Continuous Filament Winding Machine

- Used GRP Pipes -
**Summary**

The continuous filament Wound pipes are designed using as raw materials Resin and Glass fibers. According to the disposition of the fibers and layers, it is possible to confer high mechanical properties for flexural, chemical resistant and tensile strength. Aboveground and Underground Installations are permitted. Typical Applications: High Pressure and non-pressure pipelines, Industry, Oil & Gas sector, Cooling lines, Firefighting systems, Water wells, etc. Installation with restrained and unrestrained joints.

The present proposal covers the implementation of a new factory for the manufacture of Glass fiber Reinforced Plastics (G.R.P) pipe through the establishment of Continuous line for the continuous production of pipes with diameters from 300 to 4,000mm.

The project covers the installation of the production facilities relevant to the manufacture of pipe with diameters ranging from 300 up to 4,000mm with a maximum output corresponding to 320 Km/year of pipe.
G.R.P PIPE CHARACTERISTICS

The GRP structure consists of three layers perfectly adherent with one another, each having different characteristics and properties in relation to their function.

The properties of chemical resistance and impermeability are, anyway, equivalent for the three layers which are namely.

- Liner: It's in direct contact with the conveyed fluid and guarantees the maximum resistance to the chemical attack from the fluid itself. Moreover, the
liner presents an internal surface particularly smooth, without defects, cracks or delamination. The liner is composed of one glass veil and one glass mat tape resin impregnated and is produced in two steps (inner liner and outer one)

- Structure: It’s function is to render the pipe shell resistant to the stresses due the design conditions (stresses due to the internal and/or external pressure, flexural strength due to the external loads etc.) and generated by transport and laying operations.

The thickness of the filament depend, then, upon the design conditions.

The mechanical layer is composed of winded glass filament roving chopped glass, sand aggregate, glass mat reinforcement, polyester resin impregnated.

- Resin: It has a thickness of about 0.1 ~ 0.3 mm and consist of pure resin without glass reinforcement. It guarantees the complete impregnation of the peripheral fibers, thus yielding the external pipe surface completely free of protruding fibers and well finished. The external coating is always added with ultraviolet rays inhibitor in order to prevent the nearly negligible weathering effects.

Application

- Potable water pipelines
- Sewage systems
- Irrigation systems
- Industry
- Water power plants
- Oil and gas pipelines

The Dasan Engineering GRP Pipe Lines advantages

- Long operation period
- Leak tightness
- Corrosion resistant
- Wide range of application
- Easy operation
- Low operation costs
- Smoothness of the surface

Specification references

The product produced in the factory is in accordance with AWWA (American Water Works Association) and ASTM (American Society for Testing and Materials) standards.
Summary of plant flow chart

- Mandrel
- Steel band
- Release Film
- Veil / Resin
- Chopped strand / Resin
- Chopped strand, Glass roving / Resin
- Woven roving / Resin
- Chopped strand / Resin
- Chopped strand, Glass roving / Resin
- Woven roving / Resin
- Veil / Resin
- Release Film
- Curing
- Grinding / Cutting
- Inspection and Test
- GRP Pipe
- Resin Tank
- Sand Storage
- Sub Tank
- Sub Tank
- Mixture

Composite process equipment, Glassfiber production equipment, GRP Pipe production plant
Unidirectional prepreg production equipment, F.A system, Biodiesel Plant
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### Standards

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### Mandrel Speed M/h

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