

A HILLTAKE MANVES.



Hilltake

The Complete Plumbing Solution Company



CPVC Pipe Fittings
Water Tank
PPR Pipes Fittings



**Strong
Light Weight
Durable
Economical**



Why Hiltake CPVC

Hiltake CPVC

Hiltake, in joint technical collaboration with Sperry Plast LTD, India has rolled out Hiltake Sperry CPVC pipes in Nepal. We have technologically advanced manufacturing plants of CPVC, a dedicated work force of engineers, technicians & operators working round the clock supported by in-house laboratory.

Our complete piping solution covers all range of pipes, fittings, valves, & imported adhesive for excellent firm joints. It's the cutting edge technology for plumbing and most advanced system for hot & cold water distribution, safe for drinking & free from the traditional problems which arise in other conventional pipes like scaling, corrosion chemical resistance & bad weather.

Advantages of CPVC

- High Quality, cost effective & easy installation
- Maintenance free life over 50 years
- Free from Scaling, corrosion & rusting
- High flame resistance & low smoke emission
- Low bacterial Growth
- Drinking water safe
- Ideal for Hot & Cold water Distribution Systems as Hiltake CPVC pipes can withstand high temperature & pressure.
- High resistance from everyday household chemicals
- Hiltake CPVC pipes light weight thus save energy at the time of transportation and installation

Applications

1. Hot and Cold potable water distribution in buildings of all types - residential (low rise & high rise), commercial complexes & institutes
2. Can be used in fire suppression systems (sprinklers etc.) due to its fire resistance
3. Corrosive Fluid handling in industries

KANEKA CPVC COMPOUND
Is Certified by NSF International
(National Sanitation Foundation, USA)

Hiltake CPVC



ENGINEERING DATA SECTION Pipe Specification

Hiltake pipes are produced in two different dimensional ratio SDR 11 & SDR 13.5 dimensions using copper pipe size (CTS) outside diameters, as specified in ASTM D 2846. All Hiltake pipes are made from identical CPVC compound material having same physical properties. The ratio of wall thickness to outside diameter of the pipe is a constant. Hence, the pressure rating for all sizes is the same at given temperature.

Available Sizes: 15mm (1/2"), 20mm (3/4"), 25mm (1"), 32mm (1-1/4"), 40mm (1-1/2"), 50mm (2") in SDR 13.5
Potable Water Certification: ANSI/NSF Standard 61 certified raw material



DIMENSIONS AND PRESSURE RATING CHART FOR PIPES

Nominal Pipe Size		Outer Diameter in. (mm)		SDR 11			SDR 13.5				
				Wall Thickness in. (mm)		Working pressure at 23°C / 82°C		Wall Thickness in. (mm)		Working pressure at 23°C / 82°C	
Inch	mm	Average	Tolerance	Minimum	Tolerance	Kg/cm ²		Minimum	Tolerance	Kg/cm ²	
1/2	15	0.625 [15.90]	± 0.003 [± 0.08]	0.068 [1.73]	± 0.020 [± 0.51]	28.1	7.0	0.055 [1.40]	± 0.020 [± 0.51]	22.5	5.6
3/4	20	0.875 [22.20]	± 0.003 [± 0.08]	0.080 [2.03]	± 0.020 [± 0.51]	28.1	7.0	0.065 [1.65]	± 0.020 [± 0.51]	22.5	5.6
1	25	1.125 [28.60]	± 0.003 [± 0.08]	0.102 [2.59]	± 0.020 [± 0.51]	28.1	7.0	1.083 [2.72]	± 0.020 [± 0.51]	22.5	5.6
1 1/4	32	1.375 [34.90]	± 0.003 [± 0.08]	0.125 [3.18]	± 0.020 [± 0.51]	28.1	7.0	0.102 [2.59]	± 0.020 [± 0.51]	22.5	5.6
1 1/2	40	1.625 [41.30]	± 0.004 [± 0.10]	0.148 [3.76]	± 0.020 [± 0.51]	28.1	7.0	0.120 [3.06]	± 0.020 [± 0.51]	22.5	5.6
2	50	2.125 [54]	± 0.004 [± 0.10]	0.193 [4.90]	± 0.023 [± 0.58]	28.1	7.0	0.157 [4.00]	± 0.023 [± 0.58]	22.5	5.6

Pressure Ratings

Pipe	Temperature (°C)	Pressure Rating	
		PSI	Kg/Cm ²
SDR 11	23°C continuous operating temperature	400	28.1 kg/cm ² operating pressure
SDR 11	82°C continuous operating temperature	100	7 kg/cm ² operating pressure
SDR 13.5	23°C continuous operating temperature	320	22.5 kg/cm ² operating pressure
SDR 13.5	82°C continuous operating temperature	80	5.6 kg/cm ² operating pressure

Burst pressure of these pipes are more than 3 times the above pressure ratings.

Temperature Derating Factors

Working Temperature (°F)	73-80	90	100	120	140	160	180	200
Working Temperature (°C)	23-25	38	38	49	60	71	82	93
Pipe Derating Factor	1.00	0.82	0.82	0.65	0.50	0.40	0.25	0.20
Valve Derating Factor	1.00	0.90	0.90	0.80	0.70	0.61	0.53	0.45

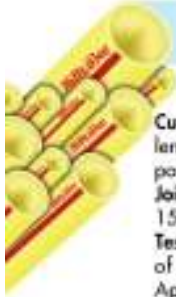
N.B.: For obtaining working pressure in system, multiply the maximum pressure with derating factor at the working temperature of system. *Valves, Unions & Speciality Products have different elevates temperature rating than pip.

Horizontal & Vertical Support

Clamps may be used for fixing the system to protect the pipes against excessive buckling and to prevent possible vibrations and transmission of noise. please refer to the below chart for details.

Horizontal & Vertical Support

Nominal pipe Size		21°C		49°C		71°C		82°C	
inch	mm	ft	cm	ft	cm	ft	cm	ft	cm
1/2	15	5.5	167.70	4.5	137.16	3.0	91.44	2.5	76.20
3/4	20	5.5	167.70	5.0	152.40	3.0	91.44	2.5	76.20
1	25	6.0	182.88	5.5	167.70	3.5	106.68	3.5	106.68
1 1/4	32	6.5	198.12	6.0	182.88	3.5	106.68	3.5	106.68
1 1/2	40	7.0	213.36	6.0	182.88	3.5	106.68	3.5	106.68
2	50	7.0	213.36	6.5	198.12	4.0	121.92	3.5	106.68



Method of Joining

Cutting the pipe- Either a pipe cutter or Hacksaw Blade can be used for cutting the pipe. Measure the length of the pipe and ensure that pipe & fittings are size compatible. Cut the pipe as squarely as possible for getting maximum bonding area within a joint.

Joints- Remove the burr from outside and inside by a pocket knife or chamfer approximately at 10°-15°.

Wipe out the dirt and moisture from the pipes and sockets, by using a clean dry rag.

Test Fitting- insert the pipe into the socket and check that the interference occurs about 1/3rd to 2/3rd of the socket depth. Do not over light or keep too loose as it may lead to leakage.

Applying Solvent Cement- Use only CPVC Cement for joining. Apply cement lightly and evenly to inside of sockets and outside of pipe end with a natural bristle nylon brush or suitable applicator. A second coat of cement may be applied to the pipe quickly to prevent it from drying. Excessive coating of cement may cause clogged water ways.



Assembly of Joints- Insert the pipe into the fitting socket immediately (within) 10-20 seconds). Rotate the pipe to 1/4th turn to distribute cement evenly. Hold the assembly for 10 seconds, allowing the joint to set-up.

Curing Time- Allow cement to cure for about 10 to 20 minutes before applying water pressure. Curing time varies with temperature, humidity etc. Please refer to curing time chart for details.

Recommended curing time for operating/test pressure up to 12kg/cm²

Ambient Temp.	Pipe size from 1/2" to 1 1/2"	Pipe size from 1 1/2" to 2"
17°C to 28°C	1 hrs.	2 hrs.
26°C to 17°C	3 hrs.	4 hrs.
Up to 26°C	8 hrs.	16 hrs.

The Complete Range of CPVC Fittings

ELBOW 90°

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



ELBOW 45°

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



REDUCING BUSH

Size: 1/2"x1/2", 1"x1/2", 1 1/4"x1/2", 1 1/4"x3/4", 1 1/4"x1", 1 1/4"x1 1/4", 1 1/4"x1 1/2", 1 1/4"x2", 1 1/4"x2 1/2", 1 1/4"x3", 1 1/4"x3 1/2", 1 1/4"x4", 1 1/4"x4 1/2", 1 1/4"x5", 1 1/4"x5 1/2", 1 1/4"x6", 1 1/4"x6 1/2", 1 1/4"x7", 1 1/4"x7 1/2", 1 1/4"x8", 1 1/4"x8 1/2", 1 1/4"x9", 1 1/4"x9 1/2", 1 1/4"x10", 1 1/4"x10 1/2", 1 1/4"x11", 1 1/4"x11 1/2", 1 1/4"x12"



REDUCER

Size: 3/4"x1/2", 1"x1/2", 1 1/4"x1/2", 1 1/4"x1", 1 1/4"x1 1/4", 1 1/4"x1 1/2", 1 1/4"x1 1/4", 1 1/4"x1 1/2", 1 1/4"x2", 1 1/4"x2 1/2", 1 1/4"x3", 1 1/4"x3 1/2", 1 1/4"x4", 1 1/4"x4 1/2", 1 1/4"x5", 1 1/4"x5 1/2", 1 1/4"x6", 1 1/4"x6 1/2", 1 1/4"x7", 1 1/4"x7 1/2", 1 1/4"x8", 1 1/4"x8 1/2", 1 1/4"x9", 1 1/4"x9 1/2", 1 1/4"x10", 1 1/4"x10 1/2", 1 1/4"x11", 1 1/4"x11 1/2", 1 1/4"x12"



EQUAL TEE

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



CROSS TEE

Size: 1/2", 3/4"



Hiltake CPVC

METAL INSERT ELBOW / TEE

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



METAL INSERT FTA & MTA

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 3", 3 1/2"



The Complete Range of CPVC Fittings

COUPLER

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



END CAP

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



STEPOVER BEND

Size: 1/2", 3/4"



UNION

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



MTA

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



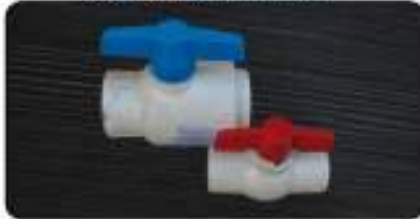
FTA

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



BALL VALVE

Size: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"



SOLVENT CEMENT



Hiltake PPR



PPR

Hiltake PPRC pipes are made in the state of the art facility in Balaju using the best quality virgin raw materials from Hyosung Korea. Hiltake has produced 2 quality PPR pipes, fittings. 1, Hiltake gold medal the premium brand of PPR fittings with better quality catering to high rises and complexes and quality conscious consumers. 2, Hiltake brand of PPR fittings catering to market quality pipes & fittings.

Advantages of PPR

PPR pipes made from polypropylene random co-polymer are applied in hot & cold water supply in new & old buildings. The main advantages are listed below:

- Light weight : the density of the pipes is only .89- .91 g/cm³, which is only 1/9th of GI pipes .
- Good heat resistance : it can be used for over 5 years under temperature of 70°C and for short periods upto 95° C. The softening point is 131.3°C
- Long service life of over 50 years
- Good corrosion resistance: Hiltake PPR pipes are resistance to corrosion from most chemical mediators, bacteria free
- Hot welding fusion: The pipes & fittings are made of the same material and joined together by electro-fusion. The pulling, bending & impact strength on the joints are more than the pipe itself.
- Non poisonous & harmless
- Good thermal insulation properties
- Smooth inner surface for best water supply



Hiltake PPR

Applications:

	Distribution for cool and hot water:		Duct for drinkable water system:	 Presser pipe for irrigation system.
	Pipes for kinds of high-temperature and low-temperature heating system:		Industrial transportation for chemical liquids:	
	Pipes for heating and cooling settings in solar energy system:		Connecting pipe for air conditioners:	

DIMENSIONS AND SPECIFICATIONS

Pressure grade: PN 10, Pipe Series: SDR 11/S 5, Standards: DIN8077/78&ISO15874, Length supplied: 3m as a rule, Packing unit: in meter/roll, Color: green/white

pipe diameter	diameter mm	wall thickness mm	internal diameter mm	water content l/m	unit weight kg/m
16mm	16	1.8	12.4	0.121	0.072
20mm	20	1.9	16.2	0.206	0.107
25mm	25	2.3	20.4	0.327	0.164
32mm	32	2.9	26.0	0.531	0.267
40mm	40	3.7	32.6	0.834	0.412
50mm	50	4.6	40.8	1.307	0.638
63mm	63	5.8	51.4	2.075	1.010
75mm	75	6.8	61.2	2.941	1.420
90mm	90	8.2	73.6	4.254	2.030
110mm	110	10.0	90.0	6.362	3.101

Pressure grade: PN 16, Pipe Series: SDR 7.4/S 3.2, Standards: DIN8077/78&ISO15874,

Length supplied: 4m as a rule, or as customers require, Packing unit: in meter/roll, Color: green/white

pipe diameter	diameter mm	wall thickness mm	internal diameter mm	water content l/m	unit weight kg/m
16mm	16	2.2	11.6	0.106	0.086
20mm	20	2.8	14.1	0.163	0.149
25mm	25	3.5	18.0	0.254	0.228
32mm	32	4.4	23.0	0.415	0.375
40mm	40	5.5	28.8	0.651	0.575
50mm	50	6.9	36.2	1.029	0.862
63mm	63	8.6	45.6	2.633	1.379
75mm	75	10.3	54.2	2.307	1.964
90mm	90	12.3	65.0	4.318	2.824
110mm	110	15.1	79.6	6.674	4.320

Hiltake PPR

Pressure grade: PN 20, Pipe Series: SDR 6/S 2.5, Standards: DIN8077/78&ISO15874,
Length supplied: 4m as a rule, or as customers require, Packing unit: in meter/roll, Color: green/white



pipe diameter	diameter mm	wall thickness mm	internal diameter mm	water content l/m	unit weight kg/m
20mm	20	3.4	13.2	0.137	0.172
25mm	25	4.2	16.6	0.216	0.226
32mm	32	5.4	21.2	0.353	0.434
40mm	40	6.7	26.6	0.556	0.671
50mm	50	8.3	33.2	0.866	0.950
63mm	63	10.5	42.0	1.385	1.650
75mm	75	12.5	50.0	1.963	2.340
90mm	90	15.0	60.0	2.827	3.360
110mm	110	18.3	73.2	4.208	5.040

Heat fusion Procedures:

- The pipe must be cut perpendicularly to its axis by the special cutter.
- Clean the jointing parts of the pipe and the fitting to avoid sand, dust, etc which would influence the quality of the joints.
- Make sure the corresponding heating head to the dimension of the pipe to be welded. Connect the welding machine and put on the power supply. Wait until the temperature of the heating head reaches the optimal one ($260 \pm 10^{\circ}\text{C}$), which can be indicated by a flashing green lamp.
- Use a pencil to mark the depth of fusion on the pipe. (See the table attached)
- Insert the pipe and the fitting into the welding machine at the same time. Heat according to the specified time.
- After the heating time, pull out the pipe and the fitting and immediately join them together. Minor modifications can be done during connection but the twist angle should not exceed 5° .
- When the connection is over, hold the pipe and the fitting tightly and keep enough cooling time.



Heating and cooling time cycle

Diameter Mm	Depth Mm	Heating time Sec.	Welding time Sec.	Cooling time Min.
20	14.0	5	4	2
25	15.0	7	4	2
32	16.5	8	6	4
40	18.0	12	6	4
50	20.0	18	6	4
63	24.0	24	8	6
75	26.0	30	8	8
90	29.0	40	8	8
110	32.5	50	10	8

Hilltake

The Complete Plumbing Solution Company

Balaju Industrial Area, Balaju, Kathmandu, Nepal

Phone No.: +977-1-4388679, 4388691, 4389243

Fax No.: +977-1-4388340

E-mail: hilltakepipesnepal@gmail.com

Product Ranges: Water Tanks, PPRC Pipes & Fittings, CPVC Pipes & Fittings, Electric Pipes, Nature Cure Centre, Air Conditioners, Water Pumps, Generators, Gas Geyser, Room Heater, Water Purifiers.



ISO 9001:2000 Company

