Airbus picks up Bucher Bionic Partition for A320

The Bucher ultralight Bionic Partition

Bucher Leichtbau has announced today that the first of four types of its ultralight Bionic Partition has been successfully installed by Airbus in the rear door four area of the A320. The partition contributes to significant weight reduction of A320 family for extended range, increased payload, reduced fuel consumption and maximum safety for passengers and crew.

During the renewals of the A320neo, Airbus focused on modernization, cost-effectiveness and increased efficiency. With the Bionic Partition, Bucher has developed a component that supports the cabin crew in their tasks and in an emergency. The multifunctional partitions have passed the strict qualification and approval program and are now being installed in new aircraft as well as retrofit, such as in the rear door four area in the A320.

In this position, the partition separates the passenger area of the cabin from the crew working area towards the rear galley and lavatories. As a final element, the partition can be integrated holistically into the cabin design by using decorative foils or paintwork with airline-typical coloring or logo. It can also function as the carrier of a wall-mounted cabin attendant seat and various holders for emergency equipment, including fire extinguishers, smoke masks, oxygen supply or life jackets.

"We are very proud, that our lightweight partition is now part of the safety architecture within the aircraft cabin and is being used for the first time in daily flight operations," said Beat Burlet, Chief Executive Officer of the Bucher Group, on the first installation at Airbus. "The enormous weight savings, that we have achieved with this product, are the result of several years of development. The first delivery to an aircraft manufacturer and finally to an airline fills us with immense pride."

Design and bionics

Driven by the idea of innovation, the bionic structural concept of the partition had to withstand varying static and dynamic loads as well as load changes. To obtain approval, the structure was not allowed to fail under dynamic accelerations of more than 16 g in the direction of flight.

In addition, flexible positioning of add-on parts in zones to be defined had to be taken into account. The lightweight structure was to allow a low structure weight with the highest possible payload. To meet all these requirements, a modern fiber composite sandwich panel of the latest generation was created.

After more than two years of development at Bucher the result is a sandwich panel with a honeycomb core and carbon fibers (CFRP). Radically rethought and unconventionally constructed, it offers a multi-layer composite of various different fiber orientations. These are used over the entire surface or locally, with the wall thickness of the sandwich remaining the same. Thanks to this new type of construction, weight savings of more than 30 percent could be achieved in the sense of bionics by using less material than conventional products on the market.