

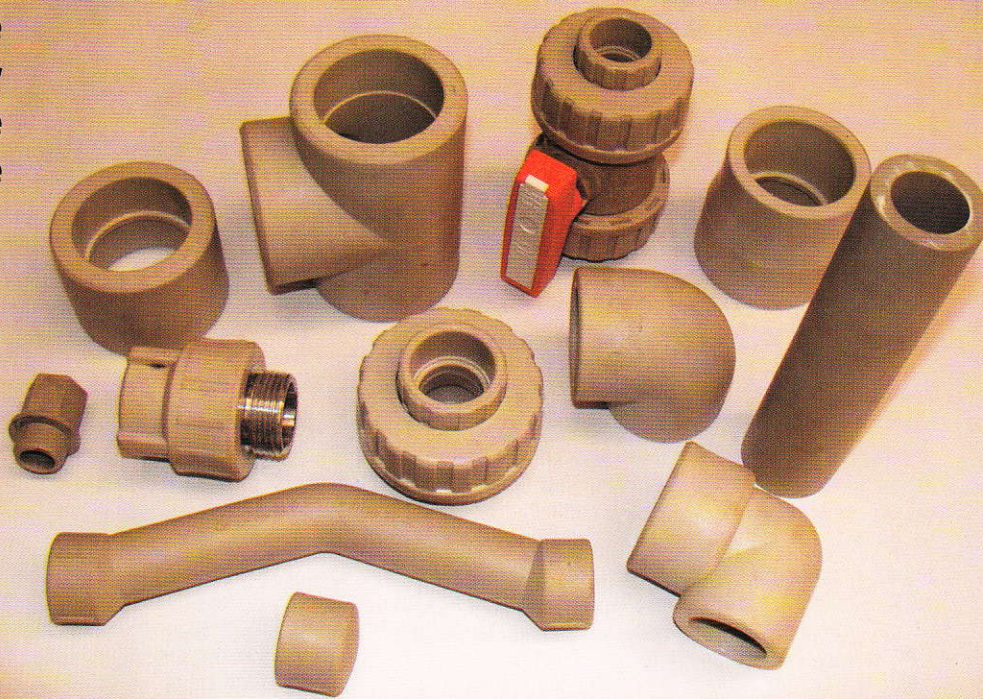
# PPRC Pipes & Fittings

# Hot and Cold water Supply System

**BETA<sup>®</sup>**  
**PIPES**

Our Commitment  
"Service & Quality"

Environment Friendly  
Cost Effective  
Easy Connectivity  
Durable  
Non-Corrosive



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# PPRC Pipes & Fittings

## Hot and Cold water Supply System

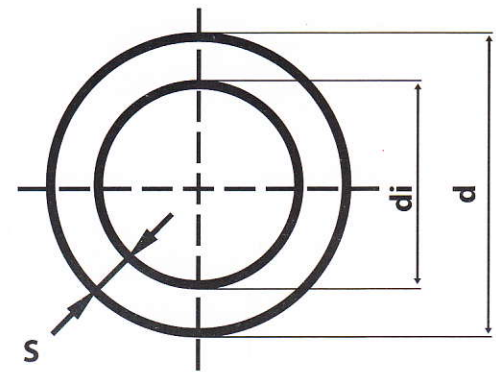


BETA PPR-C piping system is an ultimate solution for transportation of water and other fluids, used in applications of pressurised hot and cold water delivery as well as under floor heating in all modern residential apartments, commercial buildings and various industries due to their high resistance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

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

BETA PPRC piping system has the following range of pipes (20 mm - 110 mm) and complete array of fittings with a pressure rating of PN 20 ▶

| 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              |



### APPLICATIONS:

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

### Features and benefits of BETA PPR-C system:

BETA 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.
- It is fit for use in seismic areas.
- Cost effective pipeline network.
- Environment friendly with recyclable ability.
- 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 avoided in service lines.
- Good impact strength so as to be used in all environments and around buildings.
- Noise free - High acoustic insulation against fluid noise.
- Light weight compared to the metallic piping systems.



## Jointing Method

The process of jointing Beta 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 the fitting will be 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.
- 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 before initiating installation.

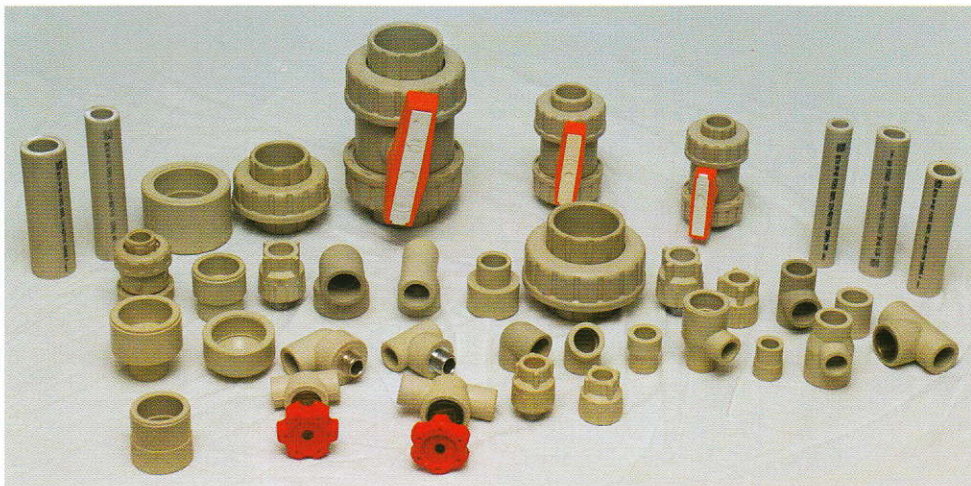
| Outer diameter | Welding Depth | Heating Time | Welding Time | Average Cooling Time |
|----------------|---------------|--------------|--------------|----------------------|
| (mm)           | (mm)          | (s)          | (s)          | (s)                  |
| 20             | 14.0          | 5            | 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

- \* 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, it will be absorbed through the material itself.





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**Our Commitment "Service & Quality"**



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