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Porsche GT4 race car gains a more sustainable interior with Bcomp's natural fibre composites

- Sustainable lightweighting specialist Bcomp providing Porsche Motorsport with natural fibre composite solutions for its 718 Cayman GT4 CS interior
- Following Bcomp's successful GT4 CS bodywork applications, interior was next logical step
- New interior parts convince with 250% better vibration damping compared to the previous carbon fibre parts and great safety performance in a crash scenario
- Bcomp solution offers 94% fewer material emissions and a 90% cradle-to-gate emissions reduction versus the carbon fibre interior, with thermal energy recovery as a viable end-of-life option

Fribourg, Switzerland… Swiss sustainable lightweighting company, Bcomp, has developed an all-new high-performance natural fibre composite interior together with Porsche for their Porsche 718 Cayman GT4 CS. Bcomp's lightweighting solution replaces nine interior carbon fibre parts with significantly more sustainable composite components that also help to minimise vibrations.

Following the tremendous success of the partnership's sustainable bodywork project, Bcomp and Porsche Motorsport worked to overhaul the GT4's interior to further cut carbon emissions. Nine parts were reverse engineered by Bcomp, including the air channels, consoles, instrument cluster, glovebox and roof panel.

The new interior parts were manufactured using Bcomp's innovative ampliTex™ and powerRibs™ technologies, which harness the natural advantages of flax fibre. The powerRibs™ reinforcement grid uses the high specific bending stiffness of flax to build up height very efficiently, boosting the flexural stiffness of thin-walled shell elements significantly. The parts made with ampliTex™ and powerRibs™ are not only light but also very safe as there are no sharp edges or splinters in the event of a crash or collision. Bcomp and Porsche have already reaped these safety benefits in the previously developed bodywork, resulting for example in a reduced risk for tire defects. Offering 250% better vibration damping than carbon fibre, there are also noise, vibration, and harshness (NVH) advantages to using ampliTex™ and powerRibs™.

As part of the project, Bcomp conducted a full sustainability analysis comparing the natural fibre composites to the conventional carbon fibre parts. The Bcomp solution offered a 94% reduction in material emissions and a 90% reduction in cradle-to-gate emissions. While carbon fibre parts are often discarded in landfills, Bcomp's alternative brings a number of sustainable end-of-life options to help further minimise the cradle-to-grave impact. Thanks to highly efficient thermal energy recovery, components that are no longer in use or broken can be used to supply the production of new parts with renewable energy and form a sustainable process without residual waste.

The components are now with the Four Motors racing team to undergo extensive endurance racing testing at the legendary Nürburgring. Four Motors will race the new interior components for the first time in the upcoming six-hour race of the Nürburgring Endurance Series (11th of September).

All visual components were painted with a matt lacquer to match the finish of the GT4 CS series rear wing, which also utilises Bcomp's ampliTex™ and powerRibs™. With the GT4 car closely resembling its road-going version and high-quality finishing options available, the racing parts highlight a possible pathway to road applications.

Bcomp's award-winning technologies are already used in 16 racing series around the world but their applications are not restricted to motorsport. From automotive interior panels to luxury yachting and the European Space Agency's latest natural-fibre satellite panels, Bcomp's technologies are relied upon wherever weight, stiffness and sustainability are important.

Christian Fischer, CEO and Co-Founder at Bcomp, commented: "Our previous work with Porsche Motorsport on the Four Motors Bioconcept-Car helped to demonstrate the capability of Bcomp's high-performance natural fibre composites. We continued to work with the Porsche team, investigating interior applications for the same GT4 programme. This confirmed the previous findings since the new natural fibre composite parts not only convince with their performance, but we also achieved a reduction of material emissions of 94% compared to the carbon fibre parts.

"Alongside these primary benefits, our natural fibre technologies also improved vibration damping and deliver a splinter-free crash behaviour due to their inherent mechanical properties and design. Given the popularity of race-to-road technology transfer – and the similarity between GT4 and road-going sportscars – this proves the possibility of volume road applications for our technology. We look forward to continuing our work with Porsche Motorsport and exploring new possibilities and applications for sustainable composites in racing and beyond.

Eduard Ene, Specialist Interior GT-Road Cars, Porsche Motorsport, commented:

"We must all ensure that natural fibre composites are used more and more in the world of automotive components."

Thomas von Löwis of Menar, Managing Director, Four Motors, commented:

"Thanks to the collaboration between the Porsche engineers and the natural fibre specialists at Bcomp, the quality of natural fibre components has been raised to a new level in recent years and beats carbon fibre components particularly in terms of the carbon footprint. We are pleased that with the bio-interior we can now gradually replace all carbon fibre parts in our 718 Cayman GT4 CS with natural-fibre parts."

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