

Layer structure for FRP pipes

Filament winding pipe is composed of the inner liner +the structural layer + the outer layer.

The inner liner is composed of the inner surface layer + impermeable layer.

- 1) The thickness of the inner surface layer is not less than 0.5mm which contain more than 95% Resin, which is composed of Derakane411 resin and surface mat reinforced.
- 2) The thickness of the impermeable layer is not less than 2mm which contain 70-75% resin, which is composed of Derakane411 and chopped strand mat reinforced (ECR-glass).
- 3) The structure layer is the strength layer, which is wound by the E-glass fiber roving after immersing resin, and this winding process is controlled by microcomputer. This structure layer contains 40%-45% resin, which thickness is up to the customers' requirements, and the factory will adopt the industrial standard to design the workmanship of the winding process, to make sure the overall strength of the pipe.
- 4) the outer surface layer is anti-aging protective layer, which thickness is 0.5mm and made of 100% resin mixing UV absorber-UV-9

The above stated layer related raw material specifications and its suppliers

No.	Item Name	Type	Specification	Application	Manufacturer
1	Resin	Vinylester	Derakane411	The inner liner	Ashland
2	Resin	Vinylester	Derakane411	The structure layer	Ashland
3	Surface veil		30g/m ²	The inner surface layer within the inner liner	Kaifeng Zhongcai
4	E-glass powder chopped strand mat		ECR450g/m ²	The Impermeable layer within the inner liner	Jushi

The total thickness of the completed pipes is no less than the DN size and specified wall thickness. The thickness of each layer may have a tolerance of -10% - +20%.