

Product Performance

Item	Indicator
Short-term Hydrostatic Test	According to CJ/T189-2007 standard, test temperature is 20°C, liquid pipe 2 times nominal pressure, gas pipe 3.2 times nominal pressure holding for 1h, no rupture, no leakage. According to CJ/T189-2007 standard, test temperature is 80°C, liquid pipe 1.2 times nominal pressure, gas pipe 1.92 times nominal pressure holding for 165h, no rupture, no leakage. According to CJ/T537-2019 standard, test temperature is 60°C, 1.05 times nominal pressure holding for 165h, no rupture, no leakage.
Burst Pressure	The pipe is pressurized to burst within 60s-70s at a test temperature of 20°C. Burst pressure ≥ 3 times nominal pressure.
Negative Pressure Resistance	The pipe is kept at a negative pressure of 0.097MPa for 100h without flattening or failure.
Stability against Compressive Cracking	When pressed to 50% of the nominal outer diameter of the composite pipe for 10-15s, there is no cracking.
Peel Strength	$\geq 100\text{N/cm}$
Surface Resistance	Water supply and drainage pipes: The arithmetic mean of the surface resistance of the outer wall shall not be greater than $1.0 \times 10^9 \Omega$ Positive pressure ventilation pipes: The arithmetic mean of the surface resistance of the outer wall shall not be greater than $3.0 \times 10^6 \Omega$ Shotcrete pipes: The arithmetic mean of the surface resistance of the inner and outer walls shall not be greater than $1.0 \times 10^6 \Omega$ Negative pressure ventilation pipes: The arithmetic mean of the surface resistance of the inner and outer walls shall not be greater than $1.0 \times 10^6 \Omega$ Gas drainage pipes: The arithmetic mean of the surface resistance of the inner and outer walls shall not be greater than $1.0 \times 10^6 \Omega$
Alcohol Blowtorch Flammability	The arithmetic mean of the flaming combustion time of 6 samples shall not be greater than 3s, and the flaming combustion time of any one sample shall not be greater than 10s. The arithmetic mean of the flameless combustion time of 6 samples shall not be greater than 20s, and the flameless combustion time of any one sample shall not be greater than 60s.

Mining Steel Wire Mesh Skeleton Polyolefin Co-extruded POE Wear-Resistant Pipe

Product Introduction

Wear-resistant pipeline is a very important segment in the pipeline industry. Wear-resistant pipelines are mainly used for conveying materials such as pneumatic and pumped slurry. Due to the high hardness, fast flow rate, and large flow of the conveying medium, wear-resistant pipelines can effectively reduce the speed at which the pipeline is gradually worn through due to continuous impact, wear, and corrosion of the pipe wall caused by the conveying medium for a long time. Wear-resistant pipelines are widely used in chemical industry: such as pulverized coal, silicon powder, salt slurry, alkali slurry, and other solid-liquid mixture conveying pipelines; Power: such as ash removal, slag discharge, powder feeding, powder return, and desulfurization process pipelines in thermal power plants; Metallurgy: such as long-distance pipeline transportation of concentrate slurry and tailings, mineral and solvent process pipelines in concentrators; Cement: such as raw slurry transportation in rotary kiln wet production lines, pulverized coal transportation, hoist feeding, finished cement pneumatic conveying loading and unloading, and concrete conveying pipelines; Grain: such as pneumatic conveying pipelines for wheat, grain, chaff, etc., with a wide range of applications.

Product Performance

- Solves the pressure problem:

Through high-strength special materials as the reinforcement layer, the maximum pressure of some diameters can reach 12MPa. The 1-hour hydrostatic pressure of the pipe meets 2 times the working pressure. The burst pressure of the pipe meets 3 times the working pressure.

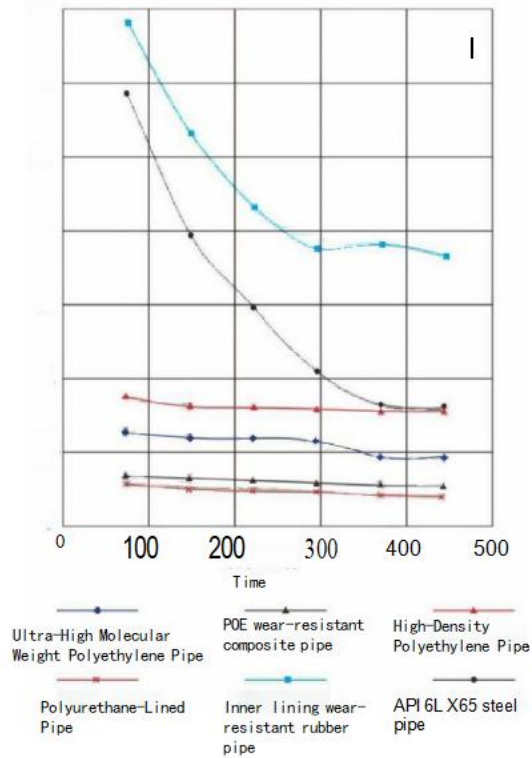
- Solves installation and maintenance problems:

The pipe is composed of several polymer materials as a whole, so the pipe is light in weight, only 1/4 of the steel pipe, and the pipe body is a flexible structure, requiring low basic conditions for installation.

- Solves the problem of wear resistance and coarse particle impact:

The inner layer of the pipeline is compounded with POE polymer polyolefin material through a special process. This material has excellent physical and mechanical properties, extremely low surface friction coefficient, 3 times better wear resistance than bimetallic pipes, 8 times better than UHMWPE pipes, 15 times better than HDPE pipes, and 100 times better than metal steel pipes. It also has excellent impact resistance and resistance to various organic solvents.

Comparison of Wear Resistance Performance



Evaluation of wear resistance in pipe form



Wear-Resistance Performance Comparison

Measured annual erosion rate of 6 different pipeline materials:

Material Name	Inner-lined Wear-resistant Rubber Pipe	API 6L Steel Pipe	HDPE Pipe	UHMWPE Pipe	POE Wear-resistant Composite Pipe	Inner-lined Polyurethane Pipe
Erosion Rate	1.8263	0.7913	0.7686	0.4459	0.2465	0.1976

Evaluation Indicators:

Evaluation Indicator	POE Wear-resistant Composite Pipe	UHMWPE Pipe	HDPE Pipe	Steel Pipe
Wear Resistance	+++	++	+	
Chemical Resistance	+++	++	++	
Mechanical Properties	++	++	++	+++
Flexibility	+++	++	++	
Installation Convenience	+++	+	+++	
Heat Resistance	+	++	++	+++

Cost Comparison

The economic comparison between mining steel wire mesh skeleton polyolefin co-extruded POE wear-resistant pipe and other wear-resistant pipeline products needs to consider the following factors:

- Initial procurement cost: The price difference of different types of wear-resistant pipe products is large. The initial procurement cost of POE co-extruded polyolefin composite reinforced wear-resistant pipe is generally higher than that of rubber pipe and PE pipe, but lower than that of steel pipe and cast iron pipe.
- Installation cost: The POE co-extruded polyolefin composite reinforced wear-resistant pipe is light in weight and easy to install, which can reduce installation costs.
- Maintenance cost: The wear resistance and corrosion resistance of POE co-extruded polyolefin composite reinforced wear-resistant pipes are superior to traditional wear-resistant pipeline products, which can extend service life and reduce maintenance costs.
- Life cycle cost: Considering factors such as initial procurement cost, installation cost, and maintenance cost comprehensively, the life cycle cost of POE co-extruded polyolefin composite reinforced wear-resistant pipe is often lower than that of traditional wear-resistant pipeline products.

The economics of mining steel wire mesh skeleton polyolefin co-extruded POE wear-resistant pipe depends on specific application scenarios and usage requirements. In terms of initial procurement costs, POE co-extruded polyolefin composite reinforced wear-resistant pipe is higher than rubber pipe and PE pipe, but lower than steel pipe and cast iron pipe. In terms of installation costs, the advantages of POE co-extruded polyolefin composite reinforced wear-resistant pipe are obvious. In terms of maintenance costs, the

wear resistance and corrosion resistance of POE co-extruded polyolefin composite reinforced wear-resistant pipe are superior to traditional wear-resistant pipeline products, extending service life and reducing maintenance costs. Comprehensively considering factors such as initial procurement, installation, and maintenance costs, the comprehensive cost of the mining steel wire mesh skeleton polyolefin co-extruded POE wear-resistant pipe over its entire life cycle is significantly lower than that of traditional wear-resistant pipelines.

Product Structure

Product Structure

Mine Steel Wire Mesh Skeleton Polyolefin Coextruded POE Abrasion-Resistant Pipe Display

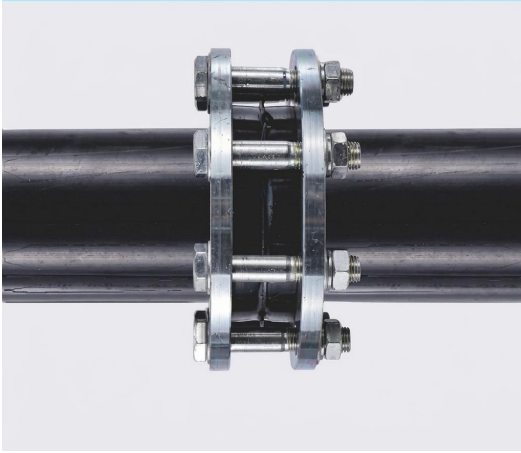


Product Specifications

Electrofusion Flange Connection

Pipe Body Flanging Flange Connection

Pipe Flanging-type Flange Connection

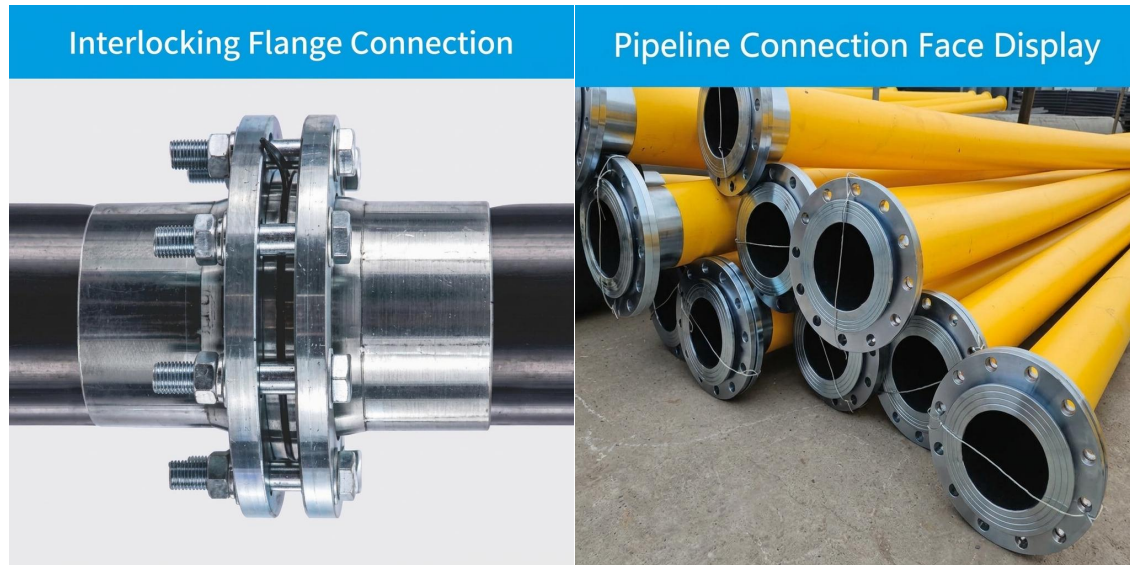


Pipeline Connection Face Display



Nominal outer diameter mm	Nominal Pressure MPa									
	0.8	1.0	1.25	1.6	2.0	2.5	3.0	3.5	4.0	5.0
50	0	0	0	0	0	0	0	0		0
63	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	
140	0	0	0	0	0	0	0	0	0	
160	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0		
200	0	0	0	0	0	0	0	0		
225	0	0	0	0	0	0	0			
250	0	0	0	0	0	0				
280	0	0	0	0	0					
315	0	0	0	0	0					
355	0	0	0	0	0					
400	0	0	0	0	0					
450	0	0	0	0	0					
500	0	0	0	0	0					
560	0	0	0	0	0					
630	0	0	0	0	0					

Crimped Flange Connection



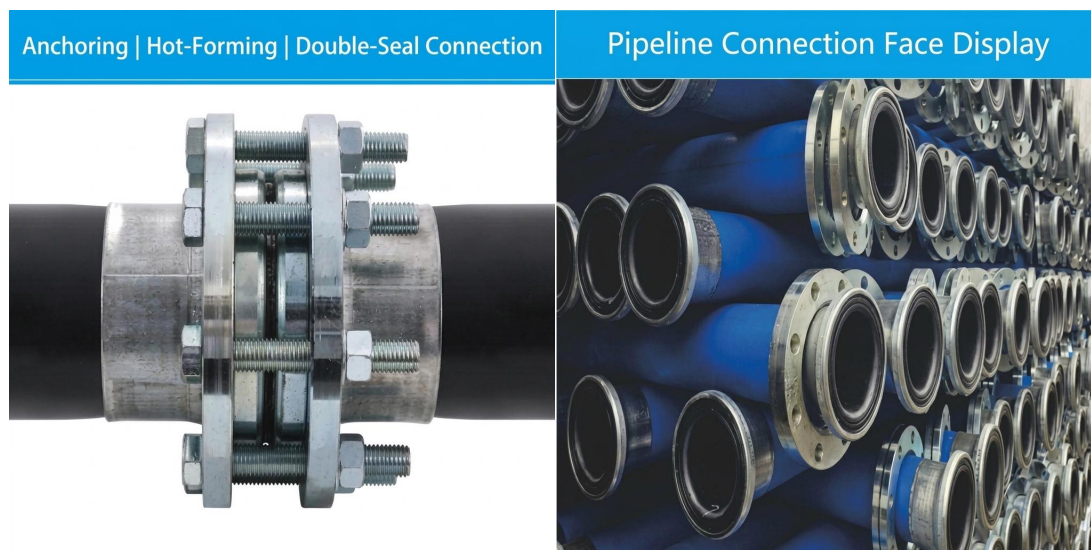
Nominal outer diameter d _{nom}	Nominal Pressure MPa						
	1.6	2.0	2.5	3.0	3.5	4.0	5.0
50	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0
225	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0

Quick-connect Crimped Clamp Connection



Nominal outer diameter dnmm	Nominal Pressure MPa					
	1.6	2.0	2.5	3.0	3.5	4.0
50	0	0	0	0	0	0
63	0	0	0	0	0	0
75	0	0	0	0	0	0
90	0	0	0	0	0	0
110	0	0	0	0	0	0 ☆
125	0	0	0	0	0	0 ☆
140	0	0	0	0	0	0 ☆
160	0	0	0	0	0	0 ☆
180	0	0	0	0	0	0 ☆
200	0	0	0	0	0	0 ☆
225	0	0	0	0	0	0 ☆
250	0	0	0	0	0 ☆	0
280	0	0 ☆	0 ☆	0 ☆	0 ☆	0
315	0 ☆	0 ☆	0 ☆			

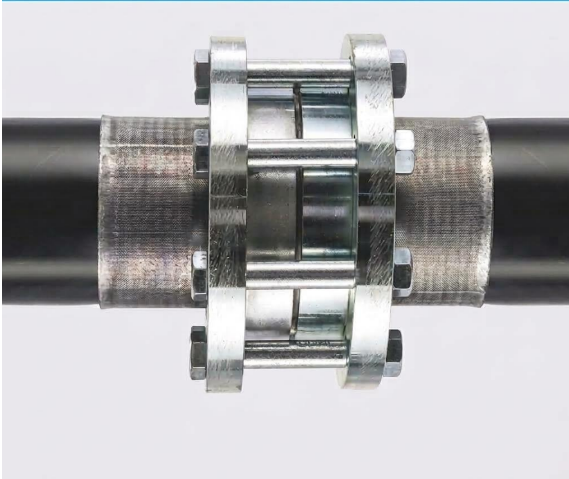
Riveted | Thermoformed | Double Seal Connection



Nominal outer diameter mm	Nominal Pressure MPa							
	1.6	2.0	2.5	3.0	3.5	4.0	5.0	6.3
110	○	○	○	○	○	○	○	
125	○	○	○	○	○	○	●	
140	○	○	○	○	○	○	●	
160	○	○	○	○	○	○	●	
180	○	○	○	○	○	○	●	
200	○	○	○	○	○	○	●	
225	○	○	○	○	○	○	●	
250	○	○	○	○	○	○	●	
280	○	○	○	○	○	●		
315	○	○	○	○	○	●		

Overlapping Crimped Flange Connection

Superimposed Swage Connection



Pipe Connection Face Display



Nominal outer diameter mm	Nominal Pressure MPa									
	2.5	3.0	3.5	4.0	5.0	6.3	7.0	8.0	9.0	10.0
110						0	0	0	0	0
125					0	0	0	0	0	0
140					0	0	0	0	0	0
160					0	0	0	0	0	
180				0	0	0	0	0	0	
200				0	0	0	0	0	0	
225				0	0	0	0			
250			0	0	0					
280	0	0	0	0	0					
315	0	0	0	0	0					