

Climatex® LifeguardFR™ Fully biodegradable seat cover fabrics



Summary

Climatex® LifeguardFR™ is an innovative seat cover fabric providing two compelling benefits: Unmatched ecological soundness and enhanced passenger comfort through climatized seating. It is an environmentally safe industrial product that entails no compromises with respect to comfort, appearance, quality, flame resistance, function, or price. After a long service life, the seat cover fabric can be returned to biological cycles. Climatex® LifeguardFR™ ensures true climatized seating thanks to the thermophysiologicaly valuable ability to absorb, buffer, and release moisture.

Climatex® LifeguardFR™ seat cover fabrics consist of renewable resources: Virgin wool and beechwood cellulose. The positive list of permissible chemicals includes 16 ecologically safe dye chemicals. Seat covers made of Climatex® LifeguardFR™ are fully biodegradable, compliant with all safety standards of the transport industry, and help minimizing health and safety hazards.

Its environmental sustainability is confirmed in all respects by EPEA, the Hamburg-based independent environmental organization.

Climatex® LifeguardFR™ achieved the Cradle to Cradle Gold certificate by MBDC, a world-renowned American product and process design firm.

Seat cover fabric Climatex® LifeguardFR™ - reduces negative effects on the environment and fulfills all safety regulations

Ecological quality declarations are usually limited to the statements “free of (specific) harmful substances” or “tested for harmful substances”. However, this is not sufficient to ensure that products and resulting wastes represent “safe nutrients” for biological or technical metabolisms. The product Climatex® LifeguardFR™ and the associated production system are defined positively: The selection of fibers and textile chemicals ensures that none of the substances have any potential to cause undesirable toxicological or ecotoxicological effects. The positive definition of the chemicals and their potential effects makes it possible to identify positive characteristics of the product regarding health promotion and the recovery of resources.

Climatex® LifeguardFR™ seat cover fabrics are composed of renewable resources: Virgin wool and beechwood cellulose.

Wool that meets the high technical requirements for seat covers such as Climatex® LifeguardFR™ is produced especially in New Zealand. The virgin wool used for Climatex® LifeguardFR™ is so-called farm wool. It is purchased from individual farmers in New Zealand rather than from auctions where wool of disparate origin is mixed and anonymized. The quality assurance systems of the companies involved in the manufacture of Climatex® LifeguardFR™ make it possible to individually track

each batch of wool from the end product, Climatex® LifeguardFR™, back to the place of origin.

The cellulose material is obtained from European beechwoods. Climatex® LifeguardFR™ meets all industry standards and the most stringent flame retardancy regulations for aircraft. Climatex® LifeguardFR™ fabrics contain the Redesigned ViscoseFR™ fiber by Lenzing AG. In this fiber, the flame retardant is locked into the fiber mass during the manufacture of the viscose. The finished fabric won't be coated with any conventional flame retardant treatment.

Seat cover fabric Climatex® LifeguardFR™ - minimizes health hazards

Climatex® LifeguardFR™ products contain only textile chemicals included in a so-called positive list. The dye chemicals consist of 16 ecologically safe. These chemicals were selected from biologically recyclable candidates after stringent evaluation of their technical necessity for the manufacture of this specific fabric. Climatex® LifeguardFR™ fabrics contain no substances that are acutely toxic, sensitizing, capable of causing genetic damage, or prone to accumulate in the body.

Ecologically soundness during production

Climatex® LifeguardFR™ is of high ecological quality – not only regarding the finished product but also regarding the ecological quality of all manufacturing stages. The following aspects were especially considered:

- The production conditions of the resources for the fiber raw materials.
- The characteristics of the wastewater generated along the manufacturing chain as well as the pos-

sibility to recover the water without generating bulks of hazardous waste.

- The effect of parallel manufacture of other products on Climatex® LifeguardFR™.

Its environmental sustainability is confirmed in all respects by Environmental Protection Encouragement Agency (EPEA), the Hamburg-based independent environmental organization. Climatex® LifeguardFR™ achieved the Cradle to Cradle Gold certificate by McDonough Braungart Design Chemistry (MBDC), a world-renowned American product and process design firm (in 2007).

According to the Cradle to Cradle Protocol, the design of products, processes, and services is reviewed to develop “eco-effective” products. Such products contribute to economic, social, and environmental prosperity. Cradle to Cradle bases on the Intelligent Products System developed by Michael Braungart and his team at EPEA Internationale Umweltforschung GmbH, Hamburg.

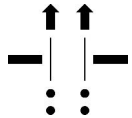
Enhanced seating comfort thanks to Climatex® LifeguardFR™

Climatex® LifeguardFR™ offers climatized seating. This function was especially developed to provide an optimal solution for prolonged seating. The selection of fibers, a combination of wool and Redesigned ViscoseFR™, and an appropriate weave construction are the basis for this patented function.

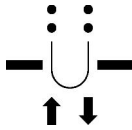
The moisture accumulated during sitting is absorbed by the cover fabric. When the seat is vacated, the moisture is slowly released to the ambient air. This is due to the lower humidity enabled by Climatex® LifeguardFR™ seat covers.

Four key functions of climatized seating

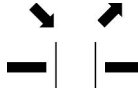
Breathability
Extremely permeable to air and water vapor, the fabric provides exceptional cooling during perspiration phases



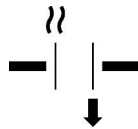
Moisture management
Thanks to its outstanding moisture-wicking, buffering, and controlled evaporation characteristics, Climatex® LifeguardFR™ assures dry seat surfaces even after prolonged seat use.



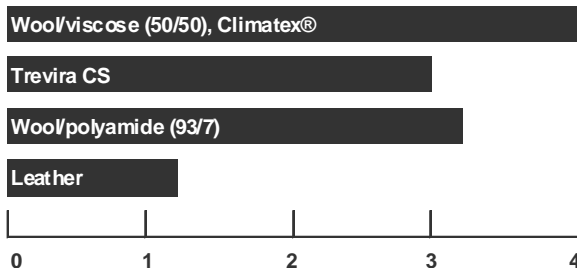
Heat reflection
The materials and dyes used reflect heat particularly well, even with dark colors.



Warmth transport
Climatex® LifeguardFR™ transports contact and convection heat in a highly efficient manner. Changes in body temperature are continuously balanced.



The graph shows the thermophysiological valuable ability to absorb, buffer, and release moisture:



Preferred by numerous airlines

Today, Climatex® LifeguardFR™ is successfully used by airlines that place special emphasis on ecological sustainability and travel comfort. Major customers include: Thai Airways International, South African Airways, Air France, Emirates, EL AL, Philippine Airlines, Air Mauritius.

Specifications of Climatex® LifeguardFR™ seat covers

For more detailed specifications on all the characteristics of Climatex® LifeguardFR™ seat covers, please consult the quality description sheet.

Contact

For personal and detailed advice, please contact Lantal and discuss your needs with us. We will be pleased to assist you.