



Pipe and plant construction

Piping systems made of GRP



FiberSol f-FKT

Competence in GRP.

FiberSol f-FKT GmbH was established in 2020 as a subsidiary of FiberSol. As a subsidiary, we have access to and influence over all FiberSol GmbH production centers, which provides us the ability to supply our customers in the chemical, power generation, waste incineration, shipbuilding and general plant engineering sectors with qualified top-quality GRP products.

To offer you a solid contact partner to support you in the installation of the GRP products produced by us, we have appointed Wolfgang Faßbender as Managing Director of our company. Mr. Faßbender, who has been carrying out piping installation projects since 1995, is a professional who is well-known and appreciated by our customers, including Vattenfall, E.ON, Siemens, Steag, Hamon or BASF.

Our range of services includes the following:

- ▶ Planning
- ▶ Layout / calculation
- ▶ Design in 2D and 3D
- ▶ Manufacturing and prefabrication of GRP and thermoplastic products
- ▶ Installation of GRP and thermoplastic products

The quality assurance of our products is guaranteed through regularly conducted tests and certifications. Any approvals required for our extensive supply and service range are continuously checked and renewed.





At home in Europe.

On-site worldwide.



Production plant Draschwitz

1	fiberSol Germany	Eschweiler Sales Office
2	fiberSol F-FKT	Bad Neuenahr-Ahrweiler Sales Office, Engineering
3	fiberSol Germany	Draschwitz Production Site
4	fiberSol Germany	Stade Production Site
5	fiberSol Poland	Gdansk Production Site
6	fiberSol Italy	San Giorgio di Nogaro Production Site
7	fiberSol Italy	Povoletto Production Site
8	fiberSol Slovenia	Kočana Production Site
9	fiberSol Bulgaria	Knescha Production Site





Pipe production by the cross winding method



Twin winding line for the simultaneous production of two pipes

Four wins.

The FiberSol f-FKT four level approach.

Engineering / Design

A concise design is made in 2D or 3D at the beginning of a project. With our in-house team of experienced project managers, designers and developers, we are capable of executing and monitoring detailed design contracts from our locations.

- Creation of isometrics and piping designs
- Design of primary and secondary steel and support structures
- Stress calculations using SIGMA ROHR2
- Designing in Autodesk AutoCAD® and Inventor®, working in supplied 3D models

Production of GRP piping systems

In-house production at our different locations guarantees top quality. Our piping systems are produced from GRP material (epoxy-vinylester resin, polyester resin on state-of-the-art coiling systems. Only top-quality raw materials are used in the process.

- Following all current standards and approvals
- Nominal diameters DN 25–4,000 mm
Epoxy-Vinylester resins and polyester resins
- With 0.5 mm and 2.5 mm chemical protection layer, larger layers are also available on customer request.
- For the following joining techniques: adhesive bonding, laminating, mechanical pull / push-in connection with test valve (key lock), flanges, Teekay couplings, and more.
- For standard pressure ratings 6, 10 and 16 bar. On customer request, pressure levels of up to 100 bar can also be implemented, depending on the nominal diameter and joining method. Other pressure ratings available on request.

Prefabrication

Based on the exact in-house design in 2D and 3D, along with our trained staff and the optimal conditions in our workshops, we are capable of shipping our own GRP and thermoplastic piping systems in the highest possible degree of prefabrication to the construction site. In addition to the shorter construction time, costs are reduced as well, providing a benefit to our customers.

Installation of GRP, thermoplastic and steel piping systems

Our installation staff has long-time international experience in the installation of piping systems. Ongoing testing of the welding, bonding and laminating skills of our employees by the TÜV provides qualification and certifies their abilities. For this reason, we are able to guarantee a permanently high quality standard in our range of products and services.

- GRP piping systems of 25–4,000 mm in many different resin systems, with and without thermoplastliner in a variety of joining techniques.
- Thermoplast piping made of PP, PE, PVDF, ECTFE and PVC in a single-wall or double-wall design
- Steel piping systems made of P235GH and 1.4571
- Pipelining using PFA



Areas of application / Product overview

f-FKT-GRP piping systems and special components

Power plant construction

- Main cooling water pipelines
- Secondary cooling water pipelines
- Lime water pipelines in FGD systems
- Process water pipelines
- Suspension pipelines
- Drinking water and fire extinguishing water
- Spray nozzle systems
- Flue gas cleaning
- Tanks
- Cooling tower piping
- Circulation pipelines
- Fire extinguishing line systems

Chemical industry

- Waste water pipelines
- Chemical pipelines for transport of acids and alkaline solutions
- Tanks

Shipbuilding

- Scrubber (flue gas cleaning)
- Ballast water pipelines
- Sanitary pipelines
- Cooling water pipelines
- Drinking water pipelines
- Waste water pipelines
- Pool lines
- Tanks / filters
- All pipelines in accordance with IMO A 753 (18) Level 3

Steel industry

- Pickling lines for sulfuric acids and hydrochloric acids
- Regeneration systems and bath treatment facilities

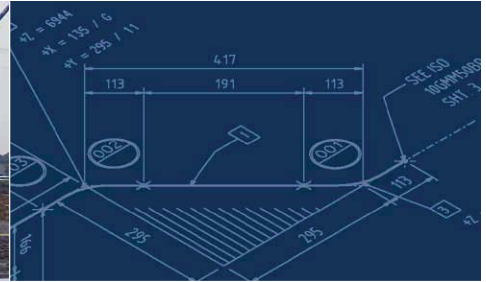
Additional areas of applications include Wastewater treatment plants, mining industry, coking plants, sea-water desalination plants or the food industry.

Nominal Diameters in mm	25	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1,000	1,200	1,300	1,400	1,500	1,600	1,800	2,000	2,500	3,000	4,000	
Bonded system PN 10 with 0.5 mm Chemical resistant layer																															
Bonded system PN 16 with 0.5 mm Chemical resistant layer																															
Bonded system PN 10 with 2.5 mm Chemical resistant layer																															
Bonded system PN 16 with 2.5 mm Chemical resistant layer																															
Laminated system PN 10 with 0.5 mm Chemical resistant layer																															
Laminated system PN 16 with 0.5 mm Chemical resistant layer																															
Laminated system PN 10 with 2.5 mm Chemical resistant layer																															
Laminated system PN 16 with 2.5 mm Chemical resistant layer																															
GRP-liner pipe PN 06 with Liner PP, PE, PVC																															
GRP-liner pipe PN 10 with Liner PP, PE, PVC																															
GRP-liner pipe PN 16 with Liner PP, PE, PVC																															
Laminated system PN 06 -0.3 in epoxy vinyl ester- and polyester resin																															
Laminated system PN 06 -0.9 in epoxy vinyl ester- and polyester resin																															
Special components																															





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Reference project

Coal-fired power plant Datteln / unit IV

Client	E.ON / Uniper
General contractor	E.ON / Uniper
Scope of services	Planning, delivery, prefabrication and installation
Component	Main and secondary cooling water pipelines
Plant	Hard Coal Plant 800 MW
Material	Epoxy vinyl ester resin liner and laminate structure isophthalic acid resin
Installation	Overground and underground
Medium	Cooling water
Design temperature	50° C
Pressure stages	4 bar / -0.5 bar SLW 60
Nominal diameter	DN 50 - 2,600



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- 1 Delivery of pipe DN 2,600 in prefabricated supply lengths of 21 m
- 2 Lifting in 21 m lengths with a crossbeam
- 3 Placing supply pipes between the cooling tower bases
- 4 Supply and outflow pipes laid in an open trench
- 5 Installation of Spool 2



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Reference project

Power plant Timelkam / Austria

Client	VAM Anlagentechnik und Montagen
General contractor	Siemens
Scope of services	Planning, delivery, prefabrication and supervision
Component	Main and secondary cooling water pipelines
Plant	Gas and steam power plant
Material	Epoxy vinyl ester resin, reinforced with glass fibres and GRP with PVC liner
Installation	Overground and underground
Medium	Cooling water
Pressure stages	PN 6 / -0.9 bar
Nominal diameter	DN 25 - 2,000



- 1 Entry from ground to pump house DN 2,000-1,200
- 2 Delivery and insertion of a 21 m prefabricated spool
- 3 Distributor prefabrication in GRP - with PVC lining
- 4 Buried pipe DN 2,000, partly filled, at entry to power house
- 5 Collector with dished end and nozzle outflow



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Reference project

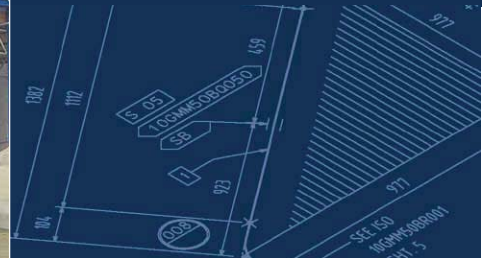
Power plant Sumgait / Azerbaijan

Client	VAM Anlagentechnik und Montagen
General contractor	Siemens
Scope of services	Planning, delivery, prefabrication and supervision
Component	Main and secondary cooling water pipelines
Plant	Gas and steam power plant
Material	Epoxy-vinyl ester resin liner and laminate structure isophthalic acid resin
Installation	Overground
Medium	Cooling water
Design temperature	50° C
Pressure stages	PN 6 / -0.9 bar
Nominal diameter	DN 25 - 2,000



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- 1 Supply pipe DN 1,600 in power house
- 2 Installation of prefabricated spools in pump house with valve, compressed compensator ring and wall flange
- 3 Installation of supply and return pipes 1 m above ground to compensator flange
- 4 Secondary cooling water pipes in power house
- 5 Manufacturing and packing of prefabricated spools with two-sided / loose-type flange in maritime containers



Referenz-Projekt

Coal-fired power plant Hejin / PRC

Client	Austrian Energy & Environment
Operator	People's Republic of China
Scope of services	Planning, delivery and installation supervision
Component	Nozzle planes for coal-fired power plant
Plant	Power plant – flue gas desulphurisation
Material	Epoxy-vinyl ester resin, with inner and outer chemical protective coating with flued nozzle outlets
Fitting	In washer tower
Medium	Lime suspension
Design temperature	50° C
Pressure stages	Druckloser Betrieb
Nominal diameter	DN 100 - 1,000



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- 1 Prefabricated spray pipe systems with radius nozzle outlets
- 2 Fixed flange DN 1,200 for washer connection and collar cap / loose-type flange DN 1000 For connection to circulation pipe
- 3 Side arm with radius nozzle outlets and threaded sockets
- 4 Packaging main header
- 5 Main header DN 1,000–200



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Reference project

Power plant Ruien / Belgium

Client	AE & E
General contractor	Electrabel
Component	Suspension, riser, oxidation air and process water piping
Plant	Flue gas desulphurisation plant
Material	GRP with 2.5 mm chemical corrosion barrier, polypropylene, St 35.8-1, 1.4301
Medium	Process water, suspension and oxidation air
Pressure stages	6 - 16 bar
Nominal diameter	DN 25 - 800



- 1** Bonded GRP pipe system with 2.5 mm chemical resistant layer
- 2** Pipe network in the washer building with hot-galvanised support systems
- 3** Collector DN 400 with connected GRP, PP and stainless steel pipes for overflows
- 4** Insulated oxidation air piping, St 35.8-1
- 5** Discharge circulation pipes DN 800 in vinyl ester resin with 2.5 mm chemical resistant layer
- 6** Filter with PE pipework





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Reference project

Meyer Werft Papenburg / Germany

Client	Meyer Werft Papenburg
Scope of services	Installation of piping systems and pipeline supports
Component	Turbine piping, ballast water, drain pipe, supply piping
Plant	Luxury Liner
Material	Steel pipes, GRP pipes, thermoplast pipes
Installation	In the ship
Nominal diameter	DN 25 - 700



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- 1 GRP and steel piping in engine rooms
- 2 Piping in waste disposal area of the ship
- 3 Ship's shell, into which the pipe spools are introduced
- 4 Cruise liner at launch



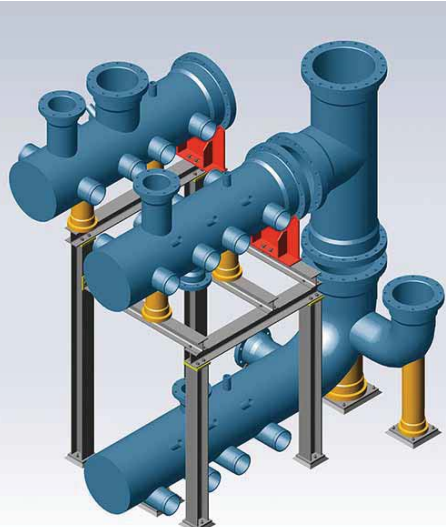
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Reference projects

Special components

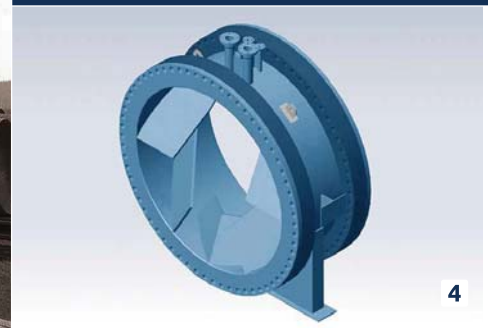
Client	Statiflo International Ltd., Great Britain
Component	Static mixers in different nominal diameters and executions
Material	Epoxy-vinyl ester resin, glass fibre reinforced
Nominal diameter	DN 150 - 2,800

Client	linge GmbH, Germany
Component	Engineering and delivery of GRP modules for water treatment
Material	Vinyl ester resin, glass fibre reinforced
Nominal diameter	DN 150-600



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- 1 2 Module for water treatment and 3D model of the module
- 3 4 GRP static mixer and 3D model of a static mixer
- 5 Flotation cell to dispel solids which adheres during foam production



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