
PFAS-free stain resistant and waterproof silicone fabric

The explanation of PFAS

PFAS is the generic term for a range of synthetic organic fluorides which, due to their specific physicochemical properties, are often used in the manufacture of everyday products that require protection against stains, water and grease. Examples include outdoor clothing, shoes, furniture and stain resistant paints.

However, the use of PFAS poses a potential risk to the environment and human health as they do not degrade easily and accumulate in living organisms.

PFAS are chemically extremely stable, able to withstand high temperatures and heat, light, chemical action, microbial action and metabolism by higher vertebrates, and are among the most difficult organic pollutants found in the world today!

When ingested by organisms, they are not enriched in fatty tissues, but are bonded to proteins in the blood and accumulate in liver, kidney, muscle and other tissues, showing obvious bioaccumulation, which cannot be metabolised by the human body and accumulate, resulting in physiological toxicity. Toxicological studies have shown that PFAS can cause hepatotoxicity, developmental and reproductive toxicity, genetic and immunotoxicity and carcinogenicity in experimental animals.

International regulations/bans of PFAS

- ✓ A proposal for the restriction of PFAS (per- and polyfluoroalkyl substances) prepared by the authorities of Denmark, Germany, Finland, Norway and Sweden was submitted to the European Chemicals Agency (ECHA) on 13 January 2023, which aims to reduce the release of PFAS into the environment.
- ✓ The US Environmental Protection Agency has introduced a PFAS strategic route for PFAS control.
- ✓ China's GB9685-2016 regulates PFOA and PFOS in some materials.

With the introduction of national regulations on PFAS, major brands/manufacturers are also reducing the use of these compounds: (REI, an American outdoor company, has taken the lead in banning products containing PFAS in the fashion retail sector and has taken steps to phase out products already manufactured containing PFA).



An innovative PFAS-free silicone fabric by Sileather with unique water and stain repellent properties

Sileather is coated with silicone, which is inherently waterproof. Its low surface tension properties make it stain resistant. Compared to conventional materials containing PFAS, Sileather offers the following advantages:

- **Environmentally friendly:** Sileather does not contain PFAS and avoids the negative effects of such chemicals on the environment and human health. The use of Sileather contributes to lower pollutant emissions and reduces ecological risks.
- **High performance:** Sileather's silicone coating is inherently water resistant and its low surface tension properties make it stain resistant. This gives Sileather excellent water, oil and stain resistance without the need for additional chemical additives.
- **Durable:** Sileather has good resistance to abrasion, tearing and UV rays, giving it a longer service life in outdoor environments.
- **Safe and skin-friendly:** as Sileather is PFAS-free, one does not need to worry about potential health risks when using Sileather products. In addition, Sileather has passed stringent safety tests such as REACH and Prop 65 to ensure the safety of the product, and the skin-friendly nature of the Sileather material makes it less likely to cause allergic reactions, providing a comfortable wearing experience for sensitive skin.
- **Versatility:** Sileather is suitable for a variety of applications such as outdoor clothing, outdoor products, outdoor upholstered furniture wraps, swimwear and swim caps. Its wide choice of colours and textures allows Sileather to meet the needs and preferences of different customers.

In summary, Sileather, as an innovative PFAS-free material, offers significant environmental, performance, durability, safety, skin friendliness and versatility advantages. Choosing Sileather helps to reduce the impact on the environment and human health, while maintaining excellent water and stain resistance.