Manufacturing Special

Nothing but Quality

Whoever wants to become a supplier to the aerospace industry, must deliver first class components, along with qualified employees and a modern and highly productive machine park.
"I can see the starlit sky..."

A key element that can help enhance the comfort of passengers in a confined space is atmospheric light. Particularly effective and calming is the view of the starlit sky - both in the sky and in the cabin ceiling. Fiber optic starlit skies represent an ideal and individual addition to the cabin design concept thanks to their flexibility in respect of bend radius and design possibilities.

Frankfurt airport, waiting for the direct flight to New York: expectant vacationers bury their heads in their travel guides and business travelers use their last opportunity to check their e-mails. The departure hall gradually fills up with waiting passengers. A short time later comes the announcement they've all been waiting for: "We are now ready for boarding". Then everyone has to wait in line briefly for the final ticket check, take the bus out to the plane and step into the belly of the aircraft, which will envelop the passengers for the next 18 hours.

On board things are tight, especially in economy class, which naturally cannot offer passengers much space. For the passengers, most of whom have had a lengthy trip to the airport and are tired as a result, a few centimeters can make all the difference as to whether or not they perceive the flight as a positive experience. So creative solutions are welcome; anything that might help enhance the passengers' comfort in the extremely confined space. Atmospheric light is a key element here. Particularly effective and calming is the view of the starlit sky - both in the sky and in the cabin ceiling. Fiber optic starlit skies represent an ideal and individual addition to the cabin design concept thanks to their flexibility in respect of bend radius and design possibilities.

Power consumption needs to be low
Reading lights provide added comfort, available to each passenger above his or her seat. This lighting solution enables passengers to direct and adjust the cone of light individually without dazzling or disturbing fellow passengers. The form, color and material of the reading lights are adapted to suit the cabin concept as well. Contour lights, narrow illuminated frames for the windows on a fiber optic basis, are another way of integrating discreet but not insignificant comfort elements into the aircraft cabin.

While this kind of innovative lighting design is fairly new for economy class, engineers working on business and first class have long been coming up with lighting solutions to afford passengers the highest levels of comfort. Pioneering examples include the latest developments in business and first class seats. Long-haul seats can be individually adjusted by an electronic motor and turned into a comfortable bed at the press of a button. The lighting solutions located in the seat back are integrated in the overall seat design. Passengers can regulate the position of the reading light to suit their sitting or lying posture by means of a movable arm.

Since economy passengers make up the largest proportion of an aircraft's
passengers, the light solutions need to be space-saving and the power consumption of each light needs to be low. LED lighting solutions by Schott, which boast high energy efficiency, use only a few watts per seat. This is substantially less than a normal room light, as these use 60 to 100 watts on average. The durability of the LEDs brings the maintenance cost down to virtually nothing.

The combination of LED and fiber optics provides the prerequisites for completely novel lighting concepts for aircraft. The technical possibility of separating the direction and the output of the light from its source means that light can be brought to almost any spot in an aircraft. Even places where conventional cables cannot be laid. The LEDs with their heat emission, albeit low, can always be placed so as to avoid any disturbance to other aircraft systems. Fiber optics are extremely resistant, as reflected in the low maintenance costs. Moreover, glass fibers have the distinction of offering extremely small diameters and low weight. In aircraft, they guarantee optimal fire safety, a high degree of flexibility, low vulnerability to faults and can be freely laid in extremely small bend radii.

So even though new lighting solutions are unable to shorten the duration of a flight, they do help economy passengers have a more pleasant and relaxed flight with a view of the starlit sky.

*Gina Hardebeck*