

Performance vs sustainability in emotional lightweight composite parts like sporting goods

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Performance with Recycled CF



From Racket to racket



Characteristics of innovation:

- Tennis rackets, due to their requirements and shape are built from ~100% UD carbon fiber prepregs
- Due to a flat hitting surface, Padel and Pickleball are produced with a different technology and have different mechanical specifications
- Recycled fibers, from Tennis rackets or other sources can be processed in a kind of SMC/BMC process and can fulfill the KPI

Customer benefit:

Challenges

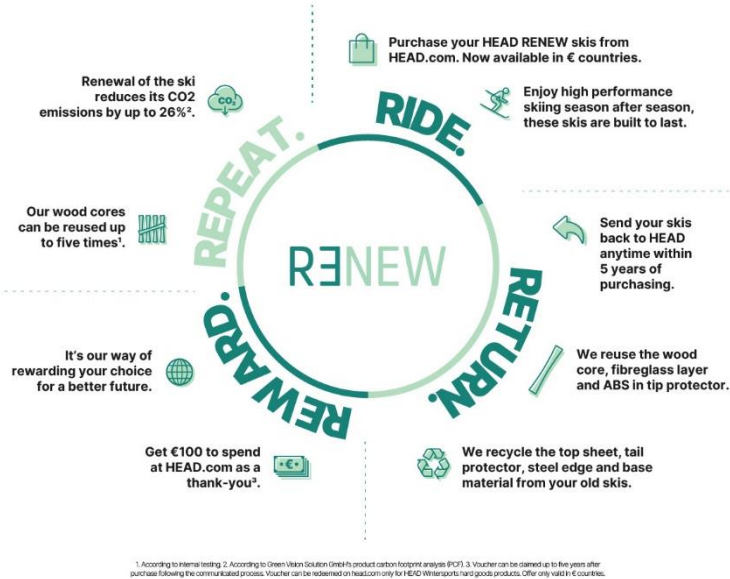
- Quality of recycling fibers for new process
- Isotropic properties especially at thin layers

Solution

- SMC/BMC Process adaption



Performance with Recycled GF



Can we use recycled Glass fibers in a ski?

Characteristics of innovation:

- A ski is a complex composite part, combining wood, glass fibres, metal, rubber, thermoplastic materials
- The lifetime of a ski is often limited by the steel edge, the racing base or the top sheet. The glass fibers can withstand much longer use periods
- Reusing the wooden core and the glass fibers, without shredding or other processes, allows the the CO2 saving production of a renewed ski without any loss in performance



Customer benefit:

Challenges

- Process development of separating and remanufacturing of a ski
- NDT of composite parts

Solution

- These skis are made from materials that can be renewed and recycled up to 5 times, with 26% less carbon footprint for one cycle.



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