



PRINCE[®]
PIPING SYSTEMS

**EXTREMELY EFFICIENT IN
EXTREME TEMPERATURES.**
EXTREME TEMPERATURE PIPING SYSTEMS



GREENFIT[®]

PP-R Plumbing Systems



Pipes as per
IS:15801



CM/L- 3602447

Fittings as per
Din 16962

www.princepipes.com

INTRODUCTION

PREFACE

PRINCE Piping Systems a leading manufacturer of uPVC piping systems since last 3 decades. Understanding the need of the customer, PRINCE Piping Systems has established manufacturing of pipes, fittings & valves in PP-R material, using the best available technologies. PRINCE Piping Systems is proud to offer a complete range of high quality and reliable GREENFIT[®] PP-R piping system for the modern construction industry.

The superior physical characteristics of GREENFIT[®] PP-R material such as working temperatures up to 95°C along with excellent chemical resistance as well as providing a definite solution to oxidation and calcification, make GREENFIT[®] PP-R an ideal material, primarily for hot and cold water plumbing systems in buildings and industrial piping installations ensuring a high quality performance.

PRODUCT RANGE:

Polypropylene Random Co-Polymer makes Greenfit temperature resistant, Weather-resistant & Long-Lasting Pipes:

- 20mm to 160mm
- Single layer (green colour) pipes for indoor installations
- Triple layer (green, white & off-white colour) pipes for outdoor installations
- Thermex triple layer pipes that are insulated with glass for handling for extreme temperature.

Fittings:

- 20mm to 160mm

Why GREENFIT[®] PP-R

The primary advantages which make GREENFIT[®] PP-R Piping Systems preferred over traditional ones are:-

Sr. no	MATERIAL PROPERTIES	ADVANTAGES
1.	Lightweight	Easy to handle, transport and install. Saves Labour cost.
2.	Better Corrosion Resistance	No scaling, can withstand higher 'pH' values.
3.	Nontoxic, Hygienic 'Green product'	Safe for drinking water. No harmful effect to human & ecology.
4.	High Vicat Softening Temperature	Ensures thermal stability for hot water application.
5.	UV resistant	Three layer pipes are suitable for outdoor installations exposed to direct sunlight.
6.	Good Thermal Insulation	Ensures lower heat losses & saves energy up to 15%
7.	Good Chemical Resistance	Suitable for most of the industrial liquids.
8.	Better Impact Strength	Higher stiffness than the standard pipes.
9.	Heat Fusion Welding (No use of solvent)	Results in a homogeneous plastic system ensuring leak proof joints. Safe and reliable to use for concealed and exterior installations. Saves considerable jointing time.
10.	Better Noise Insulation	Reduces water hammer sound.
11.	Bacteriologically Neutral	Can be used underground. Also inside fluid remains free from bacterial growth.
12.	Very Less Coefficient of Friction	Low-pressure drop. Extremely high flow properties. Reduces pumping cost.
13.	Resilience	Suitable for use in seismic areas.
14.	Good Abrasion Resistance	Allow higher flow velocities of fluid up to 5 m/sec.
15.	High volume Resistivity	Poor conductor of electricity. No effect of stray currents.
16.	Long life	Can exceed 50 years when operating under rated temperature and pressure conditions.
17.	Linear expansion	75% less linear expansion than standard pipes.

All the above advantages make **PRINCE GREENFIT[®] PP-R** piping system as the most cost effective solution than any other plumbing system.

COMPARISON BETWEEN DIFFERENT PIPING SYSTEMS

SR. NO	PROPERTY PARAMETER	COPPER	C-PVC	GALVANISED IRON	HDPE	PRINCE GREENFIT [®] PP-R
1.	Type of joint	Soldering	Solvent welding	Threaded	Butt fusion	Poly-fusion welding. For transition joints, fittings with threaded metal inserts, are also available.
2.	Installation	Time consuming & requires skill.	Easy to install, saves time & labour.	Tedious & time consuming.	Needs skilled labour.	Easy to install, saves time & labour.
3.	Corrosion resistance	Not resistant	Free from corrosion.	Not resistant	Good	Free from corrosion.
4.	Chemical resistance	Poor	Resistant to most of the chemicals.	Not resistant	Good	Excellent chemical resistance even at higher temperatures.
5.	Scale formation	Common	No scaling	Very common	Inert to impurities in water.	No scaling
6.	Suitability in cold areas - sub-zero temperatures	Not suitable, Pipe bursts.	Impact strength considerably reduces at lower temperature & hence not suitable.	Not suitable. Pipe bursts.	Not suitable, Pipe cracks.	Most suitable due to typical elastic nature and good impact strength.
7.	Insulation requirements	Essential	Not required	Essential	Required	Insulation is necessary at sub zero temperature.
8.	Impact strength	Less	Less (brittle nature)	Excellent	Average	High impact strength.
9.	Life span under rated pressure & temperature	20 - 30 years	30 - 40 years	5 -15 years	20-30 years	Can exceed 50 years.
10.	Behavior in Fire	Resistant but de-shapes or punctures.	High percentage of chlorine and toxic gases are generated which are harmful.	Resistant	Not resistant	Melts like all other plastics, but no generation of any toxic gases.

APPLICATION OF PRINCE GREENFIT[®] PP-R PLUMBING SYSTEMS

1. Indoor & Outdoor installations of hot & cold water piping systems.
2. Drinking water transportation.
3. Liquid food transportation.
4. Pharmaceuticals.
5. Solar water heating systems.
6. Heating system inside building including floor, wall & radiator heating.
7. Compressed air supply system.
8. Piping systems for transportation of aggressive fluids in industries.



AREAS OF INSTALLATION

1. Residential & Commercial Buildings.
2. Public places such as Hospitals, Schools & Colleges, Hotels, Cinema halls, Airports, Railways, Bus stations, Swimming pools, etc.
3. Industries such as Chemical plants, Breweries, Petroleum & Gas plants, Oil plants, Mineral water plants, Water treatment plants, etc.
4. Solar water Heating Systems.

FITTINGS RANGE (FUSION WELD/INSERT TYPE)

<p>COUPLER</p> 	<p>ELBOW 90°</p> 	<p>ELBOW 45°</p> 	<p>EQUAL TEE</p> 	<p>PLAIN UNION</p> 	<p>END PLUG</p> 
<p>END CAP</p> 	<p>FOUR WAY TEE</p> 	<p>PIPE CLAMP</p> 	<p>CROSS OVER</p> 	<p>CROSS OVER (Moulded)</p> <p>New</p> 	<p>REDUCER</p> 
<p>REDUCING ELBOW 90°</p> 	<p>TANK CONNECTOR SHORT</p> 	<p>TANK CONNECTOR</p> 	<p>REDUCING TEE</p> 	<p>FLANGE CORE</p> 	<p>MTA (Insert Type)</p> 
<p>MTE (Insert Type)</p> 	<p>MALE THR. TEE (Insert Type)</p> 	<p>MALE THR. UNION</p> 	<p>FEMALE THR. ADAPTOR (Insert Type)</p> 	<p>FEMALE THR. ELBOW (Insert Type)</p> 	<p>FEMALE THR. ELBOW WITH SUPPORT</p> 
<p>FEMALE THR. TEE</p> 	<p>FEMALE THR. UNION</p> 	<p>METAL UNION</p> 	<p>BALL VALVE (available for cold & hot water)</p> 	<p>FLANGE</p> 	

PRINCE PIPES AND FITTINGS LIMITED

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

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