AFPT GmbH

About this organisation

AFPT offers integrated, automated laser-assisted tape winding and placement equipment for thermoplastic composites. At our technical centre, we offer small scale production and product development. Our equipment and parts are used in the automotive, oil & gas plus aeronautics industries.

AFPT developed a closed-loop welding process to bond fibre reinforced thermoplastic tapes on top of each other, or on a plastic or metal structure. The welding technology uses a diode laser to heat the thermoplastic resin of the tape and the substrate. The system uses a camera and software to control the process parameters. The welding principle is used in both tape winding as tape placement applications. The process offers an environmentally clean alternative for (wet) filament winding of thermoset materials like epoxies and polyesters. Since there is no curing required with thermoplastic materials, AFPT's process is ideal for high speed, mass production applications. In a lot of cases such processes can also reduce the amount of chemical waste. The specific properties of thermoplastics also offer the possibility to use reshaping technologies like bending. AFPT developed a process to bend tubes made with our machines, enabling the design of more complex shapes.

Organisation type
Small or medium-sized enterprise

Sectors
Others:

Employees
10 up to 49

Turnover
€2m - €10m

Funding

Trinkbornstraße 10
56281 Dörth
Rhineland-Palatinate
Germany
www.afpt.de





AFPT GmbH

About this organisation

Main areas covered	Machine Builders & Integrators, Process Development, Part Development, UD Thermoplastic Composites, Serial Production
Infrastructure	Customer Applications Center, Industrial Process Simulation
Certifications	
Keywords	Laser Assisted Winding / Placement, Thermoplastic Tapes, Local Reinforcement, High-Volume Production Systems, Automated System
Memberships	Carbon Composites e.V., Aachener Zentrum für Leichtbau, VDMA, ACMA

Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Semi-finished parts, Machines and plants, Software & databases, Systems and end products	✓	✓	✓
Services & consulting Consulting, Testing and trials, Prototyping, Technology transfer	✓	✓	✓
Field of technology			
Design & layout			
Functional integration			
Measuring and testing technology			
Modelling and simulation			
Plant construction & automation Plant construction, Automation technology, Robotics	✓	✓	✓
Recycling technologies			

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Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing			
Coating (surface engineering)			
Fibre composite technology Filament winding, Pre-preg processing, Others (Tape winding / placement)	✓	✓	✓
Forming			
Joining			
Material property alteration			
Primary forming			
Processing and separating			
Textile technology			

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Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites Aramid fibre composites, Basalt fibre-reinforced plastic, Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP)			✓
Fibres Aramid fibres, Basalt fibres, Glass fibres, Carbon fibres			✓
Functional materials			
Metals			
Plastics Thermoplastics			✓
Structural ceramics			
(Technical) textiles			

Contacts

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