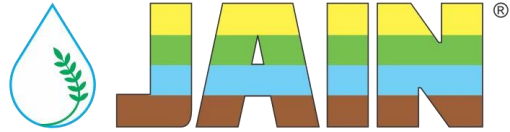


Jain Irrigation Piping Solutions for Mines



Jain Irrigation Systems Ltd.

Small Ideas. Big Revolutions.®





Typical areas in mining requiring pipes are

- ☐ Dewatering
- ☐ Leachate Collection
- ☐ Slurry Transport
- ☐ Water Supply
- ☐ Fire s dust Suppression
- ☐ Drainage s Sewer
- ☐ Ventilation Ducting

Dewatering Operations in Mining

Many valuable mineral deposits lie below the water table. Dewatering lowers this table, allowing miners to reach and extract the ore. It means that the dewatering pipes used should be :

- **Easy to Shift from one location to other:**
- **Easy to add on / remove as per site condition:**
- **Must maintain pumping efficiency over its uses:**

Dewatering is often a **continuous process** in active mines, requiring careful planning, monitoring, and infrastructure to support ongoing operations and avoid unexpected water-related disruptions





Fire and dust Suppression

Fire and dust suppression in mining refers to the systems, equipment, and practices used to prevent, control, and extinguish fires and to reduce or eliminate airborne dust during mining operations. These are essential safety and environmental measures in both surface and underground mining environments. It is required as -

Fire Risks

- Mining environments contain flammable materials
- Equipment and facilities are prone to overheating or sparks
- Fires in underground mines can be deadly due to confined spaces and limited escape routes

Dust Concerns

- Mining activities (drilling, blasting, crushing, transporting) produces dust causing health, visibility and environmental problems

****Fire and dust suppression are critical systems in mining that protect lives, maintain safe working conditions, reduce environmental impact, and ensure operational continuity.****

RAIN GUN INSTALLATION ON ROADSIDE OR TOWER



Leachate Collection

The Typical process of capturing and managing leachate, which is the liquid that drains or "leaches" through mine and picks up dissolved contaminants such as heavy metals, acids, or chemicals used in ore processing. It is a very important process in

****Heap leach mining (gold, copper)****

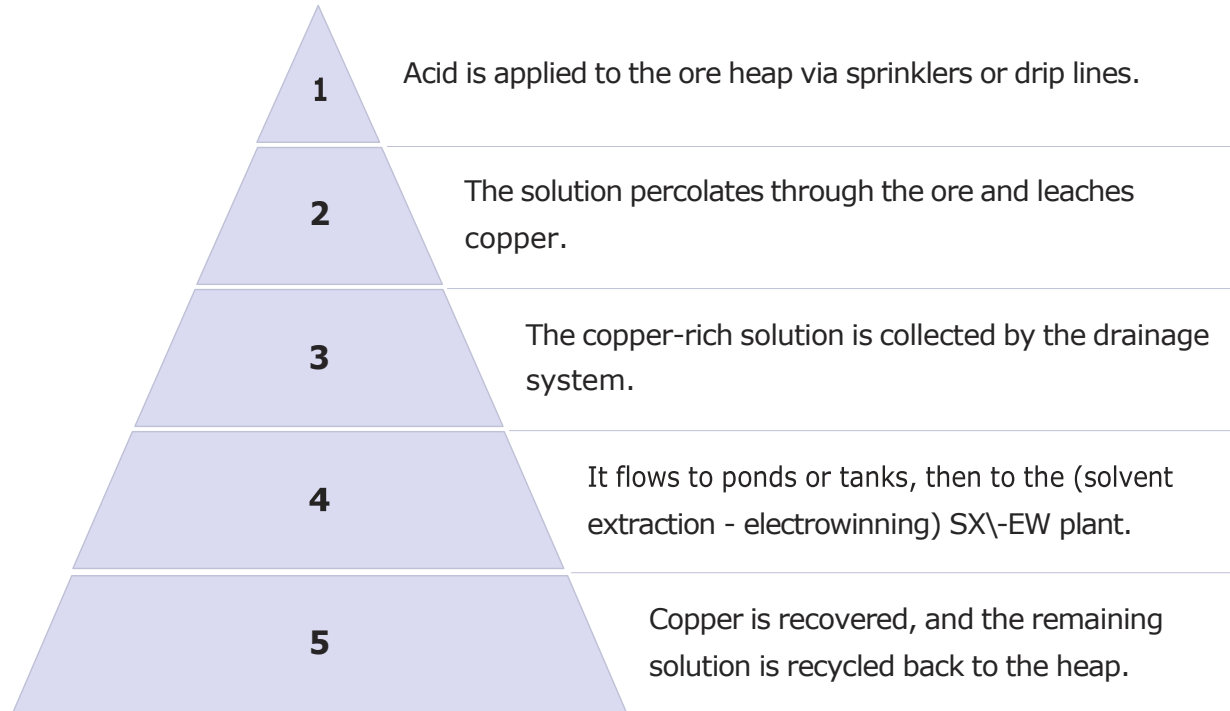
Leachate (pregnant solution) is collected and processed to recover metals.

****Waste rock and tailings storage:****

Systems are installed to control acid mine drainage and metal leaching.

In nutshell, leachate collection in mines is a vital environmental and operational safeguard that ensures contaminated fluids are managed properly to reduce harm to people and the planet

Typical Leachate Handling Process in Copper Mining involves



****In copper mines, leachate collection is both a copper recovery technique and an environmental safety system. It involves capturing the copper-rich acidic solution from heap leaching, processing it to extract copper, and ensuring that none of the contaminated liquid escapes into the surrounding environment.****





Slurry Transport

Slurry transport in mining refers to the movement of solid particles suspended in a liquid, typically water, through pipelines or channels. The mixture of solids and liquid is known as slurry, and this transport method is widely used in mineral processing, ore handling, and tailings disposal.



Mined ore is crushed, ground, and mixed with water to form a slurry.



This slurry is pumped from the mine site to processing plants.



After valuable minerals are extracted, the waste slurry (tailings) is piped to tailings storage facilities (TSFs) or dams called tailing disposal facilities.



Slurry made of tailings and binders is pumped back into underground mine voids for ground support through the pipes for hydraulic backfilling.

****Slurry transport in mining is an essential technique used to move ore, concentrate, and waste material efficiently and safely as a liquid-solid mixture. It supports key mining processes, reduces environmental risks from dust, and enables cost-effective long-distance material handling****

Water Supply

Water supply in mining refers to the provision, management, and distribution of water needed to support all mining operations, including mineral processing, dust control, drilling, and worker needs. It is a critical resource in both surface and underground mining, essential for safety, efficiency, and environmental compliance. It involves water for



Mineral Processing



Dust Suppression



Drilling and Blasting



Cooling Systems



Preparation s Transport of slurry

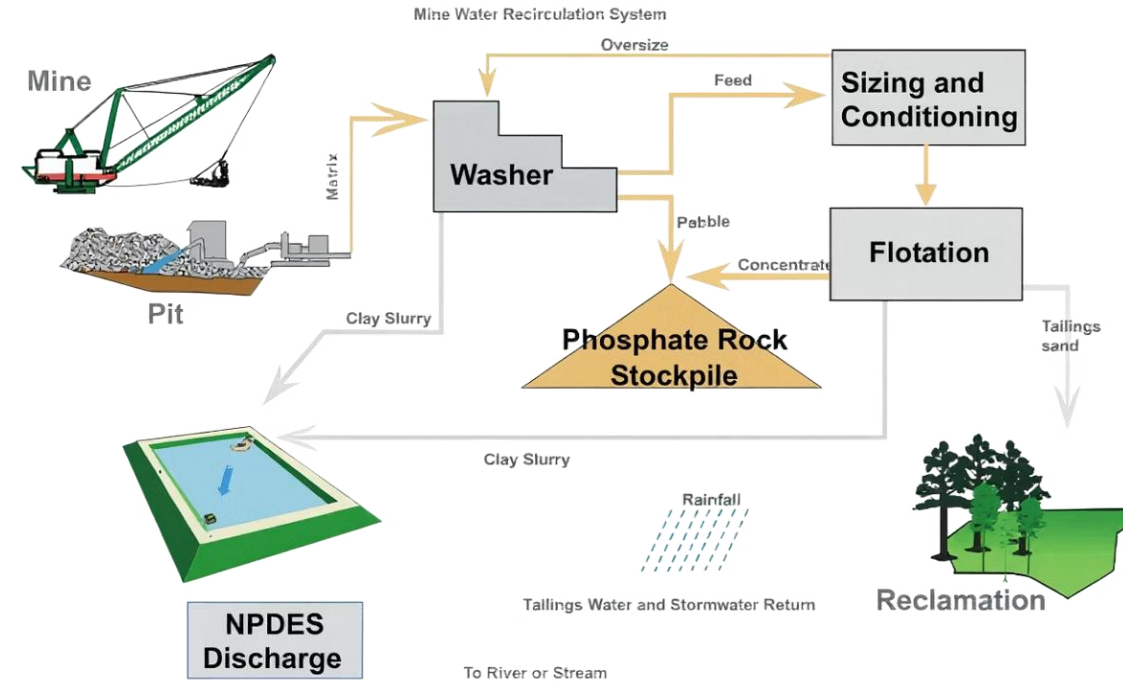


Worker Needs



Reclamation and Environmental Control

****Water supply in mining is a vital support system for operational, environmental, and human needs. It involves sourcing, distributing, managing, and often treating large volumes of water. Sustainable and efficient water management is increasingly important as mining expands into more water-stressed regions and faces tighter environmental regulations.****



Krainags s Sswsr

Drainage and sewer systems in mining are essential infrastructure components designed to manage water flow (both clean and contaminated) and wastewater within and around a mine site. These systems ensure the safe, efficient, and environmentally compliant handling of stormwater, process water, seepage, and sewage. Its needed to -

Safety

Keep working areas dry and safe

Stability

Protect slopes from erosion and failure

Environment

Control contamination spread

Efficiency

Support effective water recycling

******Drainage and sewer systems in mining play a crucial role in water control, environmental protection, and worker hygiene. Drainage deals with water from natural and operational sources, while sewer systems manage human-generated wastewater. Both are essential for safe, efficient, and responsible mining operations.******





Ventilation Ducting

Ventilation ducting in mining refers to the system of ducts or pipes used to deliver fresh air and remove contaminated air in underground mining operations. It is a critical part of the mine's ventilation system, ensuring a safe and breathable atmosphere for workers by controlling dust, gases, temperature, and humidity. So it helps to -

1

Air Supply

Deliver fresh air to underground work areas.

2

Gas Management

Dilute and remove harmful gases.

3

Dust Control

Control dust generated by drilling, blasting, and machinery.

4

Climate Control

Regulate temperature and humidity.

5

Air Exhaust

Exhaust hot and contaminated air

****Ventilation ducting in mining is essential for delivering fresh air and exhausting harmful air in underground operations. It includes a variety of rigid and flexible duct systems tailored to the specific needs of the mine. Proper ducting design and maintenance are critical for worker safety, equipment function, and regulatory compliance.****

Typical Challenges For Piping System In Mines

Abrasive Wear and Erosion

Corrosion

Scale and Blockages

High Pressure

Water Hammer

Structural Damage s Ground Movement

Fire and Heat Exposure

Installation and Access Limitations

Mechanical Stress and Fatigue

Maintenance and Downtime





Jain Irrigation Piping Solutions for Mines

Jain Irrigation offers advanced piping solutions engineered to overcome the complex challenges inherent in mining operations. Our High-Density Polyethylene (HDPE) pipes provide unmatched durability, corrosion resistance, and flexibility, ensuring reliable performance in the most demanding conditions.



Jain PE Pipes Fittings

Range : 16 mm to 2500 mm in diameter

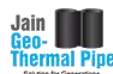
Pressure : PN 2.0 to PN 30

Standard : IS 4984, IS 14885, IS 14333, ISO 4427, ISO 4437, ISO 22391, EN 12201

JAIN PE PIPES & FITTINGS – A SUPERIOR CHOICE!

**WORLD LEADERS
IN PLASTIC PIPING**

Brands:



**Solution
for
Generations**



Jain HDPE Water Pipes & Fittings

Range: 16 mm to 2500 mm
Standard: IS 4984; IS 8360, IS 8008, ISO 4427; EN 12201



Jain MDPE House Service Connection Pipes & Fittings

Range: 16 mm to 200 mm
Standard: ISO 4427; EN 12201



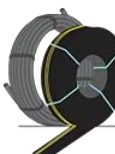
Jain PE Gas Pipes & Fittings

Range: 16 mm to 630 mm
Standard: IS 14885; ISO 4437



Jain PE High Pressure Tube

Range: ID/OD 4 mm to 50 mm
Standard: Company



Jain PE Irrigation Tubes & Hoses

Range:
High Pressure: ID 1 to 50 mm
Low Pressure: 0.5 to 6"
Standard: Company



Jain Silicoat® Telecom Ducts

Range: OFC Duct: upto 110 mm
Micro Duct: OD/ID Ø3/1.5, Upto 16/10mm
Multi Micro Duct: 2 way to 8 way
Standard: TEC/GR/FA/CDS-008/04/AUG-19, Company



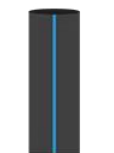
Jain HDPE Pipes & Fittings for Sewerage, Industrial Chemicals & Effluent

Range: 63 mm to 2500 mm
Standard: IS 14333; IS 8360, IS 8008, ISO 4427; EN 12201



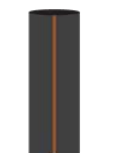
Jain High Performance PE (HPPE) Piping System

Range: 20 mm to 2500 mm
Standard: IS 4984, ISO 4427, EN 12201



Jain HDPE Aquatic Piping System

Range: 50 mm to 2500 mm
Standard: IS 4984, ISO 4427, EN 12201



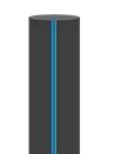
Jain PE - Fire Retardant (FR) Piping System

Range: 63 mm to 630 mm
Standard: Company



Jain PE - Raised Temperature (RT) Piping System

Range: 16 mm to 630 mm
Standard: ISO 22391, Company



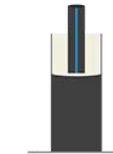
Jain PE Air & Cable Ducts

Range: 110mm to 2500mm
Standard: ISO 4427, Company



Jain PE Tracer Piping System

Range: 32 mm to 1200 mm
Standard: ISO 4427, Company



Jain HDPE Insulated Piping Systems

Range: 20 mm to 315 mm
Standard: IS 4984; IS 8360, IS 8008, ISO 4427, Company



Jain PE Corrugated Pipes & Fittings

Range: 63 mm to 500 mm
Standard: IS 16098; ISO 21138; EN 13476; IS 16205



Jain PE Corrugated - Sub Soil Drainage Pipes & Fittings

Range: 63 mm to 500 mm (SWC & DWC) Perforated & Non-Perforated
Standard: Company



Jain PE Perforated Piping System

Range: 40 mm to 2500 mm
Standard: IS 4984; IS 8360, IS 8008, ISO 4427; EN 12201, Company



Jain GEO-Thermal Piping System

Range: 32 mm to 630 mm (Available in HDPE & PE-RT)
Standard: ISO 4427, Company

*Features:



ACCREDITATION | STANDARDS



Note: Pipes & Fittings: Customised options and alternatives are available on demand. *T&C Apply

Jain HDPE Pipe Features



Life 100+
Years



Lowest Life
Cycle Cost



Leak Proof
Joint



Corrosion
Resistant



Tough, Ductile
Flexible



Superior Seismic
Resistance



Green
Material

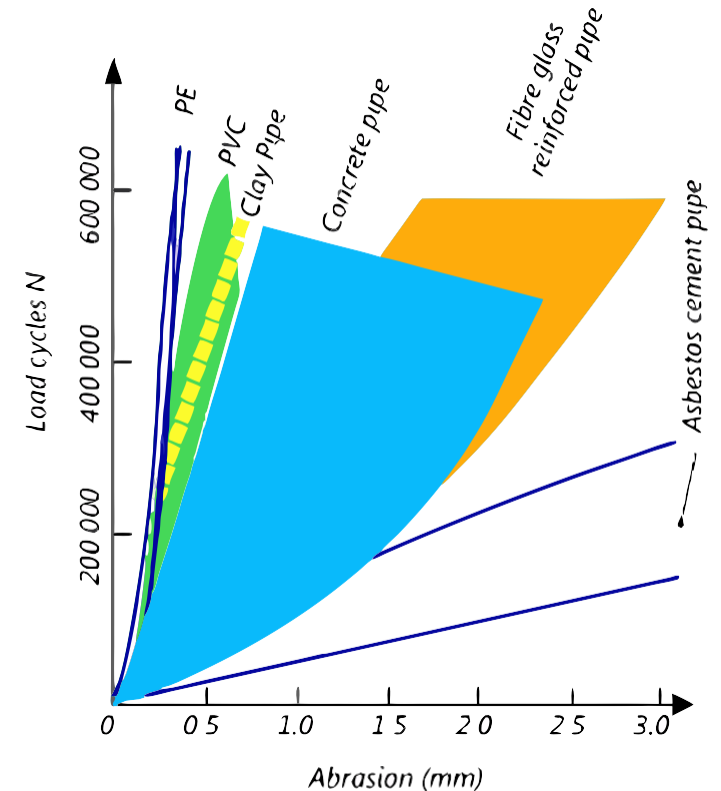
Jain HDPE Pipe : Properties

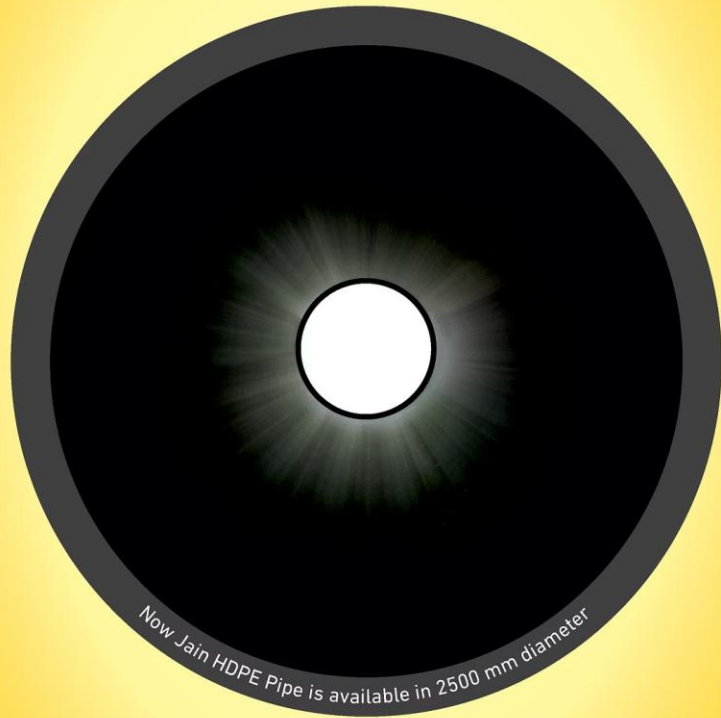
Base density	930 to 960			Kg/m ³
MFR @ 190 Deg.C and 5 kg load	0.15 to 1.4			g/10 min
Longitudinal Reversion Test	<u>≤ 3</u>			%
Carbon Black content	2.0 to 3.0			%
Carbon Black dispersion	Satisfactory dispersion			-
Antioxidant content in PE resin	Max 0.3			%
OIT of PE resin and Pipe @ 200 Deg.C	> 20			Minutes
Volatile content of PE resin	<u>≤ 350</u>			mg / kg
Water content of PE resin	<u>≤ 300</u>			mg / kg
Dimensional characteristics	As per IS 498432016			-
Hydraulic characteristics	PE63	PE80	PE100	-
27 Deg.C s 100 hrs Duration	6.9	8.6	10.7	MPa for Induced stress selected
80 Deg.C s 48 hrs Duration	3.8	4.9	5.7	
80 Deg.C s 165 hrs Duration	3.5	4.5	5.4	
80 Deg.C s 1000 hrs Duration	3.2	4	5	
Tensile strength of Butt fusion joint	Ductile failure			-
Elongation at break	<u>> 350</u>			%
Slow crack growth at 80+1 Deg.C, notched test specimen # 110 SDR 11 Pipe at below internal test pressure (Bar)	<u>> 500</u>			Hrs.
Resistance to weathering	Min 3.5 GJ/ m2 radiation, Requirements as per ISO 4427 Part I to be - met.			
Resistance to rapid crack propagation (# 250 SDR 11 Pipe @ 0°C temperature, air media)	> = 10 bar for PE 100			
	> = 10 bar for PE 80			

Why To Choose Jain Polyethylene (PE) Pipes?

Abrasion Resistance:

PE pipe is a frequent choice for the transport of granular or slurry solutions, such as sand, fly ash and coal. The advantage of polyethylene in these applications is its wear resistance, which for example when conveying fine grain slurries has been shown in laboratory tests to be three to five times greater than for steel pipe. PE pipe has elastic properties that under proper flow conditions allow particles to bounce off its surface. This feature combined with PE's toughness results in a service life that exceeds that of many metal piping materials.





Corrosion resistance:

PE is basically chemically inert. This pipe system does not rust and corrode. This system resists chemical attack from aggressive soils. There is no need for protective layer or finishing process. PE pipe has very good abrasion resistance also.

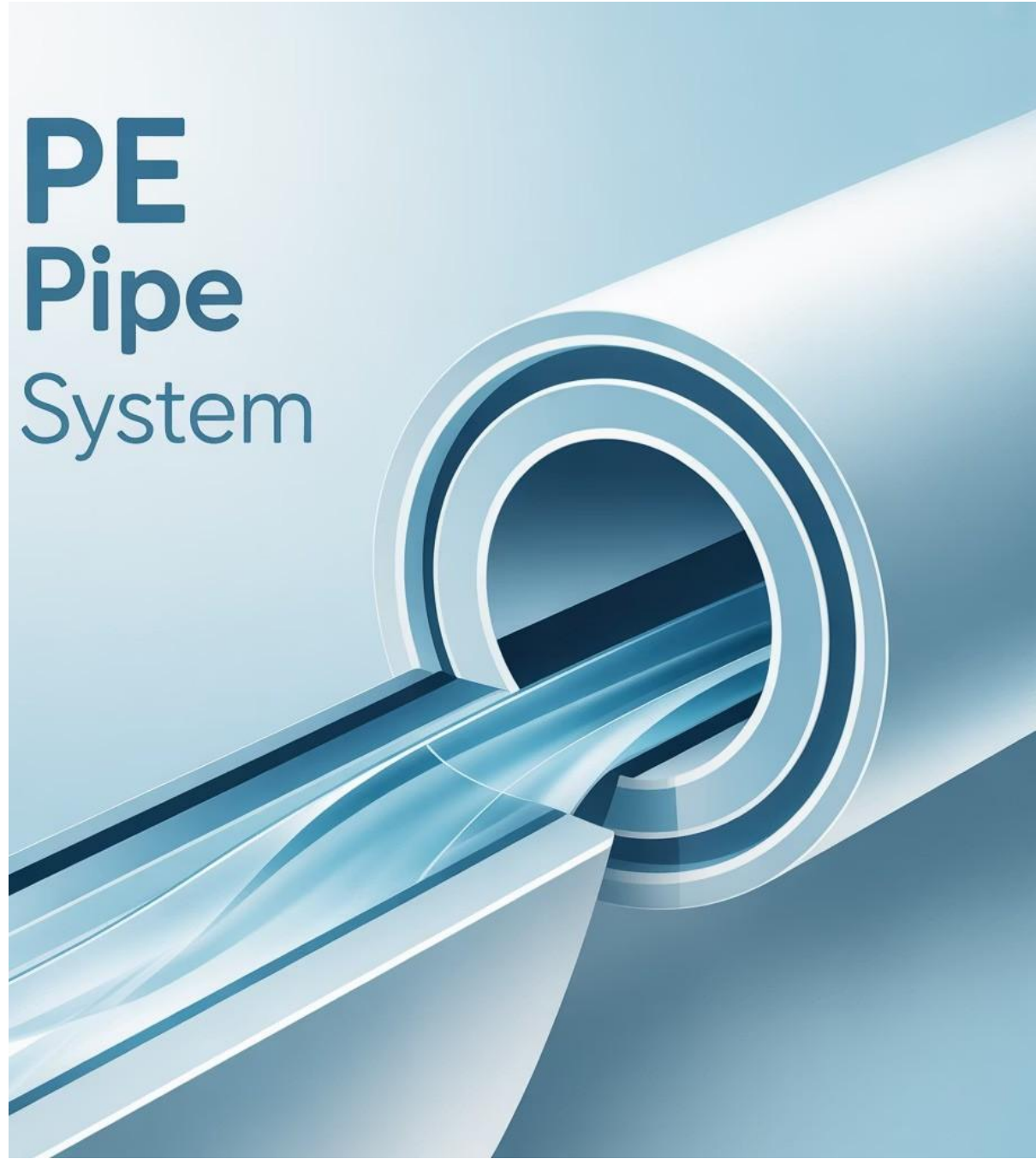


Inside of a corroded metal pipe

Optimum flow rate

Smooth inside pipe surface allows for a high Friction Coefficient "C" factor and it remains constant throughout the lifetime of the PE Piping system due to innate resistance to scaling and biological build-up. Polyethylene is also biologically inert.

PE
Pipe
System





Resistance to geological conditions:

PE piping systems have inherent resistance to ground temperature fluctuations and earth instability because of high impact and breakage resistance.

Seismic Resistance:

The toughness, ductility and flexibility of PE pipe combined with its other special properties, such as its leak-free fully restrained heat fused joints, make it well suited for installation in dynamic soil environments and in areas prone to earthquakes.





Excellent water hammer characteristics to withstand surges:

The inherent properties of polyethylene allow the system to significantly lower the effect of surges due to water hammer when compared with any other Rigid Pipe material of construction.

Flexibility

Small diameter PE pipes can be coiled and supplied in length up to 4000m. This feature is one of the many contributions to cost & time saving during the installation process.





Leak tight

Butt fused joints create a homogenous water-tight jointing for the pipe system. Unlike ring type joints or other mechanical jointing systems existing in conventional systems, there is no risk of leakages resulting from joint distortion due to soil settlement or corrosion effect of conveyed water or the soil in which it is buried.

JAIN Irrigation Systems Ltd.
Attn. Mr. Sarode

P.O. Box 72
Jalgaon
INDIA

Sender:
Dipl.-Ing. Udo Pappler
Tel.: 0043 - 1 - 798 16 01 - 790
Fax: 0043 - 1 - 798 16 01 - 977
E-mail: udo.pappler@ofi.at

2012-07-20

Confirmation

Dear Mr. Sarode!

The PE 80 and PE 100 pipes produced by JAIN Irrigation Systems Ltd. (Jalgaon, India) are tested in our institute according to DVGW GW 335-A2, which are according to the requirements similar to the standards EN 12201-2, DIN 8074 and DIN 8075.

Within the above mentioned standards, test on the raw material being used in the pipes and the product itself are executed, which are proving the service life-time of at least 100 years at a reference temperature of 20 °C. The most significant ones are the MRS-classification according to EN ISO 9080 and the internal pressure tests done on pipes.

Because of the executed test, I can herewith confirm, that the PE 80 and PE 100 pipes produced by JAIN Irrigation Systems Ltd. (Jalgaon, India) have – when installed properly and operated according to the conditions in table 8 up to table 13 of the DIN 8074:1999 – a minimum service-life-time of 100 years (at 20 °C).

With kind regards



Dipl.-Ing. Udo Pappler
Piping department

Longevity

PE pipes have the Long track record of excellent performance, approaching 100 years worldwide.

Energy Efficient

HDPE (High-Density Polyethylene) pipes offer excellent energy-efficient performance, making them a preferred choice in various fluid transport systems because of its smooth inner surface, low frictional loss and non corrosive nature. HDPE pipes support sustainable infrastructure by reducing energy consumption during both installation and operation phases.





Two Layer HDPE Pipe

Two-layer HDPE (High-Density Polyethylene) pipes are available up to 630 mm in diameter. These are widely used in mining operations due to their durability, corrosion resistance, flexibility and ease of inner surface erosion monitoring using robots. These pipes consist of two bonded layers:

1. **Inner Layer:** Made of natural grade HDPE / silicon lubricated PE, this layer offers smooth flow characteristics, apart from ease of remote monitoring ideal for transporting slurry, tailings, and other abrasive or corrosive mining materials.
2. **Outer Layer:** Typically colored or UV-stabilized or special grade PE material, the outer layer provides enhanced protection against environmental stress, impact, surface scratches and UV degradation.

Why To Choose Jain Polyethylene (PE) Pipes?

1

Size Range

Pipes and Fittings available from 16 mm to 2500 mm in diameter

2

Dual Layer Options

Inner White & outer Black layer pipe available up to 630 mm Diameter

3

Standards Compliance

Pipes and Fittings are available conforming to different national and international standards - IS 4984; IS 14333, IS 8360, IS 8008, ISO 4427; ISO 22391, EN 12201

4

Material Grades

Pipes and Fittings are available in different grades of material fulfilling the different site requirements like PE -RC, PE - RT (Raised Temperature), PE - FR (Fire Retardant), PE - RD (rodent deterrent), High Performance PE (HPPE) etc

5

Specialized Solutions

PE Perforated Pipes & Fittings for leachate application are available up to 2500 mm diameter pipe

Types of Jain PE Pipe Joints



1) Butt Fusion

Butt fusion is a welding process used to join two different pieces of a thermoplastic pipes. This process involves heating both pieces simultaneously and pressing them together. The two pieces then cool together and form a permanent bond. When done properly, the two pieces become indistinguishable from each other.



2) Electrofusion Joint

Electrofusion is a method of joining MDPE, HDPE and other plastic pipes using special fittings that have built-in electric heating elements which are used to weld the joint together.



3) Compression Joint

A joint between two pipes made by tightening a threaded nut on to a HDPE Pipe, the compression thus caused creating the seal.



4) Stub End - Flange Joint

This Joint is used to connect HDPE pipes at the site without any need of electricity. The pipes are factory welded to stub ends and flanged inserted, at site one just needs to insert a gasket and tighten the nut bolts.



5) Easy Fix (Shoulder Groove) Joint

It is the method of jointing two HDPE pipes using the shoulder grooved fitting with rubber seal.



6) Sure Loc Joint

An innovative locking arrangement hold the joint intact against tensile load coming on the joints and the external ribs take care of torsion forces (i.e. the torque developed at the start and stop of pump).

Types of Jain PE Pipe Joints



7) Quick Connect Joint

Quick Connect clamps are designed to withstand the tensile pull that will be acting on the joint when the pipeline is under pressure. The clamps sealing is achieved by a specially designed rubber seal, which allows easy and smooth connection yet makes it watertight.



8) Threaded Joint

Threaded joints are the most common type of releasable connections. Threaded joints are detachable joints of two or more component parts either directly connected with each other or by standardized fasteners



9) Snap Joint

A snap fit is an assembly method used to attach flexible parts, usually plastic, to form the final product by pushing the parts interlocking components together. Snap fits are an alternative to assembly using screw and have the advantages of speed and no loose parts.



10) Clamp Tite Joint

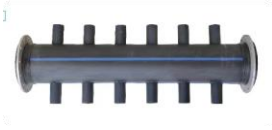
This is an specially designed split clamp with 360 degree rubber seal and grip rings to be used for connecting the two power duct pipes of same diameter in line. The pipes have the plain surface, the rubber sleeve in clamp is used to cover the gap between two pipes and make continuity in the length without leakages and the clamp with special grip rings hold the two pipes together and slip resistant making the complete joint as integral leakproof. The joint made with specially designed <ClampTite® prevents any ingress in the pipe through joints and makes it an ideal choice for Power Duct Application



11) BellConnect Joint

BellConnect is an specially designed HDPE pipe with socket arrangement and sealing ring to make a leak proof string of pipes at the site without the use of any electrical power or welding equipment. Bellconnect is a factory supplied pipe having inbuild sealing arrangement helping to avoid any ingress of water or contaminant from outside through the joint making it idle choice for number applications like, ducting, gravity / low pressure sewerage or water line.

Types of Jain PE Pipe Joints



12) Saddle Fusion

This technique consist of simulteneously heating & melting the external surface of a pipe and the internal surface of saddle pipe end (Branch pipe), inserting the pipe end into the main pipe. It uses the concave & canvex heaters for heating the pipe ends.



13) RRJ Repair Coupler For HDPE PIpe

These are fabricated by expanding the pipe to slip over the similar pipe outer diameter at both the ends. The length of the expanded portion at one end is twice the length at the other end. There is a reduced portion in between the two expanded ends which works as a pipe stopper. Both the expanded ends have provision to rest the rubber rings in it where rubber rings are placed securely at each preformed groove end to make a watertight seal. This joint can also be supplied with No Slip Rubber Rings. The length of both side sockets is such that it not only takes care of leak proof joints over the life but also the cave in effect in pipes at the free ends.



14) Transition Joint

i) **Repair / Coupler** - In some cases where the damage is slight but has severed the pipe, the line can be shut off and a small section of the pipe cut out to install a Transition Coupler in the damaged area. This can also be used as a coupler to connect two pipes.

ii) **Transition Coupler** - A coupler use to connect pipes of two different materials e.g. PVC to Metal pipe, HDPE to Metal pipe etc

iii) **PE Adaptor Joint** - By using this type of joint we can connect preinstalled Cement, MS or DI Pipe with newly installed HDPE Pipe.

iv) **Flange Adaptor Joint** - By using this type of joint we can connect PVC / HDPE Pipe with MS or DI Pipe and valves

v) **Mechanical Joint** - Mechanical joint is the method of jointing the HDPE Pipe to another pipe (MS, DI, CI, Cement) material, valves and fittings etc.

vi) **Transition Joint - PE to Metal** - Transition joint is the process of inserting the nipple in to the HDPE coil by heating the coil in the ceramic heater box. PE pipe may be joined to other pipe materials by means of compression fittings, flanges, or other qualified types of manufactured transition fittings.

Comparison of HDPE Pipe s Metal Pipe

Description	HDPE Pipe	Steel / DI Pipe
Pipe Weight	Light in weight	@ 7 Times of HDPE pipe for same parameters
Transportation	Easy for delivery and handling	Heavy weight, need heavy equipment for loading and unloading
	- Pipe Outside Diameter Up to 160 mm. Can Be Coiled to get longer lengths	Not possible
Flexibility	Pipe can be bend in a radius equal to 25-40 Times Of Outside Diameter	Not possible
Hazen William's "C" Factor	C = 150	C = 100*
Speed of pressure wave in pipe	200 - 400 M/Sec	1,000 - 1,200 M/Sec
Maximum Working Pressure	30 Bar	50 Bar
Working Temperature*	- 40°C To 60 °C	-100°C To 300 °C
Service Life	100+ Years	10 - 30 Years, depends on lining material
Inner Surface	No Corrosion, No Calcium Carbonate deposits	Susceptible to Corrosion, can Form calcium Carbonate deposits
Chemical Resistance	High resistant to Acid and base	Non resistant
Underground Installation	Welding on ground and laying into Trench, narrow trench is OK	Need heavy equipment for jointing, Wider Trench is required (Jointing in Trench)
Cost of transportation and welding compare with pipe cost	10%	30%
Jointing	Butt Welding, Electro Fusion, Flang Joint etc	Flange Connection or welding, very Expensive
Use of Thrust blocks at pipe joints	Not required	May or May not require
Surge pressure	Can accept significantly high surge pressure	Can accept limited surge pressure

JAIN PIPE APPLICATIONS

(SIZE - 1 MM ID TO 2500 MM OD)

AGRICULTURE

- Gravity, Pumping Main & Distribution Lines
- High Pressure Spray Pipes
- Subsoil Drainage Piping System

AQUATIC

- Marine & Sub-Marine Lines
- Sea Water Intake and Outfall Lines
- Cage Fish Farming, Aquaculture & Salt Pan Industry
- Infiltration Gallery
- River Bed Crossing Piping System

BOREWELL & TUBEWELL

- Water Well Casing & Screen
- Monitoring (Piezometric) Wells
- Aquifer Recharge, Collector, Waste Disposal & Injection Wells
- Riser Pipes & Fittings
- Column Pipes & Fittings

BUILDING & CONSTRUCTION

- Hot & Cold Water Plumbing Systems
- Township Water Supply System
- Rain Water Harvesting
- Fire Sprinkler System
- Drainage & Sewerage Systems

DRAINAGE

- Underground Drainage Systems
- Non-pressure Drainage Systems
- Storm Water Drainage
- Soil & Waste Discharge System

DUCTING

- Power & Telecom Cable Duct
- Optical Fiber Cable (OFC) Ducting for Telecom & Data Networks
- Ducting for centralized air cooling system

OIL, FUEL & GAS TRANSPORTATION & DISTRIBUTION

- Transportation of Natural Gas
- Transportation of Hydrogen
- Natural Gas/ Vaporized LPG Conveyance and Distribution
- Biogas and Coal Bed Methane Gas Conveyance
- Transportation of Oil & Petroleum Fuel

INFRASTRUCTURE

- Public Utilities (Urban & Rural)
- Storm Water & Culverts
- Roads- Highways, Ports, Transport & Power Generation
- Underground Non Pressure Drainage & Sewerage Systems
- HDD Pipes
- Flood Control & Eco System Restoration

WORLD LEADERS
IN PLASTIC PIPING

SINCE 1980
PIONEERING INNOVATION

SCI-TECH@WORK®

END TO END PIPING
SOLUTIONS



☎ 0257-2258011; 6600800;

📞 1800 599 5000;

✉ Email: jisl@jains.com



Jain's PVC Pipe



www.jains.com



Jain's PE Pipe

INDUSTRIAL

- Chemical Conveyance System
- Cooling Tower & Hydro Power Stations
- Air Pipelines
- High Performance Alloy Pipes
- High Impact Modified Pipes for above Ground Installation
- Electrical Cable Conduit
- Hot / Process Hot Water Conveyance
- Industrial/ Dyeing Process Water Lines
- Industrial Plumbing Systems
- Dust Suppression Systems

IRRIGATION

- Pressurized Irrigation Networks / Systems
- Gravity & Non Pressure Irrigation Systems
- Drip & Sprinkler Irrigation Systems
- Open Canal Replacement

PLUMBING

- Potable Water Supply System
- Ventilation, Anti Siphonage System
- Swimming Pools Piping Network
- Hot & Cold Water Supply
- Industrial fluid piping

PRE INSULATED PIPING SYSTEM

- Piping Systems for Temperate Zones.
- Pre Insulated pipe for City or town Water Supply in Cold Region
- Chemical, Pharmaceutical & Food Industries for Chilled Water
- Chilled Water, Drinking Water, Cooling Water Conveyance

SEWERAGE

- Underground Sewerage Systems
- Non-pressure Sewerage Systems
- Reconditioning of Existing Sewer Pipes

SPECIAL APPLICATIONS

- Piping system for Geothermal Heat Extraction
- Tracer Pipe for Detection of Buried Pipelines
- Fire Retardant Pipes
- Raised Temperature Piping Systems
- Fire hydrant Buried Piping network
- Piping system for High Performance applications - HPPE

WASTEWATER

- Effluent Disposal
- Treated Wastewater Reuse for Agriculture
- Reclaim Water Piping System
- Treated Waste Water Reuse Networks

WATER SUPPLY

- Raw Water Pumping Mains & Distribution Network
- House Service Connections & City Water Supply
- 24 x 7 Potable Water Supply Piping System

Jain PE Pipes in Action



Slurry Transport

Ideal for conveying abrasive materials like ore, tailings, and coal slurry, thanks to their high abrasion and chemical resistance.



Dewatering

Crucial for mine pit dewatering systems in both open-pit and underground mines, effectively managing water accumulation.



Ventilation Ducting

Employed in underground mining for efficient air delivery and dust suppression.

Perforated HDPE Pipes

Perforated HDPE pipes, with precise openings, are engineered for efficient fluid collection and distribution in mining. Their flexibility, durability, and corrosion resistance make them ideal for challenging mine environments.



Drainage Systems

Crucial for dewatering, these pipes efficiently collect and divert excess water from mine pits, waste dumps, and tailings dams, preventing waterlogging.



Leachate Collection

Essential in heap leaching, perforated pipes collect pregnant leach solution (PLS) from ore piles, optimizing metal recovery and preventing contamination.



Groundwater Control

Utilized in subsurface drainage to lower the water table and manage hydrostatic pressure, vital for maintaining slope stability and preventing water ingress.



Rain Guns

Rain guns are specialized high-capacity sprinklers designed for large-area irrigation and dust suppression, making them highly effective in demanding industrial environments like copper mines.

Key applications include:



Dust Suppression

Effectively reduce airborne dust generated by mining operations, improving air quality and safety for workers and surrounding communities.



Tailings Management

Assist in managing water on tailings dams, aiding in consolidation and preventing dust emissions from dry surfaces.



Leach Pad Irrigation

Provide uniform water distribution for heap leaching processes, crucial for efficient copper extraction.



Water Recycling

Facilitate the distribution of recycled water for various operational needs within the mine, supporting sustainable water management practices.



Drip Irrigation System

While traditionally used in agriculture, micro and drip irrigation systems offer precise water management, making them valuable for specific applications in copper mining environments:

Dust Control

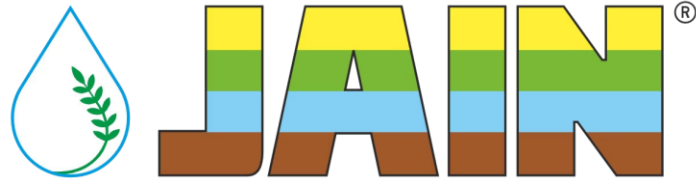
Dust Suppression: Implement controlled water release for effective dust management on mine roads and dump sites, improving air quality and safety.

Land Rehabilitation

Revegetation: Support the rehabilitation of mined lands by providing targeted irrigation for successful plant growth and ecosystem restoration.

Efficient Water Use

Leaching Drip irrigation: ensures minimal water wastage by delivering water directly to the plant roots or targeted areas, enhancing efficiency and reducing environmental impact in mine rehabilitation efforts. These systems also adapt well to uneven terrain and varying soil conditions common in mining sites.



Jain Irrigation Systems Ltd.

Small Ideas. Big Revolutions.®