5. Please keep the products in well ventilated places and choose the place where does not exposed to direct sunlight.
6. Since it is Synthetic resin, do not turn and bent suddenly. Do not throw and prevent drop during get on and off (in the winter).

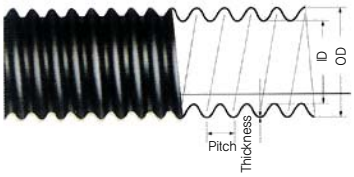
FEP CORRUGATED HARD POLYETHYLENE PIPE

(KS C 8455)

Daeyang FEP Corrugated hard Polyethylene Pipe

which has various specifications 30®™ ~ 200®™

In order for the convenience of cable entry,
Daeyang FEP put pilot wire early, and its allowable tensile strength of 50kg.



Title	In Diameter (D) (mm)	Out Diameter (mm)	Pitch (mm)	Tube Standard (mm)	Pipe Length (m)
30	30 ± 2.0	40 ± 2.0	10 ± 0.5	1.2 X 0.55	100
40	40 ± 2.0	53.5 ± 2.0	13 ± 0.8	1.5 X 0.6	100
50	50 ± 2.5	64.5 ± 2.5	17 ± 1.0	1.6 X 0.65	100
65	65 ± 2.5	84.5 ± 2.5	21 ± 1.0	1.7 X 0.7	100
80	80 ± 3.0	105 ± 3.0	25 ± 1.0	1.8 X 0.7	100
100	100 ± 4.0	130 ± 4.0	30 ± 1.0	2.0 X 0.75	100
125	125 ± 4.0	160 ± 4.0	38 ± 1.0	1.7 X 1.1	50
150	150 ± 4.0	188 ± 4.0	45 ± 1.5	1.8 X 1.2	50
175	175 ± 4.0	230 ± 4.0	53 ± 1.5	2.3 X 1.5	30
200	200 ± 4.0	260 ± 4.0	59 ± 1.5	2.3 X 1.2	30

Daeyang FEP characteristics

1. Daeyang FEP has very good flexion and lateral deformation also big; therefore, there is greater strength during the laying ground.
   Since the wire is in the tube first, it is easy to put the cable and we can hold on the length of construction.

2. Daeyang FEP has longer length, so the joint parts are not many. It affects reducing labor cost and shortening the atmosphere.
   In addition, it is semi-permanent because it did not corrode even ocean or wetlands due to excellent corrosion resistance and weatherproof.

3. Because Daeyang FEP's raw material is PE, it is lighter than the other tubes and is easy to transport and facilities.
   Since its flexiblility and pressure are outstanding, it is still safe from many surprises such as earthquake, subsidence, etc.

Warnings and Cautions on Use

1. If you want to keep the tube in the outdoors, please away from direct sunlight and to avoid the latency of heat, cover with tent, etc. Be careful Children not to touch.
2. Do not spray organic chemicals that can affect the pipe material of any kind because it is weak for organic chemicals.
3. The city cut the tube and work goggles and protective equipment, please When Cutting the tube, hold it strongly not to shake, and wear safety glasses and protective equipment when you working.
4. Please follow the standard specifications when you construct the tubes.
5. If you use it incorrectly, it can cause serious accidents.
6. Do not throw or force when you carry something or work on something (especially in winter).

STANDARD RIGID POLYVINYL CHLORIDE PIPE(U-PVC)

(KS M 3404)

Standard VG1(Pressure Pipe)

unit : mm

Classification mark	Average outer diameter			Thickness		Approximate diameter	Reference weight(g/m)	Instant Bursting Pressure(kg/㎠)			
	Standard	Maximum and minimum OD Tolerance	Average OD Tolerances	Minimum	Tolerance			0℃	20℃	40℃	60℃
10	15	±0.2	±0.2	2.2	±0.6	10	140	315	260	180	125
13	18	±0.2	±0.2	2.2	±0.6	13	174	250	210	150	110
16	22	±0.2	±0.2	2.7	±0.6	16	256	240	195	150	105
20	26	±0.2	±0.2	2.7	±0.6	20	310	195	160	120	85
25	32	±0.2	±0.2	3.1	±0.8	25	448	175	150	100	65
30	38	±0.3	±0.2	3.1	±0.8	31	542	140	135	80	50
35	42	±0.3	±0.2	3.1	±0.8	35	605	130	125	80	50
40	48	±0.4	±0.2	3.6	±0.8	40	791	125	120	75	50
50	60	±0.4	±0.2	4.1	±0.8	51	1,122	115	110	65	45
65	76	±0.5	±0.3	4.1	±0.8	67	1,445	100	80	60	40
75	89	±0.5	±0.3	5.5	±0.8	77	2,202	100	80	60	40
100	114	±0.6	±0.4	6.6	±1.0	100	3,409	90	75	60	40
125	140	±0.8	±0.5	7.0	±1.0	125	4,464	80	65	50	35
150	165	±1.0	±0.5	8.9	±1.4	146	6,701	80	6.5	50	35
200	216	±1.3	±0.7	10.3	±1.4	194	10,129	75	60	45	35
250	267	±1.6	±0.9	12.7	±1.8	240	15,481	75	60	45	35
300	318	±1.9	±1.0	15.1	±2.2	286	21,962				

※Remarks : 1. The length of 4m is standard, and that's allowable error is +30 mm,–10mm
2. We can answer you questions not only these above, but also standards-compliant

Thin pipe VG2(Non Pressure Pipe)

unit : mm

Title	OD		Thickness		Approximate diameter	Reference weight(g/m)	standard Length
	Standard	Average Tolerances	Minimum	Tolerance			
35	42	±0.2	1.8	+0.4	38	359	4,000
40	48	±0.2	1.8	+0.4	44	413	4,000
50	60	±0.2	1.8	+0.4	56	521	4,000
65	76	±0.3	2.2	+0.6	71	825	4,000
75	86	±0.3	2.7	+0.8	83	1,159	4,000
100	114	±0.4	3.1	+0.8	107	1,737	4,000
125	140	±0.5	4.1	+0.8	131	2,739	4,000
150	165	±0.5	5.1	+0.8	154	3,941	4,000
200	216	±0.7	6.5	+1.0	202	6,572	4,000
250	267	±0.9	7.8	+1.2	250	9,758	4,000
300	318	±1.0	9.2	+1.4	298	13,701	4,000
350	355	±1.2	9.5	+1.4	335	15,491	4,000
400	400	±1.4	9.8	+1.4	379	18,364	4,000

※Remarks : We can meet your needs not only the above specifications but also standard products.

Warnings and Cautions on Use

1. Do not direct threading pipe.
2. If it were normal pipe, and can use in pressure transportation pipeline, the operating pressure is VG1 10.2 kg / ㎠ Please use it below VG2 6.1 kg / ㎠
3. For installing the pipe, clean the tube well and should be bonded firmly to avoid movement.
4. Please be careful with firearms and prohibit the using other than right purpose.

Approved No. 10545

STANDARD RIGID POLYVINYL CHLORIDE PIPE

(KS M 3404)

VP for water

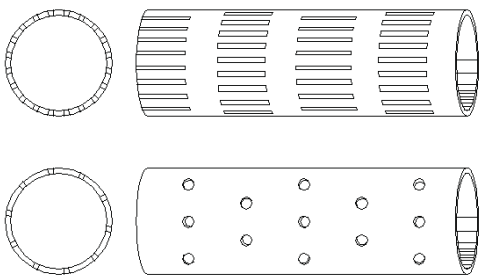
unit : mm

Title	OD (D)		Thickness (t)		Approximate diameter	Reference weight(g/m)		Momentary destruction Pressure
	Standard	Tolerance	Min	Tolerance		VP	HI-VP	
13	18	±0.20	2.5	+ 0.25	13	174	174	210
16	22	±0.20	3.0	+ 0.30	16	256	256	195
20	26	±0.25	3.0	+ 0.30	20	310	310	160
25	32	±0.30	3.5	+ 0.35	25	448	448	158
30	38	±0.35	3.5	+ 0.35	31	542	542	135
40	48	±0.40	4.0	+ 0.40	40	791	791	120
50	60	±0.50	4.5	+ 0.40	51	1,122	1,122	110
65	76	±0.50	5.2	+ 0.40	65.6	1,653	1,653	100
75	89	±0.50	5.9	+ 0.40	77.2	2,202	2,202	85
100	114	±0.65	7.1	+ 0.50	99.8	3,409	3,409	85
125	140	±0.80	8.3	+ 0.60	123.4	4,908	4,908	78
150	165	±1.00	9.6	+ 0.70	145.8	6,701	6,701	60
200	21	±0.30	11.1	+ 0.80	193.8	10,213	10,213	57
250	267	±0.60	13.4	+ 0.80	240.2	15,260	15,260	56
300	318	±1.90	16.1	+ 1.10	285.8	21,825	21,825	56

※Remarks : 1. The standard length of pipe is 4m or 6m tolerance is +30 mm,-10mm
2. Water pressure can endure until 40kg / ㎠, but please design using commercial pressure 12kg / ㎠ (including sujunggyeok)

PVC Strainer

Strainer machining process



Strainer Type

※Remarks : 1. Our Strainer current Status 100mm, 125mm, 150mm, 200mm
2. Other measurements are make-to-order

Warnings and Cautions on Use

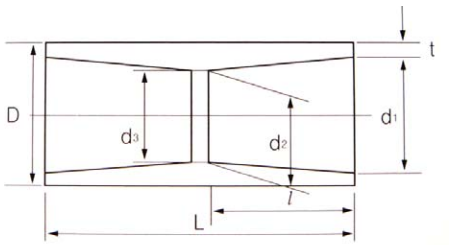
1. Please pay attention when you use because Strainer is weacker than original pipe with impact strength.
2. Strainer can cause breakage because of its nature of use, but there is no problem.
3. If you use incorrectly, it can bring a serious accident.
4. Do not throw or force when you carry something or work on something(especially in winter).

FITTINGS

Coupling

unit : mm

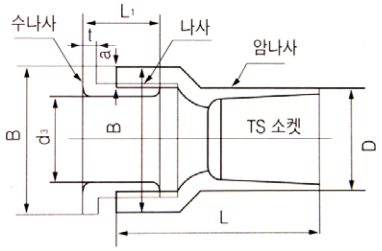
Title	d1	d2	D	L	l	t
14	18.40±0.20	17.60±0.20	22-0.30	25	53	1.0
16	22.40±0.20	21.60±0.20	26-0.30	30	52	1.0
22	26.45±0.20	25.55±0.20	30-0.40	35	73	1.0
28	34.55±0.25	33.45±0.25	40-0.50	40	83	1.8
36	42.60±0.30	41.40±0.25	50-0.60	44	91	2.2
42	48.70±0.30	47.30±0.30	57-0.70	55	113	2.2
54	60.80±0.30	59.20±0.30	70-0.70	63	129	2.5
70	76.80±0.30	75.20±0.30	86-0.70	69	141	3.0
82	89.80±0.30	88.20±0.30	101-0.70	72	147	3.5
100	115.00±0.30	112.90±0.30	128-0.70	92	195	4.5



Connector

unit : mm

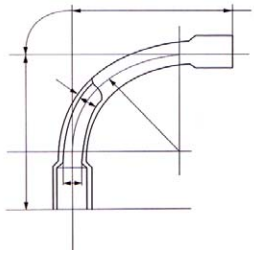
Title	d1	d2	D	t(min)
14	18.40±0.20	20±0.3	17	1.0
16	22.40±0.20	20±0.3	17	1.0
22	26.45±0.20	20±0.3	17	1.0
28	34.55±0.25	26±0.5	23	1.8
36	42.60±0.30	34±0.5	25	2.2
42	48.70±0.30	40±0.6	31	2.2
54	60.80±0.30	51±1.0	35	2.5
70	76.80±0.30	67±1.0	40	3.0
82	89.80±0.30	77±1.0	44	3.5
100	115.00±0.30	100±1.2	50	4.5



Normal Bend

unit : mm

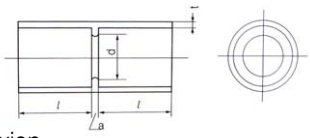
Title	d4	t(min)	R	H	D
14	14±2	1.0	75	105	14±0.8
16	18±2	1.0	85	120	18±0.8
22	22±2	1.0	100	140	22±0.9
28	28±2	1.8	135	185	28±1.2
36	35±4	2.2	170	230	35±1.5
42	40±4	2.2	190	260	40±1.6
54	51±5	2.5	240	325	51±1.7
70	67±7	3.0	300	410	67±1.7
82	77±8	3.5	360	490	77.2±1.7
100	101±10	4.5	460	620	101±1.8



COMPONENT

CD Coupling (ks c8456)

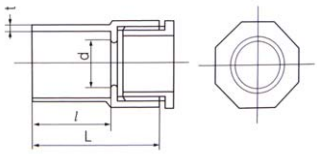
Title	The measurement of the parts			
	d	t(min)	a	l
16	$15.2^{+1.2}$	1	2±0.5	25.2^{+4}
22	$20.9^{+1.3}$	1	3±0.5	33.0^{+4}
28	$26.7^{+1.8}$	1.8	3±0.5	40.8^{+4}



* Use in CD nexion
* Loose the connector a little and insert CD conduit and fix it.

CD Connector (ks c8456)

Title	The measurement of the parts			
	d	t(min)	a	l
16	$15.2^{+1.2}$	1	2±0.5	25.2^{+4}
22	$20.9^{+1.3}$	1	3±0.5	33.0^{+4}
28	$26.7^{+1.8}$	1.8	3±0.5	40.8^{+4}



* Use in CD wire tube box and END COVER
* Loose the coupling a little and insert CD conduit and fix it.

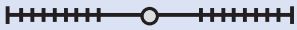
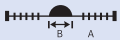
CD Consleeve / 16mm

Two kinds of coupling / 16mm,22mm,28mm

End cover / 22mm,28mm

PVC WATER STOP (KS M 3805)

Daeyang PVC water stop is a standard building material that standardizes and use in architectural structure, river, harbor, power plant, dam, embankments, tunnel building work, etc.
Daeyang PVC water stop is producted by extrusion moulding method so it is possible to form various sections, and can choose convenient cross-sectional shape, depending on the purpose.

Product Number	Size				cross-sectional phenomenon
	Width(mm)	Thickness(mm)	Valve(mm)	Length(mm/Roll)	
DW-3	150	5	16	20	
DW-6	230	5	20	20	
DW-7	230	9.5	27	20	
DW-9	200	5	20	20	
DW-P-2	150	5	(14)	20	
DW-P-3	200	5	(14)	20	
DW-P-4	230	5	(19)	20	
DW-P-5	230	10	20(24)	20	
DW-S-1	300	9	A:55, B:25	15	
DW-S-2	300	13	A:70, B:40	15	
DW-M-1	240	5		15	

※Remarks : 1. Thickness tolerance ± 10%
2. Width tolerance ± 3%

Physical properties of the product

1. Ensure a complete index effect
by the cross-sectional shape, concrete binder is strong.

2. Semi-permanent life
Unlike, rubber and metal, there is no aging and corrosion phenomenons.

3. Maintain properties at the low temperature
There is no change even in low temperature water due to using special compounding agent.

4. Easy handling
Because it has lighter weigh, transport and construction are simple so time and effort will save.

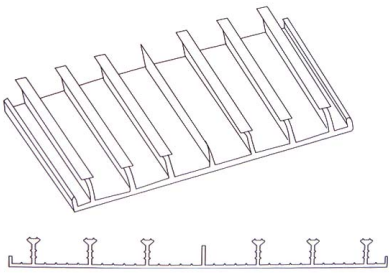
5. Low price
Its price is cheaper than other water stops, and construction cost will be decreased.

Test items			Quality
Tensile Strength (N / ㎟) (kgf / ㎠)			11.77 (12) more
Elongation (%)			250 or more
Aging (%) weight change rate			± 0.10 or less
Flexibility (℃)			- 30 below
Chemica resistance (%)	Alkali	Tensile Strength Changing rate	± 20 within
		Elongation changing rate	± 20 within
		Weight changing rate	± 5 within
	Saline	Tensile Strength changing rate	± 10 within
		Elongation rate of change	± 10 within
		Weight changing rate	± 2 within

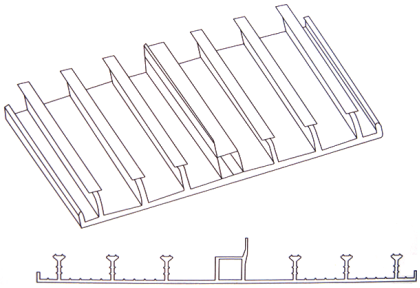
TUNNEL-USE OTHER MATERIALS

Tunnel-use PVC water stop / 320 °ø 5T (KS M3805)

Certificate No. 9034

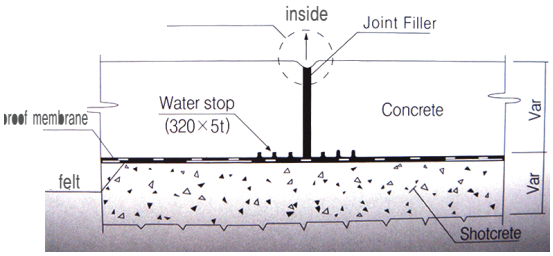


For construction joints

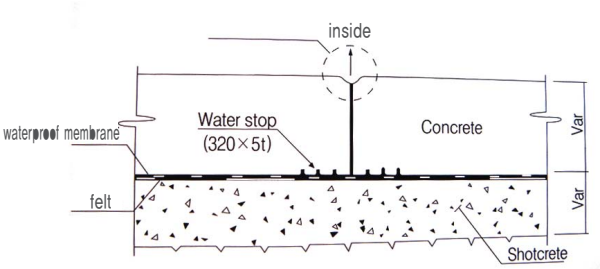


For builing joints

Tunnel-use concrete lining construction joints / Joint Profile



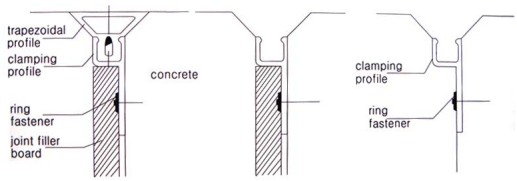
Concrete lining construction joint
(have been installed for each CTC 27m)



Concrete lining construction joints

Advantages

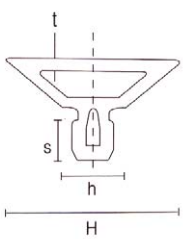
1. Lining joint part cracking and failure preventing
2. After construction, exterior cleaning unnecessary
3. The material Fee reduces because of reuse some of the triangle Fillet
4. Myeongalyi work unnecessary



Myunmok

H	h	s	t
66	30	15	5

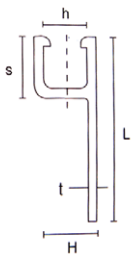
mm(tolerance ±3%)



Y-type

H	L	h	s	t
26	72	21	26	4

mm(tolerance ±3%)



OTHER PIPE

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA TC-2, TC-3, TC-6 & 8, TC-9

BRITISH STANDARDS

- BS 3505
- BS 3506
- BS 4607 (part 1)
- BS 4607 (part 2)
- BS 4660

AMERICAN STANDARDS

- ASTM D1785 SCHEDULE 40, 80
- ASTM 2241 (SDR)

ISO, SAS

are also available by the special order.

ELECTRICAL CONDUIT

Submittal And Data Sheet

Schedule 40 And Schedule 80 Conduit

rigid non-metallic conduit for use in both above ground and underground installations

Schedule 40 Conduit

Rated For 90℃ Conductors

Size	Average O.D.	Nom. I.D.	Min. T.	Approx WT/100 FT
1/2	0.840	0.622	0.109	18
3/4	1.050	0.824	0.113	24
1	1.315	1.049	0.133	33
1-1/4	1.660	1.380	0.140	45
1-1/2	1.900	1.610	0.145	56
2	2.375	2.067	0.154	76
2-1/2	2.875	2.469	0.203	126
3	3.500	3.068	0.216	163
3-1/2	4.000	3.548	0.226	197
4	4.500	4.026	0.237	234
5	5.563	5.047	0.258	319
6	6.625	6.065	0.280	411
8 ::	8.625	7.942	0.322	622

Schedule 80 Conduit

Rated For 90℃ Conductors

Size	Average O.D.	Nom. I.D.	Min. T.	Approx WT/100 FT
1/2	0.840	0.546	0.147	22
3/4	1.050	0.742	0.154	30
1	1.315	0.957	1.179	42
1-1/4	1.660	1.278	0.191	60
1-1/2	1.900	1.500	0.200	72
2	2.375	1.939	0.218	98
2-1/2	2.875	2.323	0.276	160
3	3.500	2.900	0.300	213
3-1/2	4.000	3.364	0.318	256
4	4.500	3.826	0.337	310
5	5.563	4.813	0.375	430
6	6.625	5.761	0.432	590

Conduit shall be SCH40&80, rated for 90°C conductors, UL or approved equal.
Material shall comply with NEMA spec TC-2, UL651 and fittings NEMA TC-3.

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

TC-2
Size and Dimensions of PVC Condult

Normal Size inches	Outsides Diameters, Inches					Wall Thickness, inches						
	Average	Out of Roundness				EPT PVC		EPC.40.PVC AND EPC PVC		EPC.80.PVC		Minimum Cross Sectional Area, Square Inches of EPC.80.PVC
		PVC		PE								
		Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	
1/2	0.840±0.004	0.848	0.832	0.855	0.825	0.080	0.060	0.129	0.109	–	–	–
3/4	1.050±0.004	1.060	1.040	1.070	1.030	0.080	0.060	0.133	0.113	–	–	–
1	1.315±0.005	1.325	1.305	1.340	1.290	0.080	0.060	0.153	0.133	–	–	–
1 1/4	1.660±0.005	1.672	1.648	1.685	1.635	0.090	0.070	0.160	0.140	–	–	–
1 1/2	1.900±0.006	1.912	1.888	1.930	1.870	0.100	0.080	0.165	0.145	0.224	0.200	1.71
2	2.375±0.006	2.387	2.363	2.410	2.340	0.120	0.080	0.174	0.154	0.244	0.218	2.87
2 1/2	2.875±0.007	2.890	2.860	2.910	2.840	0.130	0.100	0.227	0.203	0.309	0.276	4.12
3	3.500±0.008	3.515	3.485	3.540	3.460	0.145	0.125	0.242	0.216	0.336	0.300	6.43
3 1/2	4.000±0.008	4.050	3.950	4.045	3.955	0.165	0.145	0.253	0.226	0.356	0.318	8.65
4	4.500±0.009	4.550	4.450	4.550	4.450	0.170	0.150	0.265	0.237	0.377	0.337	11.2
5	5.563±0.010	5.613	5.513	5.618	5.508	–	–	0.289	0.258	0.42	0.375	17.8
6	6.625±0.011	6.575	6.575	6.69	6.56	–	–	0.314	0.280	0.484	0.432	25.8

This column has been approved as Athorized Engineering information

TC-6 Dimensions

Sizes	Outside Diameters			Minimum Wall Thickness				Minimum inside Diameter
	Plus or Minus Tolerance, inches			Out of Roundness		Out of Roundness		
	Average	For Average Diameters	Out-of-roundness	ABS	PVC	ABS	PVC	
2	2.375	0.006	0.060	0.060	0.060	0.067	0.060	2.000
3	3.500	0.008	0.060	0.069	0.061	0.103	0.092	3.000
3 1/2	4.000	0.008	0.060	0.081	0.072	0.120	0.107	3.500
4	4.500	0.009	0.100	0.092	0.082	0.136	0.121	4.000
5	5.563	0.010	0.100	0.116	0.103	0.169	0.152	5.000
6	6.625	0.011	0.100	0.140	0.125	0.201	0.180	6.000

All dimensions inches

2.4.3. PVC Duct (Daeyang Platec co.,LTD) - 대양플라텍

Daeyang Platec CO.,LTD

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION(NEMA)

TC-2 SIZE AND DIMENSIONS OF PVC CONDUIT

(unit: : inch)

Order number	Trade size	Minimum Wall Thickness		Outside Diameter	
		Sch 40	Sch 80	Average	Tolerance
DYEPCTC2-□-340	3/4	0.113	0.154	1.050	±0.004
DYEPCTC2-□-100	1	0.133	0.179	1.315	±0.005
DYEPCTC2-□-114	1 1/4	0.140	0.191	1.660	±0.005
DYEPCTC2-□-112	1 1/2	0.145	0.200	1.900	±0.006
DYEPCTC2-□-200	2	0.154	0.218	2.375	±0.006
DYEPCTC2-□-212	2 1/2	0.203	0.276	2.875	±0.007
DYEPCTC2-□-300	3	0.216	0.300	3.500	±0.008
DTEPCTC2-□-312	3 1/2	0.226	0.318	4.000	±0.008
DYEPCTC2-□-400	4	0.237	0.337	4.500	±0.009
DYEPCTC2-□-500	5	0.258	0.375	5.563	±0.010
DYEPCTC2-□-600	6	0.280	0.432	6.625	±0.011

※ □ : sch 40=> 4 , sch 80 => 8

COLOR :BLACK,GRAY

TC-6 DIMENSIONS OF UNDERGROUND UTILITIES DUCT

(unit: : inch)

Order number	Trade size	Minimum Wall Thickness	Outside Diameter	
		DB 60	Average	Tolerance
DYEPCTC6-□-200	2	0.060	2.375	±0.004
DYEPCTC6-□-300	3	0.092	3.500	±0.008
DYEPCTC6-□-312	3 1/2	0.107	4.000	±0.008
DYEPCTC6-□-400	4	0.121	4.500	±0.009
DYEPCTC6-□-500	5	0.151	5.563	±0.010
DYEPCTC6-□-600	6	0.182	6.625	±0.011

※ □ :STRAIGHT =>S , HUB=>H

COLOR:GRAY

Head Office : 106-1, Dokok Ri, Habdok-Ub, Dangjin-Si, Chungchong nam-do, Korea
Tel. 82-41-363-1251~3 Fax. 82-41-363-0504
Office : Tel. 82-2-583-9112 Fax. 82-2-583-7488
www.dypp.co.kr

Daeyang Platec CO.,LTD

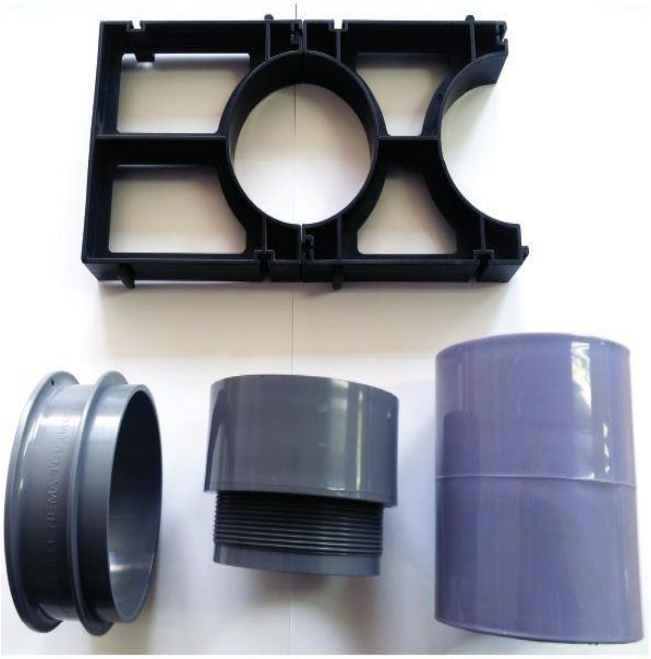
TEST REPORT & CERTIFICATE

TC2 & TC6 PRODUCT &

FITTINGS (END BELL,MALE ADAPTER COUPLING,SPACERS)

STRAIGHT

HUB



※Other accessories dimensions are listed in a separate catalog.

Our company is specialized to manufacture electrical PVC conduit.

Also we are ready for supply our best products to relocate USFK BASE

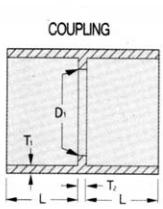
Head Office : 106-1, Dokok Ri, Habdok-Ub, Dangjin-Si, Chungchong nam-do, Korea
Tel. 82-41-363-1251~3 Fax. 82-41-363-0504
Office : Tel. 82-2-583-9112 Fax. 82-2-583-7488
www.dypp.co.kr

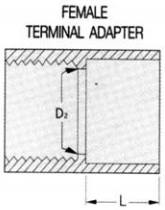
FITTINGS

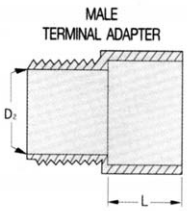
1. NEMA TC-3

Coupling And Adapters

Normal Size	D_1	D_2		L	T_1	T_2
	minimum	minimum	maximum	minimum	minimum	minimum
2	52.81	49.89	52.50	28.58	3.30	2.38
3	78.31	74.04	77.93	40.49	5.49	4.76
4	103.53	97.16	102.26	44.45	6.02	4.76
5	129.46	121.79	129.19	49.20	6.55	4.766
6	155.32	146.35	154.05	53.98	7.11	6.35

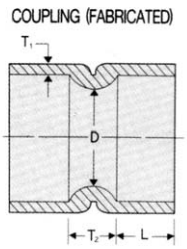






Tapered Sockets for PVC Coupling Schedule 40(Fabticated)

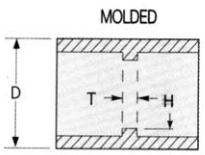
Normal Size	L		D	T_1	T_2
	minimum	maximum	minimum	minimum	minimum
2	28.58	50.80	52.81	3.30	2.38
3	40.79	79.38	78.31	4.55	4.76
4	44.45	85.73	103.53	5.00	4.76
5	49.20	92.08	129.46	5.44	6.35
6	53.98	95.25	159.32	5.89	6.35

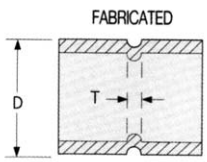


2. NEMA TC-9

Coupling

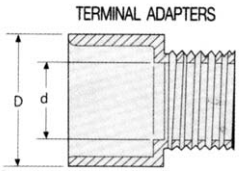
Normal Size	D	H	T
	maximum	maximum	minimum
2	69.5	1.90	2.4
3	100.8	1.93	2.8
4	127.8	2.46	2.8
5	158.8	3.00	3.6
6	190.5	3.56	3.6





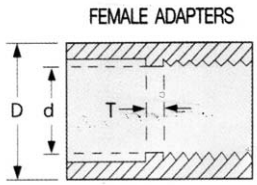
Termenal Adapters

Normal Size	D	d	T
	maximum	maximum	minimum
2	74.2	49.89.	4.0
3	103.2	74.04	6.0
4	130.2	97.16	6.4
5	159.6	121.79	7.5
6	190.5	146.35	6.7



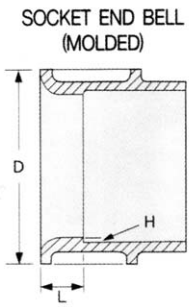
Female Adapters

Normal Size	D	d	T
	maximum	maximum	minimum
2	72.2	49.89	2.0
3	103.2	74.4	4.4
4	129.8	97.13	4.4
5	159.6	121.79	6.0
6	190.9	146.35	6.0



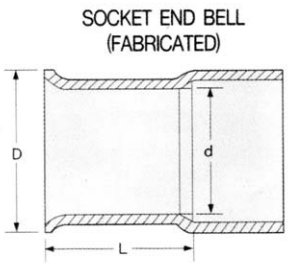
Socket end Bell(Molded)

Normal Size	D	H	L
	maximum	maximum	minimum
2	79.0	1.90	7.9
3	104.8	1.93	7.9
4	135.7	2.46	11.1
5	162.7	3.00	11.1
6	188.1	3.56	11.1



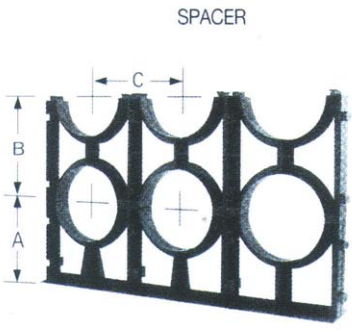
Socket end Bell(Fabricated)

Normal Size	D	L	d
	maximum	maximum	minimum
2	108.7	70.6	55.19
3	120.3	74.6	81.48
4	139.7	76.2	104.88
5	165.1	108.0	131.95
6	190.5	82.6	157.28



Spacer

Normal Size	BASE SPACER		INTERMEDIATE SPACER	
	A	C	B	C
3×1½	122	127	127	127
3×2	122	140	140	140
4×1½	150	150	150	150
4×2	133	169	169	169
5×1½	148	180	180	180
5×2	148	192	192	192
6×2	225	225	225	225
6×3	165	245	250	250



PVC CEMENT

Medium bodied for PVC pipe and fitting in all classes.

For cold, waste water and industrial piping system.

Read product bulletin and MSDS.

Contain: organic solvent 80%, pvc copolymer 20%

AMERICAN STANDARDS (ASTM D2241)

A. Outside Diameters and Tolerances for PVC Plastic Pipe

Normal Pipe Size in	Average Outside Diameter in	Tolerances, in.		
		For Average	For Maximum and Minimum (Out-of-Roundness)	
			SDR64 SDR41 SDR32.5 SDR26 SDR21	SDR17 SDR13.5
1/8"	0.045	±0.004	±0.015	±0.008
1/4"	0.540	±0.004	±0.015	±0.008
3/8"	0.675	±0.004	±0.015	±0.008
1/2"	0.840	±0.004	±0.015	±0.008
3/4"	1.050	±0.004	±0.015	±0.010
1"	1.315	±0.005	±0.015	±0.010
1 ¼"	1.660	±0.005	±0.015	±0.012
1 ½"	1.900	±0.006	±0.030	±0.012
2"	2.375	±0.006	±0.030	±0.012
2 ½"	2.875	±0.007	±0.030	±0.015
3"	3.500	±0.008	±0.030	±0.015
3 ½"	4.000	±0.008	±0.030	±0.015
4"	4.500	±0.009	±0.050	±0.015
5"	5.563	±0.010	±0.050	±0.030
6"	6.625	±0.011	±0.050	±0.035
8"	8.625	±0.015	±0.075	±0.045
10"	10.750	±0.015	±0.075	±0.050
12"	12.750	±0.015	±0.075	±0.060

A. Outside Diameters and Tolerances for PVC Plastic Pipe

Nominal Nominal in	Wall Thockness in						
	SDR64	SDR41	SDR32.5	SDR26	SDR21	SDR17	SDR13.5
	Mini-mum Toler-ance	Mini-mum Toler-ance	Mini-mum Toler-ance	Mini-mum Toler-ance	Mini-mum Toler-ance	Mini-mum Toler-ance	Mini-mum Toler-ance
1/8"							0.060+0.020
1/4"							0.060+0.020
3/8"							0.060+0.020
1/2"							0.062+0.020
3/4"					0.060+0.020	0.062+0.020	0.078+0.020
1"				0.060+0.020	0.063+0.020	0.077+0.020	0.097+0.020
1 ¼"				0.064+0.020	0.079+0.020	0.098+0.020	0.123+0.020
1 ½"				0.073+0.020	0.090+0.020	0.112+0.020	0.141+0.020
2"				0.091+0.020	0.113+0.020	0.140+0.020	0.176+0.021
2 ½"				0.110+0.020	0.137+0.020	0.169+0.020	0.213+0.026
3"			0.108+0.020	0.135+0.020	0.167+0.020	0.206+0.025	0.259+0.031
3 ½"		0.098+0.020	0.123+0.020	0.054+0.020	0.190+0.023	0.235+0.028	0.296+0.036
4"		0.110+0.020	0.138+0.020	0.017+0.021	0.214+0.026	0.265+0.032	0.333+0.040
5"		0.136+0.020	0.171+0.021	0.214+0.027	0.265+0.032	0.327+0.039	0.412+0.049
6"	0.104+0.020	0.162+0.020	0.204+0.024	0.255+0.031	0.316+0.038	0.390+0.047	0.491+0.059
8"	0.135+0.020	0.210+0.025	0.265+0.032	0.332+0.040	0.410+0.049	0.508+0.061	
10"	0.168+0.020	0.262+0.031	0.331+0.040	0.413+0.050	0.511+0.061	0.632+0.076	
12"	0.199+0.024	0.311+0.037	0.392+0.047	0.490+0.059	0.606+0.073	0.750+0.090	

* The minimum is the lowest wall thickness of the pipe at any cross section. All tolerance are on the plus side of the minimum requirement.

BRITISH STANDARDS

BS 4607 (Part 1:Metric units)
U PVC Pipe For Electrical Installations

Normal Size (mm)	Outside Diameter (mm)		Minimum Inside Diameter (mm)
16	16	+0	13.0
20	20	−0.3	16.9
25	25	+0	21.4
32	32	−0.4	27.8

BS 4607 (Part 2: Imperial units)
U PVC Pipe For Electrical Installations

Heavy Gauge Conduit				
Normal Size (inch)	Outside Diameter (inch)	Tolerance (inch)	Wall Thickness (inch)	Tolerance (inch)
5/8	0.625	+0	0.070	±0.005
3/4	0.750	−0.010	0.075	
1	1.000	+0	0.080 1 1/4	
1 1/4	1.250	−0.015	0.100	
5/8	0.625	+0	0.045	±0.003
3/4	0.750	−0.010	0.045	
1	1.000	+0	0.060	±0.004
1 1/4	1.250	−0.015	0.060	

1. Standerd Length: 4m or 6m
2. Color: Grey, Black
3. Technical Service
   We established installation technique of lucky PVC pipes in BS standard and are always ready to inform technical service for you

BS 4660
Dimensions Of Pipes And Fittings

Normal Size (mm)	Mean Outside Diameter		Extreme individual Outside Diameter		Minimum Wall Thickness		
	min	max	min	max	pipe	fittings other than jinctions	jinctions
mm	mm	mm	mm	mm	mm	mm	mm
110	110	110.4	108.0	112.4	3.4	3.4	3.8
160	160.0	160.6	157.1	163.5	4.1	4.1	4.1

1,110mm and 160mm pipes have

BC 3505
U PVC Pipe For Cold Water Services

Normal Size inches	Outside Diameter		Wall Thickness							
			Class B 6.0 bar (60 m head of water)		Class C 9.0 bar (90 m head of water)		Class D 12.0 bar (120m head of water)		Class E 15.0 bar (150m head of water)	
	Min. inch	Max. inch	Min. inch	Max. inch	Min. inch	Max. inch	Min. inch	Max. inch	Min. inch	Max. inch
3/8	0.669	0.681	–	–	–	–	–	–	0.059	0.067
1/2	0.835	0.847	–	–	–	–	–	–	0.067	0.075
3/4	1.047	1.059	–	–	–	–	–	–	0.075	0.083
1	1.315	1.327	–	–	–	–	–	–	0.087	0.095
1 1/4	1.657	1.669	–	–	–	–	0.087	0.098	0.106	0.118
1 1/2	1.840	1.906	–	–	–	–	0.098	0.110	0.122	0.134
2	2.370	2.382	–	–	0.098	0.110	0.122	0.134	0.154	0.169
2 1/2	2.961	2.973	–	–	0.118	0.130	0.154	0.169	0.189	0.209
3	3.492	3.508	0.114	0.130	0.138	0.154	0.181	0.201	0.224	0.248
4	4.492	4.508	0.134	0.150	0.177	0.197	0.236	0.260	0.287	0.315
5	5.512	5.528	0.150	0.165	0.217	0.240	0.287	0.315	0.354	0.390
6	6.614	6.634	0.177	0.197	0.260	0.287	0.347	0.382	0.425	0.469
7	7.618	7.638	0.205	0.224	0.303	0.335	0.398	0.437	0.488	0.535
8	8.614	8.638	0.209	0.228	0.307	0.339	0.406	0.455	0.496	0.547
9	9.610	9.638	0.232	0.256	0.342	0.378	0.453	0.500	0.555	0.610
10	10.732	10.761	0.260	0.287	0.382	0.421	0.504	0.555	0.618	0.681
12	12.732	12.768	0.307	0.339	0.453	0.500	0.598	0.657	0.736	0.811
14	13.976	14.015	0.335	0.370	0.496	0.547	0.657	0.724	0.807	0.890
16	15.980	16.019	0.382	0.421	0.571	0.630	0.748	0.823	0.921	1.016

Remark: Standard length 6m & 4m

BS 3506
U PVC Pipe For Industrial Uses

Normal Size inches	Outside Diameter		Class O (non pressure)		Wall Thickness					
					Class B 6.0 bar (60 m head of water)		Class C 9.0 bar (90 m head of water)		Class D 12.0 bar (120m head of water)	
	Min. inch	Max. inch	Min. inch	Max. inch	Min. inch	Max. inch	Min. inch	Max. inch	Min. inch	Max. inch
1 1/4	1.657	1.669	–	–	–	–	–	–	0.087	0.095
1 1/2	1.894	1.906	0.071	0.083	–	–	–	–	0.098	0.110
2	2.370	2.382	0.071	0.083	–	–	0.098	0.110	0.122	0.134
2 1/2	2.961	2.973	0.071	0.083	–	–	0.118	0.130	0.154	0.169
3	3.492	3.508	0.071	0.083	0.114	0.130	0.138	0.154	0.181	0.201
4	4.492	4.508	0.091	0.102	0.134	0.150	0.177	0.197	0.236	0.260
5	5.512	5.528	0.102	0.114	0.150	0.165	0.217	0.240	0.287	0.315
6	6.614	6.634	0.122	0.134	0.177	0.197	0.260	0.287	0.347	0.382
7	7.618	7.638	0.122	0.134	0.205	0.224	0.303	0.335	0.398	0.437
8	8.614	8.638	0.122	0.134	0.209	0.228	0.307	0.339	0.406	0.445
9	9.610	9.638	0.122	0.134	0.232	0.256	0.342	0.378	0.453	0.500
10	10.732	10.764	0.122	0.134	0.260	0.287	0.382	0.421	0.504	0.555
12	12.732	12.768	0.122	0.134	0.307	0.339	0.426	0.500	0.598	0.657
14	13.976	14.015	0.142	0.154	0.335	0.370	0.496	0.547	0.657	0.724
16	15.980	16.019	0.161	0.177	0.382	0.421	0.571	0.630	0.748	0.823

Remark: Standard length 6m, 5m & 4m

AMERICAN STANDARDS (ASTM D1785)

A. Outside Diameters and Tolerances for PVC Plastic Pipe Schedules 40, 80 inches

Normal Pipe Size	Outside Diameter	Tolerances		
		Average	For Maximum and Minimum Diameter(Out-of-Roundness)	
			Schedule 40 sizes 3½ in. and over; schedule 80 sizes 8 in. and over;	Schedule 40 sizes 3 in. and less; schedule 80 sizes 6 in. and less;
1/8"	0.405	±0.004	–	±0.008
1/4"	0.540	±0.004	–	±0.008
3/8"	0.675	±0.004	–	±0.008
1/2"	0.840	±0.004	–	±0.008
3/4"	1.050	±0.004	–	±0.010
1"	0.315	±0.005	–	±0.010
1 ¼"	0.660	±0.005	–	±0.012
1 ½"	0.900	±0.006	–	±0.012
2"	2.375	±0.006	–	±0.012
2 ½"	2.875	±0.007	–	±0.015
3"	3.500	±0.008	–	±0.015
3 ½"	4.000	±0.008	±0.050	±0.015
4"	4.500	±0.009	±0.050	±0.015
5"	5.563	±0.010	±0.050	±0.030
6"	6.625	±0.011	±0.050	±0.035
8"	8.625	±0.015	±0.075	±0.045
10"	10.750	±0.015	±0.075	±0.050
12"	12.750	±0.015	±0.075	±0.060

B. Wall Thickness and Tolerances for PVC Plastic Pipe, Schedules 40, 80 inches

Normal Pipe Size	Schedule 40		Schedule 80	
	Minimum	Tolerance	Minimum	Tolerance
1/8"	0.068	±0.020	0.095	±0.020
1/4"	0.088	±0.020	0.119	±0.020
3/8"	0.091	±0.020	0.126	±0.020
1/2"	0.109	±0.020	0.147	±0.020
3/4"	0.113	±0.020	0.154	±0.020
1"	0.133	±0.020	0.179	±0.021
1 ¼"	0.140	±0.020	0.191	±0.023
1 ½"	0.145	±0.020	0.200	±0.024
2"	0.154	±0.020	0.218	±0.026
2 ½"	0.203	±0.024	0.276	±0.033
3"	0.216	±0.026	0.300	±0.036
3 ½"	0.226	±0.027	0.318	±0.030
4"	0.237	±0.028	0.337	±0.040
5"	0.258	±0.031	0.375	±0.045
6"	0.280	±0.034	0.432	±0.052
8"	0.322	±0.039	0.500	±0.060
10"	0.365	±0.044	0.593	±0.071
12"	0.406	±0.049	0.687	±0.082

* The minimum is the lowest wall thickness of the pipe at any cross section. The Maximum permitted wall thickness, at any cross soction, is the minimum wall thickness plus the stated tolerance. All tolerance are on the plus side of the minimum requirement.
* These dimensions conferm to nominal IPS dimensions.

GENERAL PROPERTIES

Properties of DAEYANG PVC pipe

Table 1

Items	Test Method	Unit	Characteristic Value
Specific Gravity	ASTM D792	–	1.43
Hardness	ASTM D7985	Rockwell R	120
Stater Absorption	ASTM D570	mg /㎠ (Psi)	0.04–0.06 (5.7–8.5×10^{-6})
Tensile Stength at 15℃	ASTM D638	kg /㎠ (Psi)	550–550 (7,200–7,800)
Elongation at Ultimate Tensile Strength	ASTM D638	%	50–150
Compressive Strength	ASTM D695	kg /㎠ (Psi)	660 (9,400)
Shearing Strength	ASTM D732	kg /㎠ (Psi)	400 (5,700)
Bending Strength	ASTM D638	kg /㎠ (Psi)	860 (12,000)
Modulus of Elasticity	ASTM D638	kg /㎠ (Psi)	2.89×10^{4} (4.1×10^{5})
Poisson's Ratio a 20℃ (70F)	–	–	0.38
Impact Strength (charpy)	ASTM D256	kg /㎠ (Psi) ft/in ²-notched)	5.0 (0.91)
Coefficient of Linear Expansion	ASTM D696	℃$^{-1}$	7×10^{-5}
Specific Heat	–	cal/g℃(BTU/lb˚f)	0.2–0.5 (0.2–0.5)
Thermal Conductivity	–	Kcal/m. hr. ℃(BUT/ft. hr. z˚f)	0.11–0.14(0.074–0.094)
Flame Resistance	ASTM D635–56T	–	Self–extinguishing
Volume Resistance	ASTM D257	Ω –㎝ (Ω –mil)	morethan 10^{15}(more than 2.5×10^{12})
Dielectric Costant 20℃ 1KC	ASTM D150	–	3.2
Dielectric Strength	–	KV/mm(KV/mil)	more than 40 (more than1.0)
Dielectric Power Factor 20℃ 1KC	ASTM D150	–	0.02
Deflection Temperatur under flexural coad	ASTM D648	℃(℉)	76.3(170)

RELATION BETWEEN TEMPERATURE AND MODULUS OF ELASTICITY

For steel pipes, stress-strain curve turns to be a distinct line, but for PVC pipes, it does not show a distinct straight line. Nevertheless, the properties of PVC pipes resemble very closely those of elastic materials and Hook's law can be applied without problem.

PVC's properties are largely influenced by temperature, which shoud be taken into account in designing PVC pipes.

The elastic modulus for designing purpose is obtained from the following formula.

$E=\alpha \cdot \beta \cdot E_0$. ····· (1)

where

α: Coefficient of temperature

β: Coefficient of temperature

E: Elastic modulus at 20℃(68℉) for designing

E_0: Elastic modulus by short term loads

Table 2 show the values of α obtained as a result of experiment. β is about 0.8 which is commonly employed for polymer materials.

Valued of α, correction coefficient of temperature

Table 2

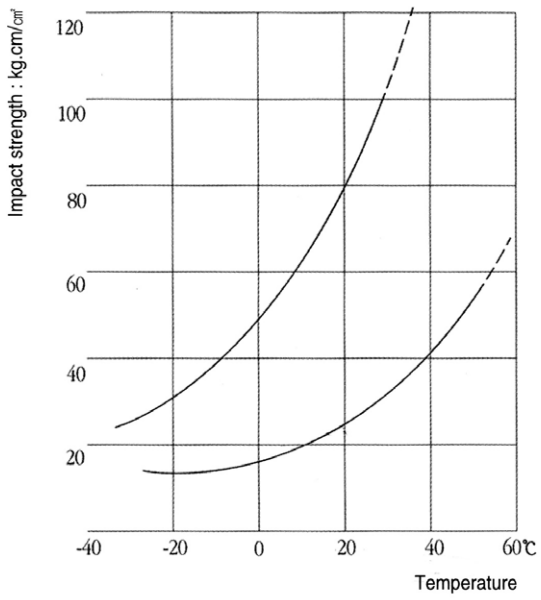
Temperature(℃)	−20	−10	0	10	20	30	40
α	1.63	1.35	1.18	1.07	0.95	0.93	0.90

RELATION BETWEEN TEMPERATURE IMPACT VALUES

"The relations between impact value and temperature of DAEVANG PVC pipe are : as the temperature decreases, the impact value tends to decrease. As the rate of decrease in impact value when temperature gradually decreases from around 60℃ (140℉), the decreases is very significant at 20℃−15℃ (68℉−59℉), but slackens very much when temperature becomes lower than 0℃ (32℉) Though the limit of service temperature for **DAEYANG PVC Pipe** is specified as about −20 ℃ (−4℉) there is in practice, no fragile point on **DAEYANG PVC Pipe**, just the impact value steadily decreases.

DAEYANG PVC Pipe dose not therefore, suddenly embrittle even if the temperature falls below −20℃ (−4℉), so one should not worry when the decrease of impact value in low temperature regions is the problem.

However, rigid PVC is highly notch sensitive, that is, the existence of a very small notch affects the impact resistance, This is called a notch effect, which largely depends on the shape of notch, and impact value should be considered as 1/3 to 1/10 of the value without notch.



Ⅰ : Unnotched
Ⅱ : Notched

Fig : 1. Relation between IMPACT Strength and Temperature

RELATION BETWEEN TEMPERATURE AND TENSILE STRENGTH

The tensile strength of DAEYANG PVC pipe at 15℃ (59℉) is :

f= 500–600㎏ / ㎠

But for this type of thermoplastic, its mechanical strength varies with the slight difference in temperature

Consequently, tensile strength ft at optional temperature t℃ (in temperature rangr of 5℃ –30℃) should be calculated from the following conversion formula.

ft= f–6.65 (t–15)·····(2)

where

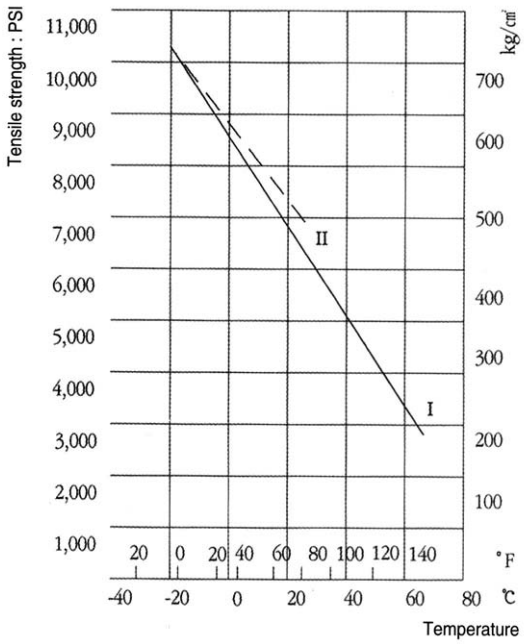
f= tensile strength at 15℃ (㎏ /㎠)

ft= tensile strength at t℃ (㎏ /㎠)

t= tensile temperature (℃)

As apparent from the formula (2), DAEYANG PVC pipe has the characteristic that the tensile strength increases in almost proportion with the decreases in temperature.

Fig 2 shows the variations of tensile strength as a function of temperature. "Line Ⅰ" was calculated backward from the formula. "Line Ⅱ" is the values actually measured by tensile test for dumbell.



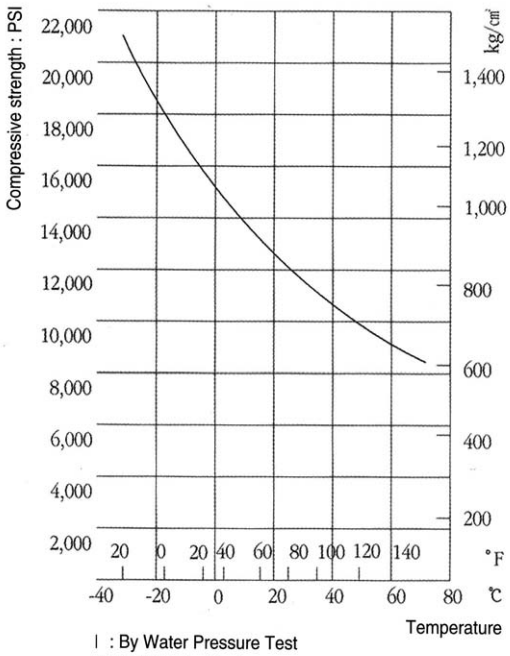
Ⅰ : By Water Pressure Test
Ⅱ : By Tension Test
Fig 2. Relation between Tensile Strength and Temperature

RELATION BETWEEN TEMPERATURE AND COMPRESSIVE STRENGTH

The same thing can be said for the compressive test as for the tensile strength test. Compressive strength of DAEYANG PVC pipe is higher than the tensile strength and the rate of compressive strength as against tensile strength may almost equal with that of metals.

In many cases, however, compression load does not come to be much problem.

This is because such phenomena as bursting out and cracking are usually considered to be caused by tension.



Ⅰ : By Water Pressure Test
Ⅱ : By Tension Test
Fig 3. Relation between Compressive Strength and Temperature

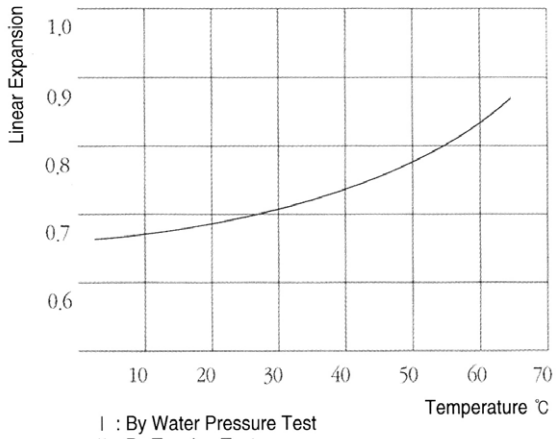
RELATION BETWEEN TEMPERATURE AND COEFFICIENT OF LINEAR EXPANSION

Thermoplastic like DAEYANG PVC pipe are in general deformed by temperature more significantly than metals. To take up thermal deformation, thermal expansion is usually compared.

Thermal expansion falls in two catagories, I.e.,Linear expansion and cubical expansion, and they are normally, related in the following way. Linear expansion = 1/3 ×(cubical expansion)·····(3)

From fig 4 and table 3, the coefficient of linear expansion of DAEYANG PVC pipe varies in the following way.

α=(6.5–8.5)×10^{-5}/℃(at ℃, however, it can be considered as=7 ×10–5℃/℃ –40℃ except at too high or too low temperatures)



Ⅰ : By Water Pressure Test
Ⅱ : By Tension Test

Fig 4. Relation between Coefficient of Liner Expansion and Temperature

Valued of α, correction coefficient of expansion

Table 2

Range of Temperature℃	Expansion £X10℃$^{-5}$/℃
0–10	6.83
10–20	6.66
20–30	67.04
30–40	6.87
40–50	7.83
50–60	8.43
60–70	8.50

BURST PRESSURE AND WORKING PRESSURE

Burst pressure, which is also highly dependent on temperature, can be calculated from the following formula if either inside of outside diameter and wall thickness are known.

$P = \frac{2tf}{D-t} = \frac{2tf}{d+t}$ (Naday's formula) ·····(4)

where

P: burst pressure kg /㎠ f: tensile strength kg /㎠

t: minimum wall thickness cm d: inside diameter of pipe cm

D: outside diameter of pipe cm

When safty factor is now assumed as S, working capacity f0 is : {f0=f/s}

then working pressure P_0 is ; $P_0 = \frac{2tf_0}{d} = \frac{2tf}{sd} = \frac{P}{s}$ ·····(5)

Thus, minimum wall thickness of pipe tmin when working pressure P_0 is known from formula (5)

$t_{min} = \frac{P_0 d}{2f} = \frac{P_0 ds}{2f}$

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