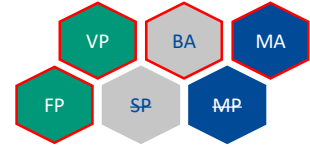


Characterizing the deformation and damage behaviour of textile composite laminates



Experimental student work (FP+VP, BA, MA)*

Recommend for: B.Sc. SSE, M.Sc. SSE, M.Sc. Sustainable Materials



Textile or woven fiber thermoplastic composites are increasingly used in automobile and aviation industries due to their rapid manufacturability through thermo-forming. They have distinct mechanical characteristics different from those of unidirectional composites. This is due to their architectural intricacy and interaction between the warp and weft crimped fiber tows. Further, they exhibit a complex deformation and damage behavior under different loading conditions such as push-pull loading and three-point bending. This work consists of a study on deformation and damage behavior using the combination of digital imaging correlation (DIC) technique and microscopy on a woven composite material.

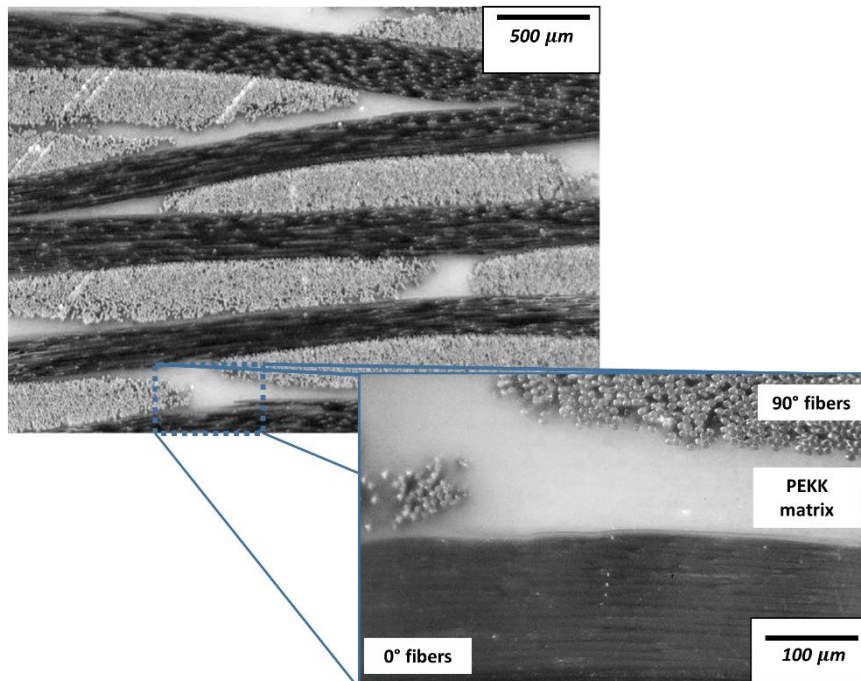


Figure: A typical micrograph of a layered-textile composite specimen showing fiber bundles in 0° and 90° directions, and Poly-ether-ketone-ketone (PEKK), a thermoplastic polymer material.

Starts: As soon as possible

Timeframe: According to examination regulations

More topics on request!

* Forschungspraktikum = FP, Vertiefungspraktikum = VP, Study Project = SP, Bachelor Project = BA, Master Project = MP, Master Thesis = MA

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