

VOLSTAR™ HDPE PIPES

By Malpani Pipes and Fittings Limited

Overview

Volstar HDPE (High-Density Polyethylene) pipes and fittings are engineered to offer robust and eco-friendly solutions for fluid conveyance across a variety of applications. With a strong emphasis on durability, flexibility, and environmental sustainability, these pipes are designed to perform consistently and efficiently over an extended service life. The product range adheres to stringent Indian and international standards, ensuring reliability and safety in diverse operational conditions.

Material Grades

Volstar HDPE pipes are available in several material grades to suit different applications and performance requirements:

- **PE 63:** Suitable for less demanding applications.
- **PE 80:** Offers enhanced performance for more robust applications.
- **PE 100:** Provides the highest performance, suitable for the most demanding conditions.



Diameter and Length

- **Diameter:** Volstar HDPE pipes are available with outer diameters up to 500mm, catering to a wide range of requirements.
- **Length:** Pipes can be supplied in lengths up to 12/6m in straight lengths, providing flexibility in installation and reducing the need for joints.

Standards

Volstar HDPE pipes are manufactured in compliance with various national and international standards, ensuring high quality and reliability:

- **Indian Standards:** IS-4984, IS 14333, IS14151
- **International Standards:** ISO-4427, DIN 8074, ASTM D 3035, BS-6437, BS EN 12201



Advantages of HDPE Pipes

Durability and Inertness

Volstar HDPE pipes are renowned for their toughness and inertness, making them an ideal choice for challenging environments:

- **Resistance to Aggressive Soil Conditions:** The inert nature of HDPE means it is unaffected by aggressive soil conditions.
- **No Performance Degradation:** Over their entire lifespan, Volstar HDPE pipes maintain their performance without scale build-up, erosion, or corrosion.
- **UV Resistance:** HDPE pipes are not affected by sunlight or UV rays when installed above ground, ensuring longevity even in exposed conditions.

Handling and Installation

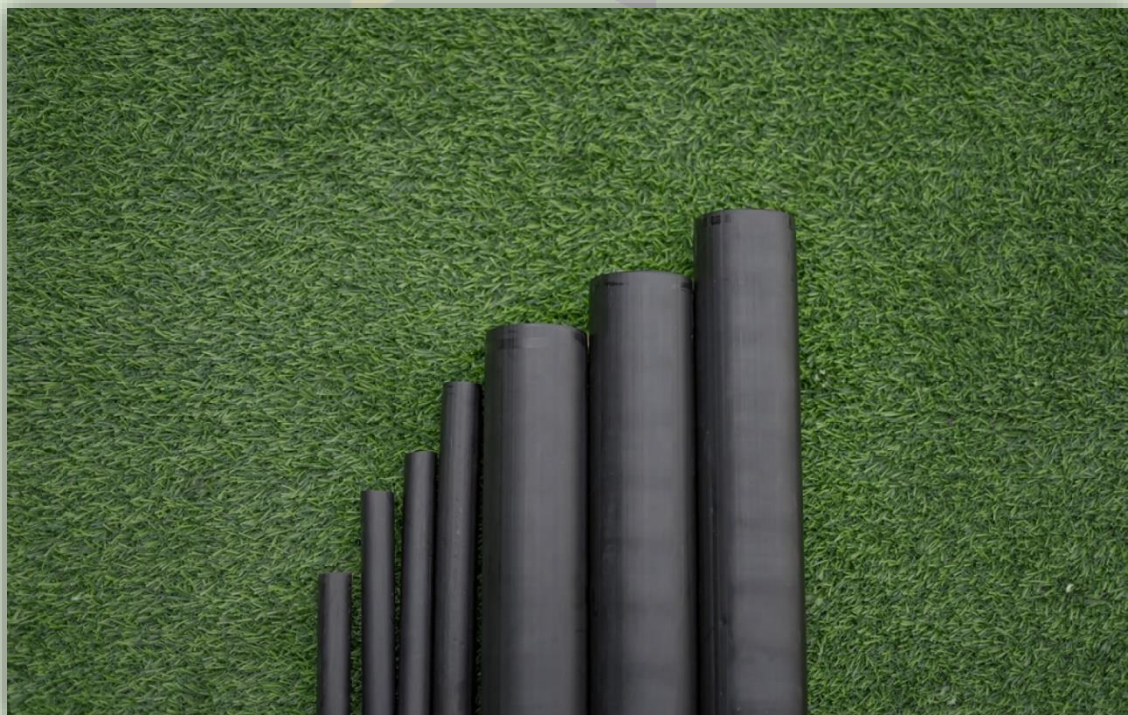
The lightweight and flexible nature of Volstar HDPE pipes simplifies handling and installation:

- **Lightweight:** Easy to handle and transport, reducing labor and transportation costs.
- **Flexibility:** Capable of adapting to ground terrain and trench profiles, minimizing the need for additional fittings such as bends and elbows, and reducing trenching costs.

Environmental Impact

Volstar HDPE pipes contribute positively to environmental sustainability:

- **Eco-Friendly Lifecycle:** The Life Cycle Analysis (LCA) of HDPE pipes shows low energy consumption during fluid conveyance, making them an eco-friendly choice.
- **Leak-Proof:** Ensures a 100% leak-proof network, preventing waste and environmental contamination.



Efficiency

Volstar HDPE pipes are designed to maximize efficiency:

- **Smooth Internal Surface:** The smooth inner walls reduce friction, lowering energy requirements for pumping fluids through the pipes.
- **Abrasion Resistance:** The high abrasion resistance maintains high flow characteristics over time, ensuring consistent performance.

Safety

Safety is a key consideration in the design of Volstar HDPE pipes:

- **Potable Water Safe:** Suitable for conveying water fit for human consumption, ensuring safety for potable water supply.
- **Chemical Resistance:** Inert to most acidic and alkaline solutions, making them suitable for conveying a wide range of fluids, including chemicals and effluents.



Applications

Volstar HDPE pipes are versatile and can be used in a variety of applications:

- **Subsea Offshore Pipelines:** Suitable for offshore installations up to 500mm in diameter.
- **Desalination and Power Plants:** Ideal for sea water intake and outfall pipelines.
- **Canal Replacement:** An excellent choice for replacing canals with durable HDPE pipelines.
- **Water Supply Systems:** Effective for both lift and gravity water supply systems.

- **Irrigation Systems:** Suitable for micro and sprinkler irrigation systems, enhancing agricultural productivity.
- **Sewerage and Effluent Disposal:** Reliable for sewerage pumping and effluent disposal systems.
- **Submersible Pumps:** Used as column pipes for submersible pumps, providing reliable water delivery.



Features & Benefits

Volstar HDPE pipes are designed to offer a wide range of features and benefits:

- **High-Quality Materials:** Manufactured from virgin pipe grade raw materials (PE80, PE100), ensuring the highest quality.
- **Corrosion and Chemical Resistance:** Excellent resistance to corrosion and chemicals, providing long-term durability.
- **Flexibility and Strength:** Combines flexibility with robust strength, adapting to various installation conditions.
- **Ease of Handling:** The lightweight nature of HDPE pipes facilitates easy handling and transportation, reducing labor costs.
- **High Flow Characteristics:** The smooth internal surface minimizes frictional losses, ensuring high flow efficiency.
- **Size and Pressure Range:** Manufactured in sizes from 16 to 500 mm with pressure ratings from 2.5 to 25 kg/cm² (35.5 to 227.5 psi), catering to various requirements.
- **Adheres to various international and Indian standards, ensuring reliability and quality.**

Installation and Maintenance

Installation

The installation of Volstar HDPE pipes is straightforward, thanks to their lightweight and flexible nature. They can be easily handled and transported, reducing the need for heavy machinery and lowering installation costs. The flexibility of HDPE pipes allows them to adapt to ground terrain and trench profiles, minimizing the need for additional fittings and reducing trenching costs. This flexibility also enables easy installation in areas with challenging topography.

Maintenance

Volstar HDPE pipes require minimal maintenance due to their resistance to corrosion, abrasion, and chemical attacks. The smooth internal surface prevents scale build-up and reduces friction, maintaining high flow efficiency over time. Any maintenance that is required is generally straightforward and cost-effective, contributing to the overall cost-efficiency of the HDPE piping system.

Economic and Environmental Benefits

Cost-Efficiency

The overall cost of a piping system includes not only the initial cost of materials but also the costs associated with installation, maintenance, and operation. Volstar HDPE pipes offer significant cost savings in all these areas:

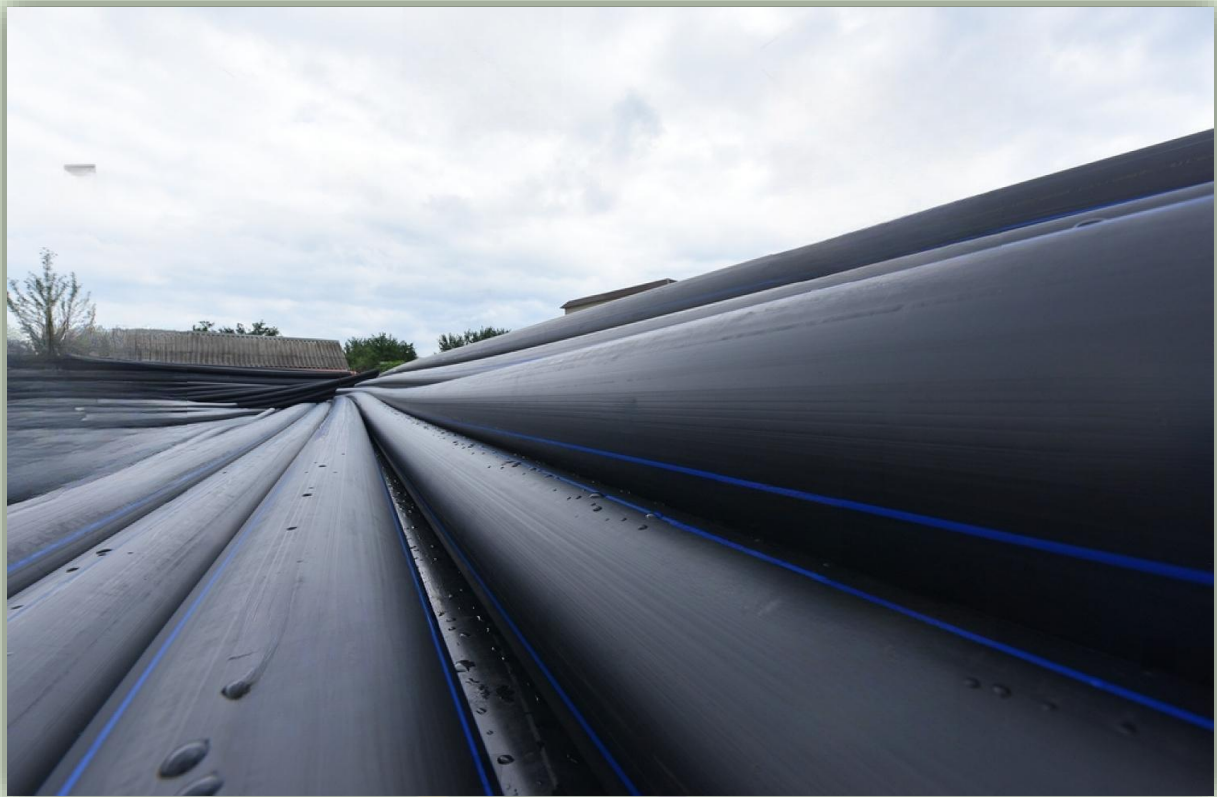
- **Installation Costs:** The lightweight nature and flexibility of HDPE pipes reduce the need for heavy machinery and additional fittings, lowering installation costs.
- **Operational Costs:** The smooth internal surface reduces friction, lowering energy requirements for pumping fluids and reducing operational costs.
- **Maintenance Costs:** The resistance to corrosion, abrasion, and chemical attacks minimizes maintenance requirements, reducing long-term maintenance costs.

Environmental Impact

Volstar HDPE pipes are an environmentally friendly choice for fluid conveyance:

- **Low Energy Consumption:** The smooth internal surface reduces energy requirements for pumping fluids, contributing to lower energy consumption over the lifespan of the pipes.
- **Leak-Proof Network:** Ensures a 100% leak-proof system, preventing environmental contamination and conserving resources.

- **Recyclability:** HDPE pipes are recyclable, further reducing their environmental impact and contributing to sustainable resource management.



Conclusion

Volstar HDPE pipes represent a versatile, reliable, and eco-friendly solution for a wide range of fluid conveyance applications. Their inherent properties, combined with compliance to stringent national and international standards, make them an ideal choice for modern infrastructure projects. With advantages in durability, flexibility, efficiency, and safety, Volstar HDPE pipes offer significant benefits in terms of performance, cost-efficiency, and environmental sustainability. Whether used in potable water supply, irrigation, sewerage, or industrial applications, Volstar HDPE pipes provide a durable and efficient solution that meets the demands of contemporary fluid conveyance systems.

Contact Us

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