

JOINTING METHOD

CUTTING

- Cut the pipe at right angle to its axis using burr-free cutter
- Ensure that pipe is free from burrs or cutting chips
- Clean the pipe and fitting perfectly before welding
- Mark welding depth at the end of the pipe



HEATING

- Mount the suitable dies on heating element of the welding machine according to the diameter of pipe and fitting to be welded
- Connect the welding machine to 220 volts A.C. power supply
- Select 260°C temperature on the welding machine thermostat
- Wait till working temperature is reached
- Insert the pipe and the fitting in the dies by exerting light pressure



WELDING

- After heating, quickly insert pipe into the fitting by exerting light pressure
- Any misalignment should be corrected immediately after insertion to avoid any stress in the weld
- Allow the joint to cool as per cooling time given in table



This type of connection ensures perfect sealing even under severe working conditions.

RECOMMENDED TIME FOR BLUE GREENFIT® PP-R FUSION JOINTS

Pipe Diameter (mm)	Welding Depth (mm)	Heating Time (Sec)	Welding Time (Sec)	Cooling Time (Min)
20	14.50	6	4	2
25	16.00	7	4	2
32	18.00	8	6	4
40	20.50	12	6	4
50	23.50	18	6	4
63	27.50	24	8	6
75	30.00	30	8	6
90	33.00	40	8	6
110	37.00	50	10	8
160	55.00	60	15	10

STANDARD

IS 15801: Polypropylene - random copolymer pipes for hot & cold water supplies.

DIN 16962: For pipe joint assemblies & fittings.

IS 10500: For use contact with foodstuff, pharmaceutical & drinking water.

PRINCE PIPES AND FITTINGS LIMITED

Mfg. & Exporters of UPVC, CPVC, PPR & HDPE Pipes, Fittings & Valves

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A ZERO DEFECT SOLUTION FOR COMPRESSED AIR APPLICATIONS



BLUE GREENFIT®
PP-R Industrial Piping Systems



Pipes as per IS:15801



Fittings as per DIN 16962

www.princepipes.com

PREFACE

Prince Piping Systems is a leading manufacturer of UPVC piping systems for the past 3 decades. Over the years, Prince Piping Systems has expanded its product portfolio in different polymers like CPVC, HDPE & PPR. With our state of the art manufacturing facilities at strategic locations of Haridwar, Athal, Dadra, Kolhapur & Chennai, we deliver quality product to our customers.

We actively use consumer feedback as a part of product development which has helped us create products and innovations that are able to answer ever changing market requirements.

Today, with the advent of new technologies, people in industries are looking forward to get solutions that provide best results. They want products that not only fulfill their functional benefit but also have an aesthetic appeal.

Keeping this in mind, we had introduced Greenfit industrial piping systems which is an effective solution for transportation of chemicals as well as foodstuff. The pipes and fittings are made of Polypropylene Random Copolymer (PPRC or commonly known as PP-R material) which can withstand temperature up to 95°C which prevents oxidation and calcification. Thus, providing high-quality performance.

Now going one step further, we have introduced Blue - Greenfit piping systems which is used in transportation of compressed air & vacuum lines. This system conforms to industry standards and is used in pneumatic applications.

SHORTCOMINGS OF EXISTING PIPING SYSTEMS

Most of the industries are now slowly moving away from aluminium/MS/GI piping systems for compressed air transportation owing to the following problems:

- **Leak in joints** - In welded or threaded joints, most of the fittings are in plastic material. These areas are then rendered mechanically weaker.
- **Rusting** - Water condensation in compressed air system leads to rust formation even in joint areas of GI pipe welding, affecting costlier pneumatic equipment.
- **Installation Time** - Both threaded and welded systems consume more time in existing repair work as well as in new projects.
- **Pressure Drop** - Rough inner surface in the above pipes leads to slight increase in pressure drop.
- **Cost** - Aluminum piping systems is more expensive than PP-R pipes.
- **Atmospheric effects** - Aluminum also reacts with most of the chemicals. If some chemicals are present in compressed air, they can equally affect aluminum pipes.
- **Size Limitations** - Often aluminum pipes are available at the maximum size of 110 mm only.

BLUE GREENFIT® PP-R PIPING RANGE

- Pipes are available from 20 mm to 160 mm as per PN10, PN16 and PN 20.
- Fittings are available from 20 mm to 160 mm as per PN20 and PN25.

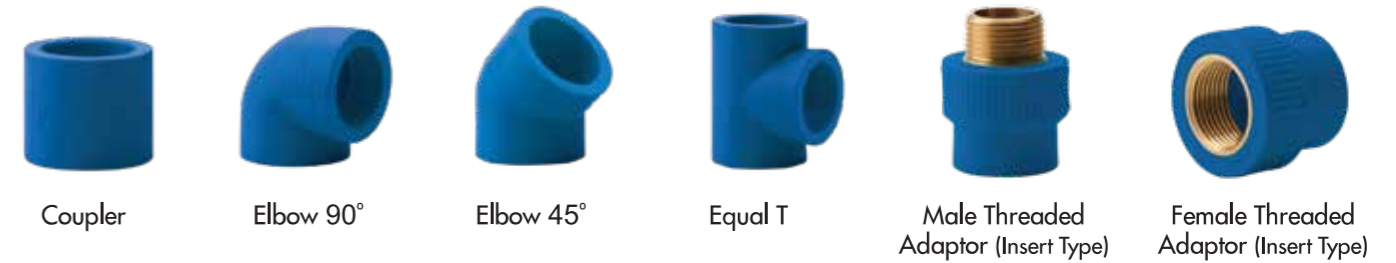
3 Layer Blue GREENFIT® PP-R pipes.

- Outer layer (Blue Colour) Blue GREENFIT® PP-R is UV resistant, which makes these pipes suitable for use under direct sunlight.
- Inner layer (White Colour) Blue GREENFIT® PP-R is antimicrobial which enhances safety against bacterial growth.
- Middle layer (Off White Colour) Blue GREENFIT® PP-R ensures the required strength of the pipes.



PIPE DIMENSIONS

SIZE	SDR 11 (PN-10)	SDR 7.4 (PN-16)	SDR 6 (PN-20)
(mm)	(mm)	(mm)	(mm)
20	1.9	2.80	3.40
25	2.3	3.50	4.20
32	2.9	4.40	5.40
40	3.7	5.50	6.70
50	4.6	6.90	8.30
63	5.8	8.60	10.50
75	6.8	10.30	12.50
90	8.2	12.30	15.00
110	10.0	15.10	18.30
160	14.6	21.90	26.60



APPLICATIONS

PRIMARY USAGES

- Compressed Air Lines

SECONDARY USAGES

- Chemical Transport*
- Hot and Chilled Water Application
- Effluent Treatment Plant (ETP)
- Ship Building and Swimming Pools
- RO Water Pipeline
- Solar Water Heating Systems
- Heating System Inside Building Floor, Wall and Radiator Heating
- Liquid Food Transportation
- Pharmaceuticals and Food Grade Applications

ADVANTAGES

- Fusion joints: Pipes and fittings are welded together to make one homogenous system
- Cost effective
- Chemical resistant
- Smooth inner surface
- Withstands atmospheric conditions

*Refer to the chemical chart printed Greenfit Technical Manual