

Production Laboratory & Quality Control



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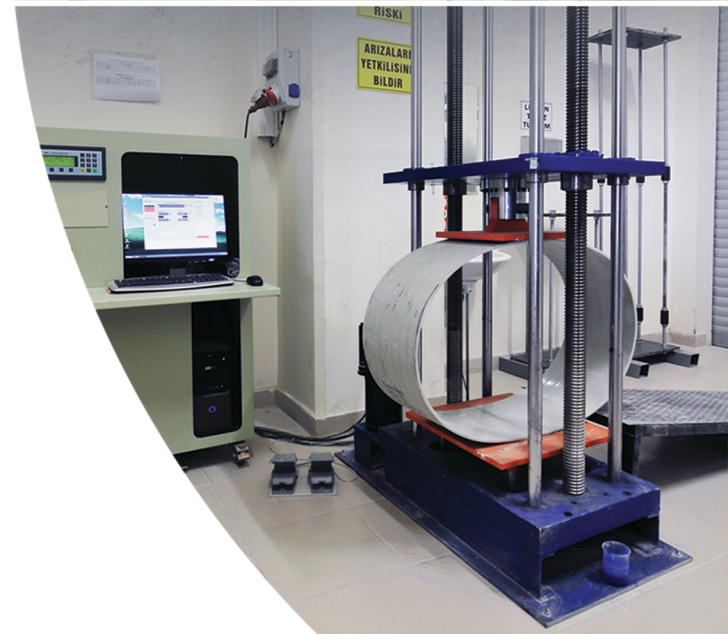
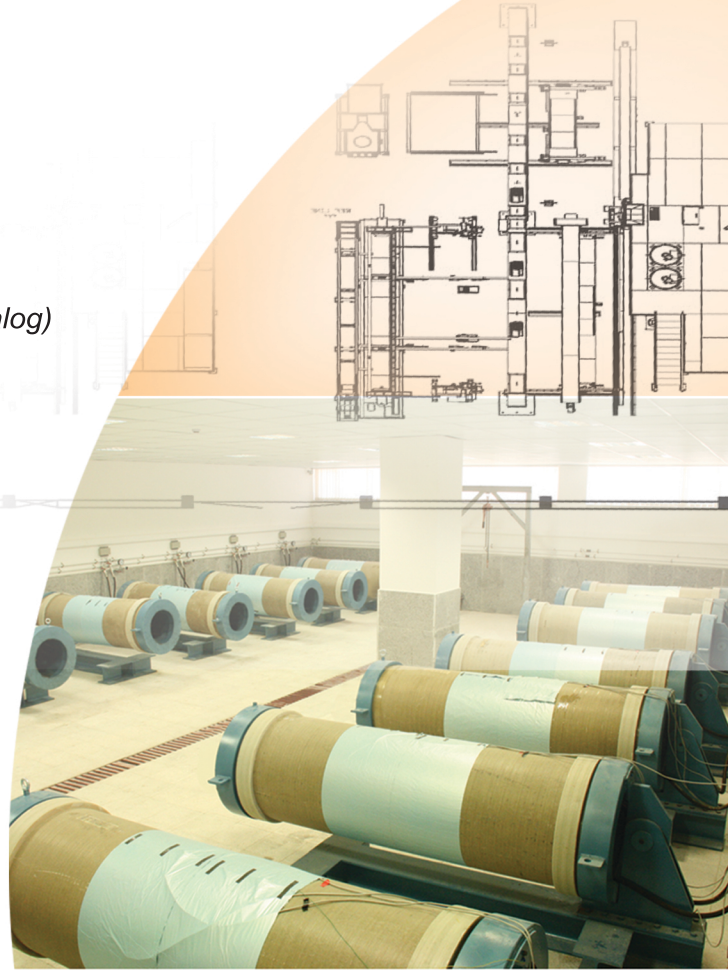
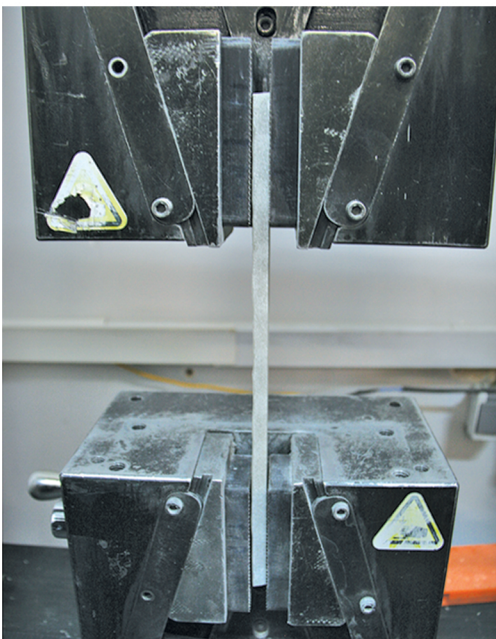
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Production Laboratory and quality control:

Description:

- Mechanical test laboratory
- Chemical test laboratory
- Laboratory archive and library
- Qualification and long term testing
(please check Faratec qualification test catalog)

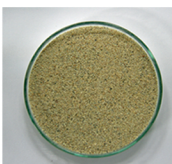


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Quality control :

- **Before production** : Quality control on raw materials
- **During production** : Quality control during production phase
- **After production**: Quality control on finished products
- **Production audit**
- **Documentation**



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Quality control on raw materials:

Since the quality of raw materials has a major impact on the quality of the manufacturer's products, these materials are purchased carefully from reliable resources, and all of the necessary tests are carried out before they are consumed. Purchase of raw materials is done from the approved sources of the Faratec Technology Center, thus the quality of the products will be guaranteed in accordance with the company's standards and technical specifications of the pipes.

In addition, appropriate quality control tests are carried out on raw materials purchased, in accordance with the company's quality control program. Taking into account the quality considerations in purchasing raw materials, the company ensures the quality of the superior products. In the quality control unit, the following controls are implemented in three stages:

- a. Pre-production tests on input materials
- b. Tests and controls during production
- c. Post-production tests on the final product

The main raw materials in the production of GRP pipes are as follows:

- Glass fiber
- Resin
- Catalyst
- Filler (silica sand)
- Chemical additives and accelerators
- Surface mat

Final product and related tests

The final product shall be subjected to following control checks:

- Visual inspection
- Hardness (Barcol)
- Wall thickness
- Length and diameter
- Hydrostatic test (twice the nominal pressure)
- Structural analysis of the Pipes and design verification
(Loss On Ignition or L.O.I test)
- Tensile test in axial and hoop directions
- And etc.



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Quality control standards:

ITEM	CONTROL ACTIVITY	STANDARD test Method
RESIN	Viscosity	ASTM D2196-ASTM D1200-ISO2555
	Monomer Content	ASTM D1259
	Geltime	ISO 2535
	Acid Number	ISO 2114
	Reactivity	ASTM D2471- D7029
	Water Absorbion	ASTM D570-ISO62
	Tensile & Elongation	ASTM D638
	Heat Deflection Temp.(HDT)	ISO75-ASTM D648
REAGENT(Peroxide Catalyst)	Curing Characteristics of reagents	ISO 2535
REAGENT(Styrene)	Polymer Content of Styrene Monomer	ASTM D2121
GLASS FIBER	Moisture Content of Glass Fiber	ISO 3344
	Tex Property	ISO 1172-1889- 3374
	Tensile strength	ISO 3341-ASTM D3822
	Loss on Ignition	ISO 1172-1889-3374
FILLERS	Loss on Ignition	ISO 1172
	Particle Size distribution in sand filler	ASTM E11-C33
	Moisture Content in Sand Filler	ISO 3344
	Carbonate Content in Inorganic Filler	Manufacture St.
	Wetting Properties of Sand Filler	Manufacture St.
GASKET	Dimensional Control	ISO 3302-3301-9691-2859
	Shore Control	ISO 7619

ITEM	CONTROL ACTIVITY	STANDARD test Method
PIPE	Visual Inspection	ASTM D2563-3754
	Outer Diameter Control	ASTM D3567
	Thickness Control	ASTM D3567
	DOS Control	ASTM D3567
	Length Control	ASTM D3567
	Hydro test	AWWA C950 - ASTM D2992
	Stiffness Test	ISO 7685 – ASTM D 2412
	Failure Control(Crack chek) at Inner Surface Under Load (level A)	ASTM D3754-3517
	Loss Of Ignition	ASTM D2584
	Delamination Control Under Load (level B)	ASTM D3754-3517
	Surface Hardness	ASTM D2583
	Longitudinal(Axial) Tensile Strength	ASTM D638 -D3517- ISO 527 - 3268
	Inner diameter control	ASTM D 3517
	Circumferential(Hoop) Tensile Strength	ASTM D2290 - ISO 8521
PIPE & FITTING	Tagging, Marking, Color Coding	ISIRI10729, 10730,11432,11433-ISO 10639-10467
	Preparation For Shipment	
FITTINGS	Dimensional Control of Length, angle, Lay up...	ASTM D3567
COUPLING	Hydro Test	AWWA C950
	Dimensional Control of Grooves	ASTM D3567
	Visual Inspection	ASTM D2563
DOCUMENT	Document Review Before To Release	