

sleepeasy

Cascade Designs explains how it developed a self-inflating mattress that converts aircraft seating for a good night's sleep

In 1997, Cascade Designs developed the Skylounge aircraft mattress for executive jets. It is a customised, self-inflating mattress that can be designed to fit any seat configurations for any aircraft model. To date there are in excess of 12,000 units in service.

Cascade Designs says that traditionally, foam mattresses are bulky, heavy and difficult to store – but the Skylounge is lightweight and can be deflated and rolled up into a neat customised equipment bag and stored in a fraction of the space of a conventional unit.

The mattress consists of a uniquely designed, shaped core. The underside is

custom contoured to match the surface profile of a set of seats. This ensures the top surface is flat for sleeping. It can be designed for any single, double or divan units.

The Skylounge is made up of a foam and air interior and bonded with a highly specified water-repellent fabric. It has a series of four valves, one of these being a decompression valve, the other three allow for self-regulated comfort. By opening the valve system, the mattress will self-inflate in minutes to the required size and when the valves are closed the air is trapped inside the foam, which Cascade Designs says ensures a disciplined structure and a comfortable and reliable sleeping surface.

Many extra design features can be added to the mattress, for example the width can be increased by at least 5in for a single or a double mattress by designing the mattress to come up over the armrests.

The Skylounge is also designed to address equipment weight and space challenges for aircraft crew. For example, a typical single mattress is 1.9m (75in) long and 0.5m (20in) wide, and when deflated could be rolled up and packed to a volume of 0.05m³ (1.7ft³) and a weight of 3.6kg (8 lb).

Cascade Designs was founded 30 years ago by two ex-Boeing engineers driven by their desire for comfort. Comfort in this case took the form of a self-inflating camping mattress, suitable for sleeping on all terrain and in all weathers. They called it the Therm-a-Rest.

In 1995, Cascade Designs in Cork, Ireland, created an aviation department that developed a range of seating products using this Therm-a-Rest self-inflating technology, which eventually led to the Skylounge product.

1. The Skylounge mattress fits over aircraft seats



Cascade Designs

Reader Enquiry No. 508