



ALPHA PIPE

INDUSTRIES (PVT) LTD

MANUFACTURER OF uPVC, HDPE,
MDPE, PPRC PIPES & FITTINGS

PPRC Pipes & Fittings

Hot and Cold water Supply System



sales@alphapipes.com.pk www.alphapipes.com.pk



TUV
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HELLAS
ES ISO 9001:2015
No. 01013611





PPRC Pipes & Fittings

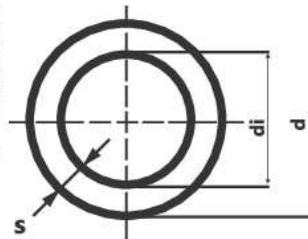
HOT AND COLD WATER SUPPLY SYSTEM

Alpha PPR-C piping system is an ultimate solution for transportation of water and other fluids, used in applications of pressurised hot and cold water delivery as well as under floor heating in all modern residential apartments, commercial buildings and various industries due to their high resistance to high temperature and pressure.



Alpha PPR-C piping system is made from Polypropylene Random Copolymer - a 100% certified food grade material, where its granule characteristics enable it to obtain an extruded pipe with smooth internal walls causing the entire system to be very efficient. Alpha PPR-C piping system is manufactured in conformity with **DIN 8077/8078**.

Since Monomer structure of PP-R raw material forms a random chain, it does not allow any biological substance to be present in its body, so this provides PPRC Pipe & Fittings produced from PP-R raw material with superior properties of non color, taste & smell formation.



Outer diameter	Wall thickness	Internal diameter
d (mm)	s (mm)	di (mm)
20	3.4	13.2
25	4.2	16.6
32	5.4	21.2
40	6.7	26.6
50	8.4	33.2
63	10.5	42.0
75	12.5	50.0
90	15.0	60.0
110	18.4	73.2

PRODUCT RANGE:

Alpha PPRC piping system has the following range of pipes (20 mm -110 mm) and complete array of fittings with a pressure rating of ► **PN-10,PN-16,PN-20 & PN-25**

APPLICATIONS:

- Hospitals.
- Swimming pools.
- Residential apartments, Hotels and shopping complexes.
- Chilled water for central air conditioning systems.
- In compressed air system.

FEATURES AND BENEFITS OF ALPHA PPR-C SYSTEM

Alpha PPRC system provides a large number of benefits in handling cold and hot water, amongst many of its features are:

- Durable - high resistance to aggressive elements, which gives the system service life of 50 years and more.
- Easy connectivity over a complex network.
- Low Electrical Conductivity.
- Resistant to Frost.
- Cost effective pipeline network.
- Minimal head losses due to smooth internal surface of both pipes and fittings .
- Nontoxic and Physiologically harmless material.
- Resistance to wide range of chemicals and so corrosion is avoided in service lines.
- Good impact strength as it can be used in all environments and buildings.
- Noise free - High acoustic insulation against fluid noise.
- Light weight compared to the metallic piping systems.
- No diameter contraction in welding points.
- Has high welding performance.

JOINTING METHOD

The process of jointing Alpha PPRC pipes and fittings is simple and results in a permanent joint. It is carried out using a simple welding machine that melts the internal surface of the fitting and the external surface of the pipe, so that the material of the pipe and fittings are fused together to form a leak-free joint. The following course of action describes the welding process:

- Prepare the welding machine by fitting it with the welding dies of the diameters to be welded.
- Connect the plug to the power supply socket and wait until the machine reaches the working temperature of approximately 260°C - 300°C.
- Cut the pipe at right angles to the pipe axis using suitable cutter.
- Always remove any burrs or chips by cleaning the cutting area.
- Before heating, mark the welding depth on the pipe using a suitable marker.
- Without turning insert the end of the pipe into the heating sleeve up to the marked welding depth and at the same time slide without turning the fitting into the other side of the heating tool up to the stop.
- Leave the pipe and fitting on the heating tool until the heating time is elapsed (see table 1).
- At the end of the heating time, remove the pipe and fitting from the heating tool and push them immediately into each other up to the mark indicating the welding depth. At this stage the depth mark will be covered by the welding bead. During this process, do not rotate the pipe and fitting relative to each other.
- Allow the joint to cool down as per specified cooling time (see table) before initiating installation.

Outer diameter	Welding Depth	Heating Time	Welding Time	Average Cooling Time
(mm)	(mm)	(s)	(s)	(s)
20	14.0	5	4	2
25	15.0	7	4	2
32	16.5	8	6	4
40	18.5	12	6	4
50	20.0	18	6	4
63	24.0	24	8	6
75	26.0	30	8	6
90	29.0	40	8	6
110	32.5	50	10	8

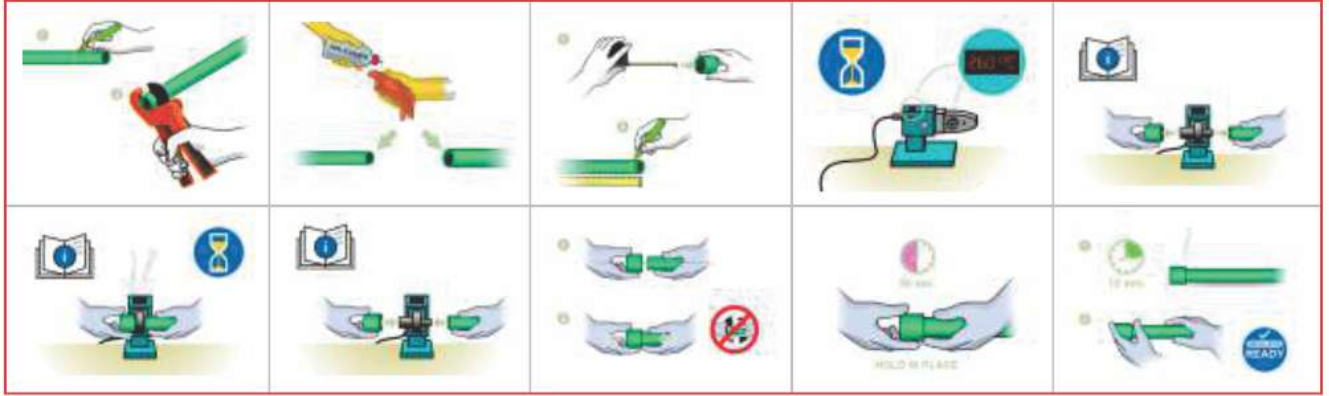
Table 1: Fusion Data for PPRC

Note:

- Heating time starts when both pipe and fitting are pushed into correct depth.
- Welding time begins when joints are connected.
- Average cooling time is the time taken for the joint to be completely cured

INSTALLATION:

Installation of PPRC piping system is either exposed or concealed. For exposed installations, the system requires compensation for thermal variations and this can be achieved by proper placement of fixed (to restrict unnecessary movements) and sliding clamps (to allow axial movement without damaging it) in the installation network. On the other hand, in concealed installations, pipes can be encased or embedded in walls, concrete and plaster as with other metal pipes. The expansion of pipe due to temperature will not damage the wall plastering as the linear expansion is prevented by the compressive strain and tensile stress of concrete and plaster, infact the material itself absorbs it.



ضروری اشیاء | کٹر (Cutter) | جوائننگ ہیٹر | مارکر | صاف کپڑا

PPRC ویلڈنگ (PPRC Jointing)

- 1- PPRC جوائنٹ لگانے سے پہلے پائپ اور فٹنگ دونوں کو کسی صاف کپڑے کے ساتھ صاف کر لیں۔
- 2- پائپ پرسیدھی کٹ لگائیں تاکہ کوئی ٹیڑھا پن نہ ہو۔ کٹنگ کے بعد برادہ صاف کریں۔
- 3- پھر فٹنگ کی اندرونی گہرائی (Insertion Depth) کو ناپ کر کے اسی حساب سے پائپ پر نشان لگائیں۔
- 4- پھر ویلڈنگ مشین میں ڈائی لگا کے تیار کریں۔ اور ہیٹر کا ٹمپریچر 260-300C تک پہنچنے کا انتظار کریں۔
- 5- پھر اسی نشان شدہ پائپ کو ویلڈنگ مشین کی ایک سائیڈ پر لگائیں جبکہ فٹنگ کو دوسری سائیڈ پر
- 6- مختلف سائزز کے لیے مختلف ٹمپریچرز ہوتے ہیں اس لیے نیچے دی گئی ٹیبل کے مطابق ہر سائز کے لیے ٹمپریچر کو لنگ ٹائم وہاں سے منتخب کریں۔

- 7- یہ ٹائم پورا ہوتے ہی پائپ کو اور فٹنگ ٹول سے ہٹائیں اور اسی وقت دونوں کو آپس میں نشان تک جوڑ دیں۔ اس دوران پائپ اور فٹنگ کو گھمانا نہیں ہے۔

Outer diameter	Welding Depth	Heating Time	Welding Time	Average Cooling Time
(mm)	(mm)	(s)	(s)	(s)
20	14.0	5	4	2
25	15.0	7	4	2
32	16.5	8	6	4
40	18.5	12	6	4
50	20.0	18	6	4
63	24.0	24	8	6
75	26.0	30	8	6
90	29.0	40	8	6
110	32.5	50	10	8

- 9- پھر اس کو کچھ دیر تک ٹھنڈا ہونے دیں۔

(Table Attached)

اسی طرح جوڑ لگ جائے گا۔

PPRC STANDARD SPECIFICATION AS PER DIN 8077-78

PN-25 As Per DIN 8077/78 Standard

Size (mm)	Minimum Outer Diameter (mm)	Maximum Outer Diameter (mm)	Minimum Wall Thickness (mm)	Maximum Wall Thickness (mm)
20	20.0	20.3	4.1	4.8
25	25.0	25.3	5.1	5.9
32	32.0	32.3	6.5	7.4
40	40.0	40.4	8.1	9.2
50	50.0	50.5	10.1	11.4
63	63.0	63.6	12.7	14.2
75	75.0	75.7	15.1	16.9
90	90.0	90.9	18.1	20.2
110	110.0	110.9	22.1	24.5

PN-20 As Per DIN 8077/78 Standard

Size (mm)	Minimum Outer Diameter (mm)	Maximum Outer Diameter (mm)	Minimum Wall Thickness (mm)	Maximum Wall Thickness (mm)
20	20.0	20.3	3.4	4
25	25.0	25.3	4.2	4.9
32	32.0	32.3	5.4	6.2
40	40.0	40.4	6.7	7.6
50	50.0	50.5	8.3	9.4
63	63.0	63.6	10.5	11.8
75	75.0	75.7	12.5	14
90	90.0	90.9	15	16.7
110	110.0	110.9	18.3	20.4

PN-16 As Per DIN 8077/78 Standard

Size (mm)	Minimum Outer Diameter (mm)	Maximum Outer Diameter (mm)	Minimum Wall Thickness (mm)	Maximum Wall Thickness (mm)
20	20.0	20.3	2.8	3.3
25	25.0	25.3	3.5	4.1
32	32.0	32.3	4.4	5.1
40	40.0	40.4	5.5	6.3
50	50.0	50.5	6.9	7.8
63	63.0	63.6	8.6	9.7
75	75.0	75.7	10.3	11.6
90	90.0	90.9	12.3	13.8
110	110.0	110.9	15.1	16.9

PN-10 As Per DIN 8077/78 Standard

Size (mm)	Minimum Outer Diameter (mm)	Maximum Outer Diameter (mm)	Minimum Wall Thickness (mm)	Maximum Wall Thickness (mm)
20	20.0	20.3	1.9	2.3
25	25.0	25.3	2.3	2.8
32	32.0	32.3	2.9	3.4
40	40.0	40.4	3.7	4.3
50	50.0	50.5	4.6	5.3
63	63.0	63.6	5.8	6.6
75	75.0	75.7	6.8	7.7
90	90.0	90.9	8.2	9.3
110	110.0	110.9	10	11.2



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& F/GS



HEAD OFFICE:

Office # 206-207, 2nd Floor, Amin Mansion G.T. Road Peshawar
Tel: 091-9225424-32, Fax: 091-9225430 Email: info@alphapipes.com.pk, info@apipk.net
Email: sales@alphapipes.com.pk - URL: <http://www.alphapipes.com.pk>

FACTORY

Plot # 96/2, Road No. R-3, Industrial Estate, Gadoon Amazai, Distt. Swabi
Phone: 0938-270671-3, Fax: 0938-270672

ISLAMABAD OFFICE

Flat # 06, 1st Floor, Zaki Center, I-8 Markaz, Islamabad
Phone: 051-4938328 Fax: 051-4938328