

Steel mesh reinforced PE pipe



امان پایا لوله

نماینده رسمی شرکت H&T تولیدکننده انواع لوله های پلی اتیلن تقویت شده با فولاد

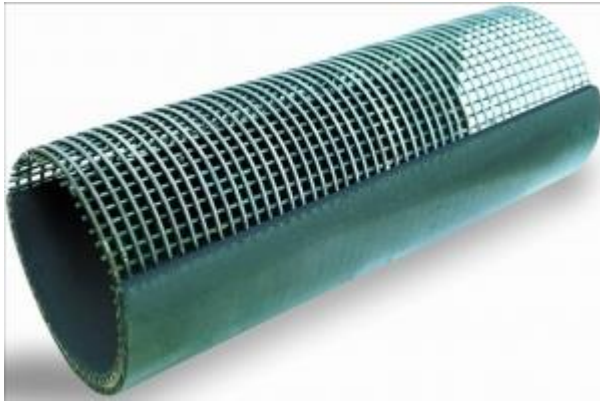
اطلاعات تماس:

تلفن: ۰۲۱-۲۶۳۰۲۴۱۰

فکس: ۰۲۱-۲۶۳۰۲۴۱۱

پست الکترونیک: sales@reinforcedpipe.ir

Steel mesh reinforced PE pipe



Structure

The Steel Reinforced PE Pipe is a new kind of high density polyethylene pipe which is reinforced by a steel wire skeleton. Crossing steel wire are spots welded as a net-cylinder structure during the manufacturing process. HDPE , the stuffing material of the structure ,is continuously extruded on producing line. The structure is similar to reinforced concrete structure.

This combination makes the pipe far stronger than standard HDPE pipe and more flexible and corrosion-resistant than steel pipe. Many of its inherent characteristics are far superior to those of HDPE or steel pipe.

Material

The stuffing material of the steel mesh reinforced HDPE pipe and fittings is PE 80 (piping class) , and the high quality low-carbon steel wire is used as the reinforced part of the pipes and Q235 steel sheet is used for the fittings.

Characteristics of PE 80(piping class) material

Characteristics Test Standard Unit Result

Melt Flow Index(5Kg,190℃)	ASTM D 1238	G/10min	0.56
Density	ASTM D 792	G/cm3	0.954
Tensile Yield Strength	ASTM D 638	Kg/cm2	230
Tensile Fracture Strength	ASTM D 638	Kg/cm2	370
Tensile&Elongation Ratio	ASTM D 638	%	≥600
Brittleness Temperature	ASTM D 746	℃	≤-70
Linear Expansion Coefficient	DIN 53752	K-1	1.3x10-4
ESCR (F50)	ASTM D 1689	HR	>2000
Thermal Stability	ISO 10837	min	>20

Grade	ASTM D 4131(B)		PE 80
Long-term Hydro Static Strength	ISO 9080	MPa	9.33
Short-term Hydro Static Strength	ASTM D 4131	HR	>165

The characteristic of steel wire and sheet

Characteristics	Test Standard	Unit	Result
Steel wire			
Tensile strength	GB/T 343-1994	MPa	400-500
Tensile&Elongation Ratio	GB/T 343-1994	%	12
Steel sheet			
Tensile strength	GB/T 709-1988	MPa	200
Tensile&Elongation Ratio	GB/T 709-1988	%	10

Characteristics

a. Excellent corrosion resistance

Generally acknowledged as the anti-corrosion material, PE has an excellent property that can resist nearly 275 kinds of corrosive medium, such as non-oxidizing acid, alkali and saline solutions.

b. Super hydraulic performance

The absolute roughness of the steel mesh reinforced PE pipe is 0.01mm only while that of the steel pipe is 0.2mm. So the flow resistance is smaller and the conveying capacity is obviously higher than the normal steel pipe under the same condition.

c. Good flexibility and anti-seismic property

The steel mesh reinforced PE pipe has moderate elastic modulus. So it has excellent adaptability to the nonuniform settlement foundation and ground displacement. The good anti-seismic performance will reduce the cost of losses maximally when earthquake occurs.

d. Lighter weight and easier installation

The density of steel mesh reinforced PE pipe is only 40% of that of steel pipe, we don't need the lifting equipment on site when installing pipes of small caliber. Using this kind of pipe can also save bend fittings benefit from the pipe laying according to the topography to the general undulating land. And the requirement of trench digging is less than steel pipe.

e. Super abrasion resistance

Generally, the abrasion property of polyethylene is superior to normal metal material .It dedicates the abrasion resistance feature of steel framed reinforced PE composite pipe is exactly better than that of the normal steel pipes.

Solid Content		7	14	8.8
Wearing Capacity (μm/h)	SR-HDPE	0.38	0.58	0.23
	Steel	1.5	2.3	0.9

f.Excellent heat preservation property

The basic stuffing material of steel mesh reinforced PE pipe is polyethylene. The Thermal conductivity coefficient of PE is $0.43\text{W/m}^{\circ}\text{C}$, and that of the steel pipe is $2.5\text{W/m}^{\circ}\text{C}$. So the heat preservation property is very good. Also we don't need any heat-insulation treatment even installing overhead.

g.Outstanding hygienic character

PE material is nontoxic and is widely used in food industry . The steel mesh reinforced PE pipe use PE as basic stuff ,and it has passed each test of the National Preventive Medical Association and gotten the Healthy Permit for portable water conveying. So our pipe can meet the requirements of Food Hygiene Law and Healthy Evaluation. At the same time, the inner surface of our pipe is bacteria free ,electrochemistry corrosion free and won't introduce secondary pollution.

h.Working lifetime is longer and comprehensive cost is lower

The features of PE material ensure the working lifeof steel mesh reinforced PE pipe is much longer and comprehensive cost much lower than those of the normal steel pipe in the fields of conveying corrosive medium.

Benefit from the property of anti-corrosion, flexibility and heat preservation, etc., this pipe can be used on the industry of Mining, Oil, Gas, Chemical, the transportation of Ore Pulp and Tailings.