

VOLSTAR™ PE GAS PIPE

by Malpani Pipes and Fittings Limited

PRODUCT SPECIFICATIONS

Pipes:

- **Range:** 20 to 315 mm (Sizes > 315 mm available on demand)
- **SDR (Standard Dimension Ratio):** 9, 11, 13.6, 17.6

The range of pipe sizes offered by Volstar is comprehensive, covering diameters from 20 mm to 315 mm, with the possibility of even larger sizes available on request. This wide range ensures that Volstar can meet the diverse needs of various gas distribution systems, whether they are for residential, commercial, or industrial applications. The Standard Dimension Ratio (SDR) values indicate the relationship between the pipe diameter and wall thickness, which affects the pressure rating and durability of the pipes. The lower the SDR number, the thicker the pipe wall, and thus the higher the pressure it can withstand. Volstar's offering of SDR 9, 11, 13.6, and 17.6 means there are options available for different pressure requirements and application types.



Lengths:

- **Straight Lengths:** 6 m and 12 m
- **Coils:** Up to 110 mm OD

Volstar pipes are available in both straight lengths and coils, providing additional flexibility for different installation scenarios. Straight lengths of 6 meters and 12 meters are ideal for large-scale projects where straight runs are feasible, minimizing the number of joints and connections required. On the other hand, coils (available up to 140 mm in outer diameter) offer significant advantages for installations that require more flexibility and fewer joints, such as in complex urban environments or where trenching is more challenging.

Material Grades:

- **PE 80:** Yellow
- **PE 100:** Orange
- **PE 80 & PE 100:** Black

Volstar offers pipes made from different grades of polyethylene to suit various application needs. PE 80 and PE 100 are high-density polyethylene materials known for their strength, durability, and resistance to environmental stress. PE 80 (typically in yellow) is commonly used for gas distribution due to its excellent balance of strength and flexibility. PE 100 (often in orange or black) provides even greater strength and pressure resistance, making it suitable for high-pressure applications and environments with higher safety requirements. The choice of color coding helps in the easy identification and classification of the pipes according to their material grade and intended use.



Key Advantages of PE Gas Pipes

1. **Durability:** Over 100 years of life expectancy.
2. **Corrosion Resistance:** High resistance to corrosion.
3. **Lightweight:** Easier handling and installation.
4. **Long Lengths:** Available in long lengths for fewer joints.
5. **Leak-Proof Joints:** Heat-fusion joints provide a leak-proof system.
6. **Ease of Installation:** Simple to install due to mechanical fittings.

Durability:

One of the most significant advantages of Volstar PE gas pipes is their exceptional durability. With an expected lifespan of over 100 years, these pipes provide a long-term solution for gas distribution networks. This longevity ensures that once installed, the piping system will remain reliable and functional for several decades, minimizing the need for frequent replacements or extensive maintenance. The durability of PE pipes also translates to lower lifecycle costs, making them a cost-effective choice for gas utilities and infrastructure projects.



Corrosion Resistance:

PE pipes from Volstar are highly resistant to corrosion, a critical property for gas distribution systems. Traditional materials like steel are prone to rust and corrosion over time, especially when exposed to moisture and other environmental factors. Corrosion can lead to leaks, failures, and safety hazards. In contrast, PE pipes do not corrode, ensuring that the integrity of the gas distribution system is maintained throughout its lifespan. This corrosion resistance also means that PE pipes can be used in a variety of environments, including underground installations where moisture is a concern.

Lightweight:

The lightweight nature of PE pipes makes them easier to handle and install compared to traditional materials like steel or ductile iron. This ease of handling translates to faster installation times and reduced labor costs. For construction crews, the ability to maneuver and place pipes with minimal effort reduces the physical strain and risk of injury. Additionally, the lightweight property of PE pipes allows for easier transportation to the installation site, further reducing overall project costs.

Long Lengths:

Volstar PE pipes are available in long lengths, which is particularly beneficial for reducing the number of joints and connections required in a gas distribution network. Fewer joints mean fewer potential points of failure, resulting in a more reliable system. Long lengths are especially advantageous in large-scale projects where continuous runs are feasible, as they streamline the installation process and enhance the overall efficiency of the pipeline network.

Leak-Proof Joints:

The heat-fusion process used to join Volstar PE pipes creates leak-proof joints that are critical for maintaining the safety and reliability of gas distribution systems. This method involves heating the pipe and fitting together until they melt and fuse into a single, homogeneous piece. The result is a strong, seamless joint that is resistant to leaks and failures. This leak-proof characteristic is essential for gas distribution, where even minor leaks can pose significant safety risks and operational challenges.

Ease of Installation:

Volstar PE pipes are designed for ease of installation, incorporating features that simplify the process for contractors and installers. Mechanical fittings and electrofusion methods ensure quick and secure connections, reducing installation time and effort. The flexibility and lightweight nature of PE pipes also contribute to their ease of installation, allowing them to be



easily routed around obstacles and adapted to various installation conditions. These advantages make Volstar PE pipes a preferred choice for gas distribution projects of all sizes.

Applications

1. Natural Gas/PNG, Propane, LPG, and Biogas Distribution: Suitable for the conveyance of these gases due to their consistent performance.

2. Industrial Gas Distribution: Widely used in industrial settings.

3. Landfill & Leachate Gas Extraction: Effective for gas extraction and conveyance in landfill sites.

4. City Gas Distribution (CGD) & Coal Bed Methane (CBM): Extensively used across India for domestic and industrial gas distribution.

Natural Gas/PNG, Propane, LPG, and Biogas Distribution:

Volstar PE gas pipes are ideally suited for the conveyance and distribution of various gases, including natural gas (PNG), propane, LPG, and biogas. Their consistent performance and reliability make them the material of choice for these applications. The inherent properties of PE, such as flexibility, corrosion resistance, and leak-proof joints, ensure that the gas distribution systems operate safely and efficiently. Whether for residential, commercial, or industrial use, Volstar PE pipes provide a robust solution for delivering these gases.

Industrial Gas Distribution:

In industrial settings, the distribution of gases such as natural gas, propane, and other industrial gases requires a piping system that can withstand high pressures and harsh environments. Volstar PE pipes are widely used in these applications due to their strength, durability, and resistance to environmental stress. The ability to handle high-pressure ratings and provide leak-proof connections makes them an ideal choice for industrial gas distribution networks.

Landfill & Leachate Gas Extraction:

Landfill sites generate gases like methane through the decomposition of organic waste. Extracting and conveying these gases safely and efficiently is essential for environmental management and energy recovery. Volstar PE pipes are effective in landfill and leachate gas extraction applications, offering a corrosion-resistant and leak-proof solution that ensures the safe capture and transport of landfill gases. Their flexibility and ease of installation are particularly advantageous in the challenging terrain of landfill sites.

City Gas Distribution (CGD) & Coal Bed Methane (CBM):

Volstar PE pipes are extensively used in city gas distribution (CGD) systems across India, providing a reliable and efficient means of delivering natural gas to residential and commercial customers. The pipes' durability, ease of installation, and leak-proof characteristics make them well-suited for urban environments where safety and reliability are paramount. Additionally, Volstar PE pipes are utilized in coal bed methane (CBM) applications, where they facilitate the



extraction and conveyance of methane gas from coal seams. Their robustness and resistance to harsh conditions make them ideal for these specialized applications.

Industry Adoption

- **Global Acceptance:** Since 1960, PE piping systems have been globally recognized for their effectiveness in gas distribution.
- **Dominant Material:** Over 90% of the pipes installed for natural gas distribution are plastic, with 99% of those being polyethylene.
- **Preferred Choice:** PE pipes are preferred in India and worldwide for gas distribution due to their safety, cost-effectiveness, and ease of installation.

Global Acceptance:

Polyethylene (PE) piping systems have gained worldwide acceptance since their introduction in the 1960s, particularly in the gas distribution industry. The global recognition of PE pipes is due to their outstanding performance, reliability, and safety. Over the decades, numerous studies and field experiences have demonstrated the effectiveness of PE pipes in various applications, leading to their widespread adoption. Today, PE pipes are used in gas distribution networks around the world, providing a trusted solution for delivering natural gas, propane, LPG, and biogas.

Dominant Material:

In the natural gas distribution industry, plastic pipes have become the dominant material, with over 90% of the pipes installed being made of plastic. Among these, polyethylene (PE) is the preferred choice, accounting for 99% of the plastic pipes used. This dominance is a testament to the superior properties of PE pipes, such as their flexibility, corrosion resistance, ease of installation, and long-term durability. The widespread use of PE pipes has revolutionized the gas distribution industry, offering a more reliable and cost-effective alternative to traditional materials like steel and ductile iron.

Preferred Choice:

PE pipes are the material of choice for gas distribution systems not only in India but also worldwide. Their numerous advantages make them the preferred option for utility companies, contractors, and engineers involved in gas infrastructure projects. The safety features of PE pipes, including their leak-proof joints and resistance to corrosion, ensure the secure delivery of gas to consumers. The cost-effectiveness of PE pipes, derived from their long lifespan and reduced maintenance requirements, makes them an economical solution for gas distribution networks. Additionally, the ease of installation and handling of PE pipes further reinforces their status as the preferred choice in the industry.

Volstar PE Gas Pipes are widely trusted for providing a secure and efficient solution for various gas distribution systems, making them an industry standard. By leveraging the inherent



advantages of polyethylene materials, Volstar ensures that its gas pipes meet the highest standards of safety, reliability, and performance. Whether for residential, commercial, or industrial applications, Volstar PE Gas Pipes offer a comprehensive solution that addresses the diverse needs of modern gas distribution networks. With a commitment to quality and innovation, Volstar continues to lead the way in providing advanced piping solutions for the gas industry.

This expanded text provides a comprehensive overview of Volstar PE gas pipes, covering their specifications, advantages, applications, and industry adoption in greater detail.

Contact Us

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