Master thesis: Testing and development of impact resistant CFRP composites for improved safety and durability
Start: Spring 2018
Where: Borås

Carbon fiber composites have been used in the sporting goods industry for a number of years with the constant drive to produce lighter and stiffer components. The chase for weight reduction has however resulted in components occasionally breaking leading to parts replacement or even injuries. Modified resin systems, manufacturing techniques and to a high degree the usage of thin ply reinforcements have changed the industry but the impact resistance still need further investigation.

Oxeon is now looking for a Master Thesis student who is interested in investigating different material selections and configurations to find out what are the key parameters influencing the impact performance of a CFRP component. Preferably the candidate has skills in composites, composite manufacturing and mechanical engineering and likes to work in an innovative and dynamic environment. The candidate should be able to work independent but with support from the supervisor.

The thesis will comprise:

- Working out a detailed time plan for the thesis including important mile stones
- Investigate different solutions to improve CFRP impact resistance
- Manufacturing CFRP tubes samples with bladder molding process
- Conducting a test program to evaluate the identified materials for properties such as stiffness, fracture behavior and residual strength and to understand the key parameters improving impact properties.
- Write a report on the conducted thesis work and present the results for a selected group of people at Oxeon

Oxeon AB is a world leader in the field of Spread Tow Carbon Reinforcements. Its product TeXtreme® Spread Tow fabrics and UD tapes are rapidly gaining popularity in a wide variety of diverse composite applications because of their weight-saving and performance enhancing capabilities.

Oxeon’s unique spreading and weaving technologies that produce TeXtreme® were developed by Dr. Nandan Khokar of the Chalmers University of Technology in Gothenburg, Sweden. From there, Oxeon AB was created in the university’s School of Entrepreneurship and has since garnered international recognition for its advanced composite products.

Oxeon AB is headquartered in Borås, Sweden.

Interested? Please contact us before 2017-11-01:

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