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**Technobell equipment  
for GRP pipe production  
includes also laboratory and  
testing equipment:**

<b>Pos.</b>	<b>Description</b>
I	Mechanical tests laboratory
II	Chemical tests laboratory
III	Laboratory archive and library
IV	Long term testing area



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## Detailed description of quality control activities:

- Quality control on raw materials
- Quality control during production phase
- Quality control on finished products
- Process audit
- Final documentation
- Archive of all reports



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## Quality control on raw materials

### Quality control on resin

- Density (ASTM D 792)
- Viscosity (ASTM D 2393)
- Gel time (ASTM D 2471)
- Peak temperature (ASTM D 2471)
- Monomer content (DIN 16945)
- Acid number (ASTM D 1639)
- Volumetric shrinkage (ASMT D 2566)
- Elongation at failure (ASTM D 638)

### Quality control on glass

- Mass control (ISO 3374)
- Moisture content (ISO 3344)
- Organic content (ISO 1887)

### Quality control on sand

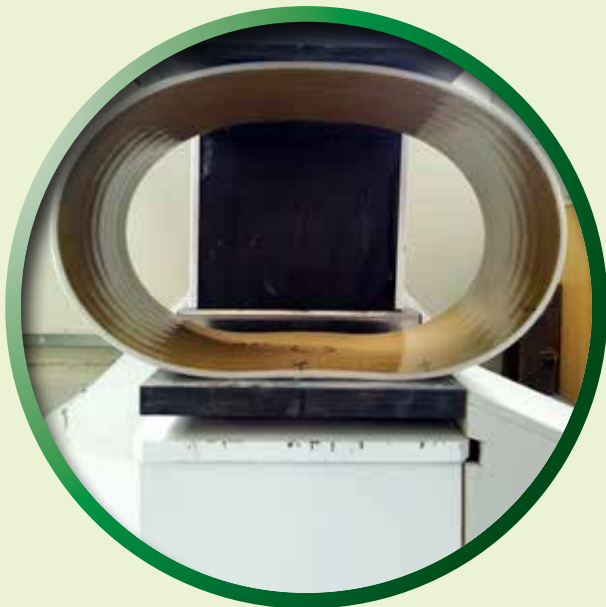
- Moisture content
- Sieve analysis

### Quality control on other materials

Testing machines are supplied with computer software programs. All testing data are immediately shown on the computer screen and stored in the computer database.

Technobell's technology and design are proven over the course of long term testing, according to major international standards.





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## Quality control during production phase

### Dimensional check

- According to pipe design specifications

### Wall thickness

- According to pipe design specifications

### Material traceability for

- Raw materials
- GRP components
- Other components
- Finished products

### Visual check



## STIFFNESS



## Process audit & final documentation

- Ultimate tensile strength, unit modulus and shear strength  
Conforming to BS 4994
- Visual inspection of cut out pieces  
Conforming to ASTM D 2563 II
- Resin / glass percentage (LOI)  
Conforming to ASTM D 2584
- Final thickness and dimension measurement  
According to pipe design specifications
- Stiffness test  
Conforming to BS 5480
- Barcol hardness  
Conforming to BS 2782 or ASTM D 2583
- Pressure hydro-test  
Conforming to BS 5480 and client's requirements

