

VOLSTAR™ PE SPRINKLER PIPES

by Malpani Pipes and Fittings Limited

Introduction

Malpani Pipes and Fittings Limited is delighted to present our top-quality range of PE Sprinkler Pipes under the brand name Volstar. These pipes are designed and manufactured in compliance with IS 17425:2020, providing exceptional performance and reliability for irrigation systems. Our dedication to quality and innovation makes Volstar PE Sprinkler Pipes the perfect choice for efficient and sustainable agricultural irrigation.



Why Choose Volstar PE Sprinkler Pipes?

1. Superior Quality Material:

Volstar PE Sprinkler Pipes are crafted from high-density polyethylene (HDPE), known for its robustness, flexibility, and resistance to environmental stress. This ensures the pipes can withstand the harsh conditions of agricultural environments.



2. Compliance with IS 17425:2020:

Our PE Sprinkler Pipes are manufactured in accordance with the Indian Standard IS 17425:2020, ensuring they meet rigorous quality and performance criteria essential for effective irrigation systems.

3. Durability and Longevity:

These pipes are built to last, offering an extended service life under normal operating conditions. They are resistant to UV radiation, chemicals, and mechanical impacts, ensuring consistent performance over time.

4. Efficient Water Distribution:

Volstar PE Sprinkler Pipes are designed for efficient water distribution, providing uniform water application across agricultural fields. This promotes optimal crop growth and reduces water wastage.

5. Ease of Installation:

Lightweight and flexible, Volstar PE Sprinkler Pipes are easy to install and handle. They can be easily connected using a variety of fittings, ensuring a secure and leak-proof irrigation system.

6. Cost-Effective Solution:

Due to their durability and minimal maintenance requirements, Volstar PE Sprinkler Pipes offer a cost-effective solution for irrigation. Their reliability reduces the need for frequent replacements and repairs, leading to significant long-term savings.

Applications of Volstar PE Sprinkler Pipes

Volstar PE Sprinkler Pipes are versatile and suitable for a wide range of irrigation applications, including:

1. Agricultural Fields:

Ideal for irrigating crops, gardens, and plantations, ensuring uniform water distribution for optimal growth.

2. Horticulture:

Perfect for greenhouses and nurseries, providing precise watering to delicate plants and flowers.

3. Landscape Irrigation:

Suitable for lawns, parks, and sports fields, ensuring even water coverage and healthy turf.



4. Dust Suppression:

Effective for dust control in construction sites and mining operations, maintaining a safer and cleaner environment.

Technical Specifications

1. Dimensions and Sizes:

Volstar PE Sprinkler Pipes are available in various sizes, catering to different irrigation requirements. Common sizes include 50 mm, 63 mm, 75 mm, 90 mm, and 110 mm in diameter.

2. Pressure Ratings:

Our PE Sprinkler Pipes are available in different pressure ratings, typically PN 6, PN 8, and PN 10, ensuring suitability for various irrigation pressures.

3. Standards and Certifications:

Volstar PE Sprinkler Pipes comply with IS 17425:2020 standards, guaranteeing they meet national quality and performance benchmarks. Our manufacturing processes also adhere to ISO 9001:2015 quality management systems.

4. Chemical Resistance:

HDPE material is inherently resistant to a wide range of chemicals, making Volstar pipes suitable for transporting water mixed with fertilizers and pesticides without degradation.

5. UV Resistance:

These pipes are designed to withstand prolonged exposure to sunlight without deteriorating, ensuring long-term durability in outdoor applications.

Manufacturing Process

At Malpani Pipes and Fittings Limited, we employ advanced manufacturing facilities to produce Volstar PE Sprinkler Pipes. Our manufacturing process includes:

1. Extrusion:

HDPE resin is melted and extruded through a die to form continuous pipes. This ensures uniformity in pipe wall thickness and diameter.

2. Cooling:

The extruded pipes are rapidly cooled using water baths to solidify the HDPE material, maintaining the pipes' structural integrity.



3. Cutting:

Once cooled, the pipes are cut into the required lengths using automated cutting machines, ensuring precise and consistent lengths.

4. Quality Testing:

Each batch of pipes undergoes rigorous quality testing to ensure they meet IS 17425:2020 standards. Tests include checking for dimensional accuracy, pressure resistance, and UV stability.

Advantages of Volstar PE Sprinkler Pipes

1. Leak-Proof Joints:

Volstar PE Sprinkler Pipes can be joined using various fittings, creating secure and leak-proof connections. This minimizes water loss and ensures efficient irrigation.

2. Flexibility and Strength:

The flexibility of HDPE allows the pipes to absorb shocks and vibrations, reducing the risk of damage from ground movement or external impacts. The strength of the material ensures it can withstand high pressures and harsh environmental conditions.

3. Smooth Internal Surface:

The smooth internal surface of Volstar PE Sprinkler Pipes reduces friction, enhancing flow capacity and preventing the buildup of sediments and blockages. This ensures a consistent and reliable water supply.

4. Environmentally Friendly:

HDPE is a recyclable material, making Volstar pipes an environmentally friendly option. They can be recycled and repurposed at the end of their life cycle, reducing environmental impact.

Detailed Applications of Volstar PE Sprinkler Pipes

Volstar PE Sprinkler Pipes are engineered to serve a wide range of irrigation needs. Here's a detailed overview of their applications:

1. Agricultural Irrigation:

Designed to provide uniform water distribution, Volstar PE Sprinkler Pipes are ideal for large-scale agricultural irrigation. Their flexibility allows for easy layout and installation in various field configurations, ensuring that crops receive adequate water for optimal



growth. The pipes' durability ensures they can withstand the demands of agricultural use, including exposure to UV radiation, chemicals, and physical impacts.

2. Horticulture and Greenhouses:

Volstar PE Sprinkler Pipes are perfect for horticulture and greenhouse applications, where precise and controlled watering is crucial. The pipes can be easily adapted to different layouts, providing targeted irrigation to plants. Their resistance to chemicals ensures that they can safely transport water mixed with fertilizers and pesticides, promoting healthy plant growth.

3. Landscape Irrigation:

These pipes are also suitable for landscape irrigation, including lawns, parks, and sports fields. The even water distribution provided by Volstar PE Sprinkler Pipes helps maintain healthy and green turf. The pipes' UV resistance ensures they remain durable and functional even when exposed to direct sunlight for extended periods.

4. Dust Suppression:

In construction sites and mining operations, dust suppression is critical for maintaining a safe and clean environment. Volstar PE Sprinkler Pipes can be used to create efficient dust suppression systems, ensuring that dust levels are kept under control. Their durability and resistance to harsh conditions make them ideal for such demanding applications.

Technical Specifications in Detail

Understanding the technical specifications of Volstar PE Sprinkler Pipes helps in selecting the right product for specific irrigation needs. Here's an in-depth look at the technical aspects:

1. Dimensions and Sizes:

Volstar PE Sprinkler Pipes come in various diameters, including 50 mm, 63 mm, 75 mm, 90 mm, and 110 mm. This range of sizes ensures that there is a suitable pipe for every irrigation application, from small gardens to large agricultural fields.

2. Pressure Ratings:

Our PE Sprinkler Pipes are designed to withstand different pressure conditions. The available pressure ratings include PN 6, PN 8, and PN 10. This range ensures that the pipes can be used in irrigation systems with varying pressure requirements, from low-pressure garden sprinklers to high-pressure agricultural sprinklers.

3. Compliance and Certifications:

Volstar PE Sprinkler Pipes comply with IS 17425:2020 standards. This Indian Standard specifies the requirements for sprinkler irrigation systems using polyethylene (PE) pipes. Compliance ensures that the pipes meet stringent quality and performance



standards. Additionally, our manufacturing processes adhere to ISO 9001:2015 quality management systems, further ensuring the highest level of quality control.

4. Chemical and UV Resistance:

HDPE is inherently resistant to a wide range of chemicals, including acids, alkalis, and salts. This makes Volstar PE Sprinkler Pipes suitable for transporting water mixed with fertilizers and pesticides without the risk of degradation. Furthermore, these pipes are designed to withstand prolonged exposure to UV radiation without deteriorating, ensuring long-term durability in outdoor applications.

Detailed Manufacturing Process

Our state-of-the-art manufacturing facilities ensure that Volstar PE Sprinkler Pipes are produced to the highest standards. Here's a closer look at our manufacturing process:

1. Extrusion:

The manufacturing process begins with the extrusion of HDPE resin. The resin is melted and extruded through a die to form continuous pipes. This process ensures that the pipes have uniform wall thickness and diameter, which are critical for their performance and reliability.

2. Cooling:

After extrusion, the pipes are rapidly cooled using water baths. This step is crucial for solidifying the HDPE material and maintaining the structural integrity of the pipes. Proper cooling ensures that the pipes have the necessary strength and durability.

3. Cutting:

Once cooled, the pipes are cut into the required lengths using automated cutting machines. This ensures that each pipe is of the exact length specified, with precise and consistent dimensions.

4. Quality Testing:

Quality control is an integral part of our manufacturing process. Each batch of pipes undergoes rigorous testing to ensure they meet IS 17425:2020 standards. This includes tests for dimensional accuracy, pressure resistance, and UV stability. Our commitment to quality ensures that our pipes perform reliably in all applications.

Installation Guidelines

Proper installation is crucial to the performance and longevity of Volstar PE Sprinkler Pipes. Here are some detailed guidelines to ensure correct installation:

1. Trenching:

Start by excavating a trench of appropriate width and depth to accommodate the pipe. The trench bottom should be smooth and free from sharp objects that could damage



the pipe. Proper trenching is essential to provide a stable base for the pipes and to protect them from external damage.

2. Bedding:

Lay a bedding layer of sand or fine gravel at the bottom of the trench. This layer provides a stable and supportive base for the pipe, ensuring that it is properly cushioned and protected. The bedding material should be evenly spread to create a uniform surface.

3. Pipe Laying:

Carefully lay the pipes in the trench, ensuring they are properly aligned. Use appropriate tools and equipment to avoid damaging the pipes during installation. Proper alignment is crucial to ensure that the pipes function correctly and to prevent leaks.

4. Joining:

Join the pipes using suitable methods such as compression fittings or electrofusion welding. Follow the manufacturer's guidelines for joining to ensure secure and leak-proof connections. Proper joining techniques are essential to maintain the integrity of the irrigation system and to prevent leaks.

5. Backfilling:

After the pipes are laid and joined, backfill the trench with sand or fine gravel up to the crown of the pipe. Compact the backfill material to provide additional support and stability. Proper backfilling helps to protect the pipes from external forces and to maintain their alignment.

6. Testing:

Conduct pressure testing to ensure the integrity of the installed irrigation system. This involves filling the pipes with water and checking for any leaks or pressure drops. Proper testing ensures that the pipes are functioning correctly and that there are no leaks.

Maintenance and Care

Volstar PE Sprinkler Pipes require minimal maintenance due to their durable and resilient nature. However, regular inspection and maintenance can further extend their lifespan and ensure optimal performance:

1. Periodic Inspections:

Conduct regular inspections of the irrigation system to check for any signs of damage, leaks, or blockages. Early detection of issues can prevent major problems and costly repairs. Inspections should be carried out regularly to ensure that the system is functioning correctly.



2. Cleaning:

Use appropriate cleaning methods to remove any sediments or blockages within the pipes. High-pressure water jetting or mechanical cleaning tools can be used to keep the pipes clear and maintain their flow capacity. Regular cleaning helps to prevent blockages and ensures that the system operates efficiently.

3. Repairing Damages:

In case of any damage or leaks, promptly repair the affected sections using suitable repair techniques such as patching or replacing the damaged pipe segment. Prompt repairs help to maintain the integrity of the system and to prevent further damage.

4. Record Keeping: Maintain detailed records of the installation, inspections, maintenance, and repairs. This helps in tracking the performance of the irrigation system and planning future maintenance activities. Proper record keeping is essential to ensure that the system is well-maintained and to plan for future maintenance activities.

Conclusion

Volstar PE Sprinkler Pipes by Malpani Pipes and Fittings Limited offer a reliable, durable, and cost-effective solution for all your irrigation needs. With superior material quality, compliance with IS 17425:2020 standards, and a range of sizes and pressure ratings, our pipes are designed to meet the diverse requirements of agricultural, horticultural, landscape, and industrial applications.

By choosing Volstar, you are investing in a product that promises longevity, efficiency, and minimal maintenance, ensuring a hassle-free irrigation experience. Trust Volstar for your irrigation solutions and experience the difference in quality and performance.

Contact Us

For more information about Volstar Pipes and Fittings, please contact us:

- Contact No. : +91-9119229339
- Email : pipes@malpanipipes.com
- Website : www.malpanipipes.com
- Address : 65-A, Sector B, Industrial Area, Ratlam, Madhya Pradesh 457001