

# TERRAFIT

*Perforated Corrugated Pipes for  
Sub-Surface Drainage*





## EMPOWERING AGRICULTURAL AND INFRASTRUCTURAL ADVANCEMENTS

In developed Western nations, Subsurface Drainage Pipes have a well-established history, showing remarkable progress during the 20<sup>th</sup> century. These systems, implemented beneath the topsoil layer for agricultural purposes, have significantly increased crop yields where natural soil drainage is insufficient. With the proven success in enhancing agricultural productivity, India is now embracing advanced systems for both agricultural and infrastructural purposes. This demonstrated technology is making its way into the country, signifying a positive shift towards adopting newer techniques for improved agricultural practices and infrastructure development.

**Introducing Prince Terrafit - Subsurface Drainage Pipes**, an innovative solution, addressing challenges related to excessive subsurface water in agriculture and playing a pivotal role in modern infrastructure development by regulating and maintaining water tables. Beyond transforming agricultural fields, Prince Terrafit is at the forefront of ushering in a new era of sustainable and efficient water management and can be installed in different areas like Highways, Railways, Airports etc.

## EFFICIENT WATER MANAGEMENT FOR PRODUCTIVITY AND STABILITY

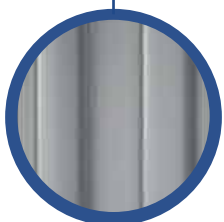
Prince Terrafit are perforated corrugated pipes manufactured according to IS 9271, designed for efficient subsurface drainage. Overcoming challenges like impermeable soils, shallow bedrock, and dense glacial till, our solution ensures rapid water percolation. Ideal for maintaining stability in agriculture, roads, and building sites, Prince Terrafit's advanced technology optimizes water management, enhancing overall productivity.



Pipes as per IS: 9271



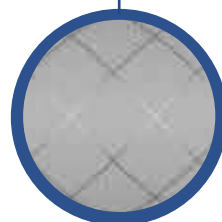
Prince Terrafit corrugated pipes have a crest and valley design which serves as an efficient entry point for gathering excess water from various sources, including rainfall, irrigation, or high groundwater levels. The valley portion of the pipes is equipped with slit perforations, complemented by a synthetic non-woven fabric with a weight of 250 gsm that wraps around the pipe periphery, effectively filtering the water.



Corrugated pipes with crest and valley

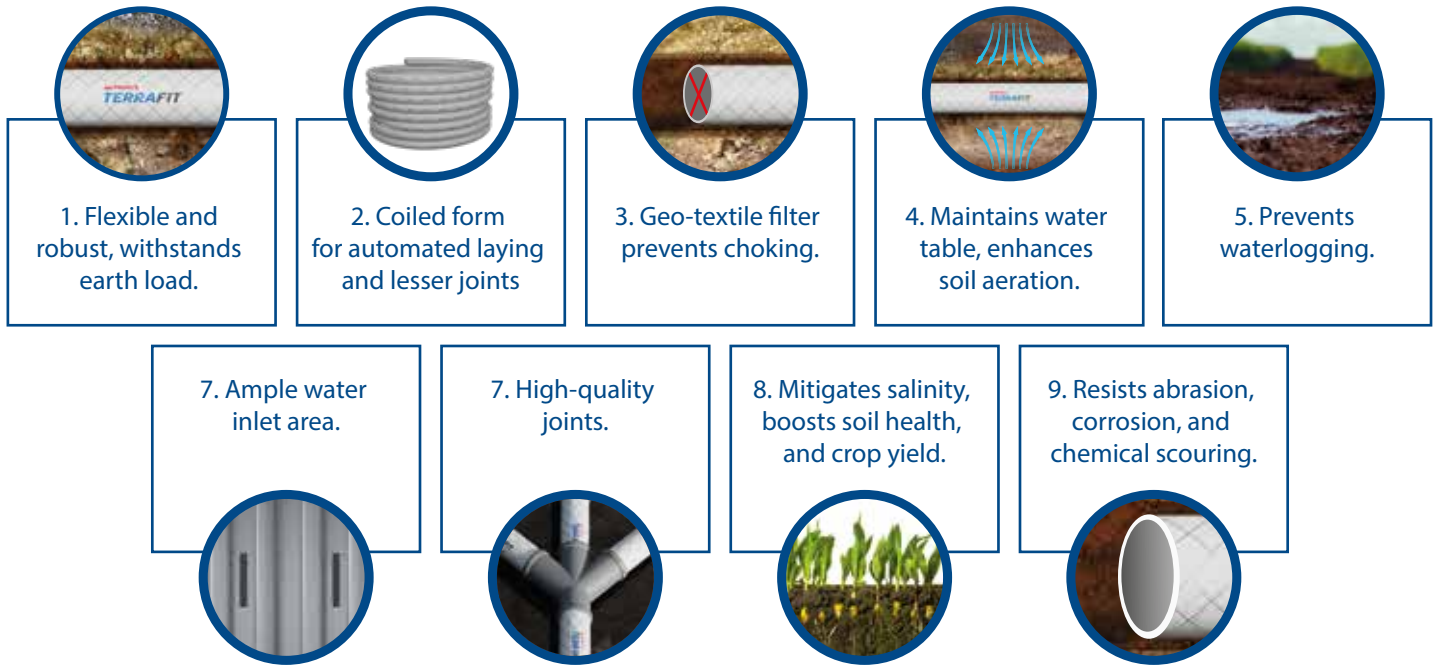


Perforation Slit (water inlet area)



250GSM - Synthetic Fibre (for filtration)

# UNMATCHED ADVANTAGES FOR ENHANCED SOIL HEALTH



## WORKING PRINCIPLE OF SUBSOIL DRAINAGE CORRUGATED PIPES

### ► WATER COLLECTION:

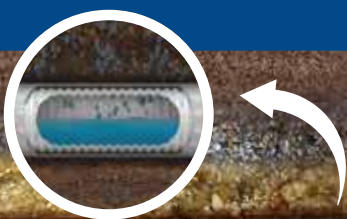
Prince TerraFit Corrugated Pipes is installed below the soil surface or just beneath the plant root zone about 4 feet underground. The corrugated pipes is equipped with slit perforation while the synthetic non-woven fabric acts as a filter, preventing debris and contaminants from entering the system. This facilitates the collection of water caused by heavy rainfall, over-irrigation or high groundwater levels, preventing waterlogging or other undesirable conditions.

### ► GRAVITY FLOW:

To facilitate the movement of collected water, the pipes are laid with a slight slope to utilize the force of gravity. This ensures a natural and efficient flow of water towards the designated outlet points.

### ► OUTLET OR DRAINAGE:

The water collected by the inlet can be channeled to various outlets, such as a drainage ditch, a natural watercourse, a detention pond, or a designed drainage system. This flexibility allows for adaptive water management, ensuring that excess water is efficiently redirected.



# WHY USE PRINCE TERRAFIT IN INFRASTRUCTURE?



## Foundation Stability:

Efficient subsoil drainage, facilitated by technologies like Prince Terrafit, plays a crucial role in maintaining foundation stability. By swiftly removing excess groundwater, it prevents saturation of the soil around the foundation, ensuring the long-term integrity of structures.



## Roadway Durability:

Subsoil drainage systems in roads and highways prevent water buildup beneath the surface, safeguarding against issues like potholes, erosion, and early structural failures.



## Preventing Soil Erosion:

Critical in halting soil erosion at construction sites, subsoil drainage redirects excess water away, safeguarding the soil and ensuring long-term project stability.



## Water Management:

Essential for urban areas, subsoil drainage channels stormwater and sewage away from populated areas. This reduces the risk of waterborne diseases and property damage.



## Environmental Impact Reduction:

Proper drainage in infrastructure projects reduces environmental impact by controlling the discharge of contaminated water into natural bodies, protecting local ecosystems.

## APPLICATIONS:

### RESIDENTIAL



### COMMERCIAL



### RAILWAYS



### HIGHWAYS



### AIRPORT



### STADIUM



### GOLF COURSE

# WHY USE PRINCE TERRAFIT IN AGRICULTURE?



## Efficient Water Management:

Prince TerraFit enhances Subsurface Drainage, ensuring the smooth removal of excess water from crop root zones. This prevents issues like root rot, reduced oxygen levels, and impaired nutrient uptake. Especially crucial in regions with high rainfall, poor soil drainage, or vulnerability to waterlogging, TerraFit creates optimal conditions for crop growth.



## Salinity Control:

Prince TerraFit assists in managing salt levels in areas with high salinity or saline groundwater by flushing out excess salts. This promotes a more conducive soil environment for optimal crop cultivation.



## Improved Soil Structure:

Prince TerraFit promotes enhanced soil structure by preventing compaction and encouraging aeration through effective subsoil drainage. This fosters healthier plants with improved root development.



## Seasonal Crop Flexibility:

Prince TerraFit provides flexibility in crop selection and planting time. Fields with efficient drainage, powered by TerraFit, are less prone to waterlogging during rainy seasons, allowing farmers to grow a wider variety of crops.



## Increased Crop Yields:

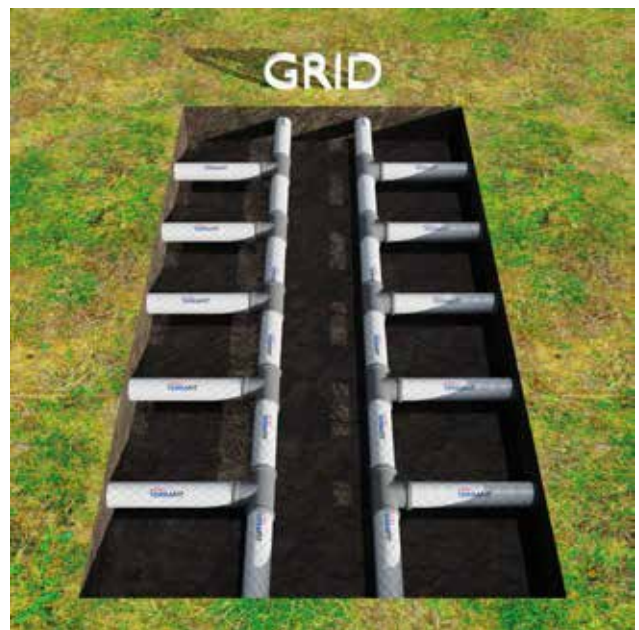
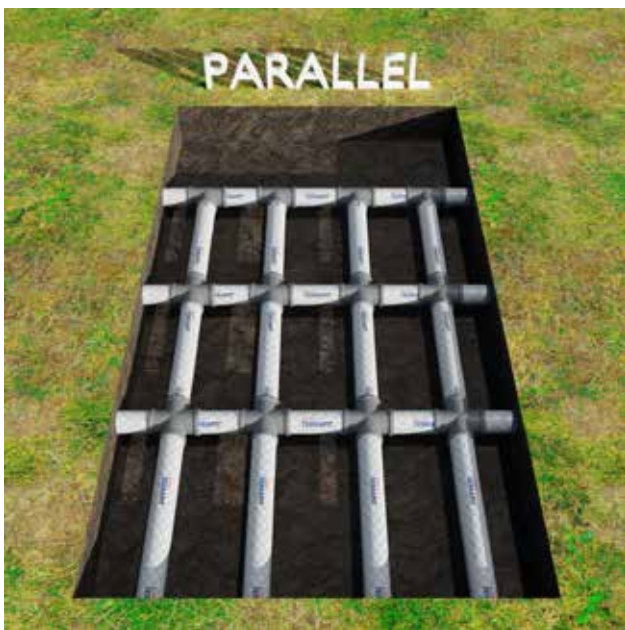
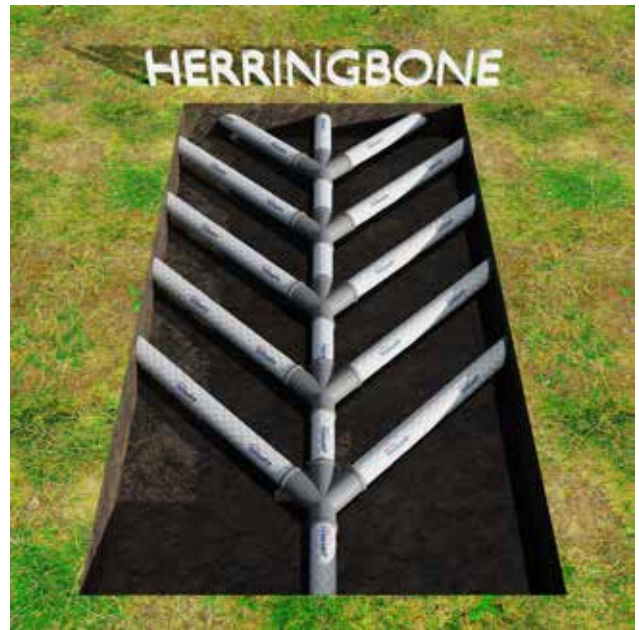
Well-drained soil, courtesy of Prince TerraFit, provides an optimal environment for plant growth, resulting in more productive and profitable agriculture operations. Ultimately, it leads to higher crop yields.

## APPLICATIONS:

### AGRICULTURAL FARM



## LAYING METHODS:



### PRODUCT RANGE

NOMINAL DIAMETER	ID	WATER INLET AREAS
80 mm	72 mm	18-80 Sq.cm /meter
100 mm	88 mm	21-80 Sq.cm /meter

FITTINGS AVAILABLE IN ALL SIZES: End Cap | Tee | Collar | Y | Bend

# COMPARISON BETWEEN PRINCE TERRAFIT AND PLAIN SURFACE PIPES FOR SUB SURFACE DRAINAGE

SR. NO.	FEATURE	PRINCE TERRAFIT PIPES	PLAIN SURFACE PIPES
1	<b>Increased flow capacity</b>	The corrugated profile of these pipes increases their internal surface area, allowing for greater water intake compared to plain surface pipes.	With a smooth interior surface, plain surface pipes offer slightly less water intake compared to corrugated pipes.
2	<b>Self-cleaning</b>	The corrugations help to prevent sediment buildup inside the pipe. As water flows through the pipe, it creates a turbulent effect that helps to dislodge and carry away any sediment that enters the perforations. This can help to maintain the long-term performance of the drainage system.	Sediment buildup can be an issue with plain surface pipes due to their smooth interior surface. This can eventually lead to clogging and reduced drainage efficiency in long-term performance of the drainage system.
3	<b>Flexibility and Durability</b>	The corrugated design makes these pipes more flexible than plain surface pipes. This can be advantageous when installing the pipes especially when turning/bending the pipe in trenches according to site layout. Also flexibility adapts to situations like ground movement, settlement & external pressure.	Plain surface pipes are rigid than corrugated pipes and may be prone to crack or damage in situations like ground movement, settlement and external pressure. Also due to their rigid nature, every turning/bending requires fitting.
4	<b>Ease of installation</b>	Pipes are in coil form and known for excellent flexibility, hence easy to handle and install.	Pipes are available in standard sizes of 3mtr and 6mtr length.
5	<b>Cost-effectiveness</b>	Slightly more expensive per meter compared to plain surface pipes. However, due to their flexibility, they require fewer fittings and faster installation, potentially offsetting the higher cost.	Lower initial cost per meter. However, the plain surface pipes need more fittings and potentially longer installation time can impact the overall cost.
6	<b>Adaptability to soil conditions</b>	Flexible design allows them to conform slightly to uneven ground and may be better suited for softer soils.	Require a more precise and stable trench due to their rigidity. Might not be ideal for uneven or soft soils.



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