
Characteristics
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How is a ductile iron pipe produced?
Centrifugal Cast is one of the most used for producing superior quality tubular or cylindrical castings.
1)Prepare the melt (iron with carbon, Si , Mn , and Mg)
2)The molten metal will be poured to the cast process.
3)A permanent mold is rotated continuously about its axis at high speeds (300 to 3000 rpm)
4)The molten metal is centrifugally thrown towards the inside mold wall.
5)Water high-speed spin through the long for the cooling system.
6)Finally the pipe is extracted after it solidifies completely
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Why is this material used?
Unique properties for containing water under pressure.
Physical strength cast iron pipes
the Ductile iron pipe formed to belong grade of the metal like 304, like minimum
Higher strength than cast iron
Similar maximum resistance compared to cast iron
Life expectancy > 100 years
Ecologically proper use:
Ductile iron pipes are manufactured out of iron and steel material
Including scrap or metal used recycled iron
Also the pipe can be recycled after being used
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Advantages
High tensile strength, good elastic modulus and excellent ductility
Strength, flow
High working pressure. It is easy to install
Long lifetime
Can accommodate ground movement
Long maintenance
Disadvantages
Aggressive or loose soil and water can cause corrosion on the wall making its material thin the steel pipes
When installing the parts (flanges and sections of) they must be linked because usually are brittle and do not flex.
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Alternative material for the application
Cast Iron - Transmission for transmission of water and sewage
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Advantages
Disadvantages
Aluminum, ballasting and lower mechanical strength
Prone to chemical and electrical corrosion in aggressive constituents
Affects corrosion protection of the material being in contact with concrete or wall thickness
Other interesting stuff
Applications:
Drinking and regenerative networks
Sewage networks
Firefighting service
Transmission of gas and fuel
Corporation Ductile Iron Pipe, Vandura's its cost rates, is extraordinarily resistant to corrosion in nature, although not all, soils.
Ductile iron pipes is consistently protected by two or more external coatings
Polyethylene measurement bars have proven to be an extremely effective and environmental corrosion protection system.
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XinXing Ductile Iron Pipes
Transforming the Management Control System in Time of Crisis
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Thanks for your attention.
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Characteristics

Mixture of magnesium with molten iron
(low proportions of sulfur and phosphorus).

Composition of:

- Iron
- Carbon 3.3 to 3.4%
- Silicon 2.2 to 2.8%
- Manganese 0.1 to 0.5%
- Magnesium 0.03 to 0.05%
- Phosphorus 0.005 to 0.04%
- Sulfur 0.005 to 0.02%

How is a ductile iron pipe produced?

Centrifugal Cast Iron: Often used for producing superior-quality tubular or cylindrical casting.

1)Prepare the molt (iron with carbon, Si, Mn,, and Mg)

2)The molten metal will be poured to the cast process.

3)A permanent mold is rotated continuously about its axis at high speeds (300 to 3000 rpm)

4)The molten metal is centrifugally thrown towards the inside mold wall.

5)Water high-speed spin through the long for the cooling system.

6)Finally the pipe is extracted after it solidifies completely

Why is this material used?

- Unique properties for conveying water under pressure
  - Physical strength of mild steel and the long life of grey cast iron

Ductile iron pipe started to being used at the end of the 50's, the reasons where:
·Higher strength than cast iron
·Similar corrosion resistance compared to cast iron

Life expectancy > 100 years

Ecological properties:
- Ductile iron pipes are manufactured from recycled material including scrap steel and recycled iron.
- Also the pipe can be recycled after being used.

Advantages

- High tensile strength, good elastic module and excellent ductility.
- Hydraulic flow
- High working pressure
- It is easy to install
- Long lifetime
- Can accommodate ground movement
- Easy maintenance

Disadvantages

- Deteriorates in some soil and needs corrosion resistance external coating
- Is heavier than the steel pipes
- When installing the joints (flanged and mechanical) care must be taken because usually are brittle and do not flex.

Alternative material for the application

Cast iron : Pressure pipe for transmission of water and sewage

Advantages

- Thicker wall than ductile iron or steel
- Similar rate of corrosion to ductile iron and steel
- Most pipes after 1950 supplied with cement mortar lining or retrofitted

Disadvantages

- No elastic behavior and lower mechanical strength
- Prone to external and internal corrosion in aggressive conditions
- Often no external protection
- Manufacturing defects including variations in wall thickness

Other interesting stuff

Applications:
- Drinking and irrigation water networks
- Sewerage networks
- Firefighting system
- Transmission of gas and fuel

Unprotected ductile iron, similarly to cast iron, is intrinsically resistant to corrosion in most, although not all, soils

Ductile iron pipe is commonly protected by one or more external coatings.

Polyethylene encasement has been proven to be an extremely effective and economical corrosion protection system.

Thanks for your attention.

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