

Luquafleece® – the superabsorbent fabric

Luquafleece® combines the strong absorption capacity of highly functional superabsorbent polymers and a nonwoven. This leads to:

- ✓ High absorption capacity of the fleece
- ✓ Ability to absorb liquids and vapours
- ✓ Humidity control due to quick moisture uptake and release

How Luquafleece® works

Superabsorbent polymers are highly absorbent materials that can not only absorb many times their own weight in aqueous liquids but can also absorb moisture from the environment.

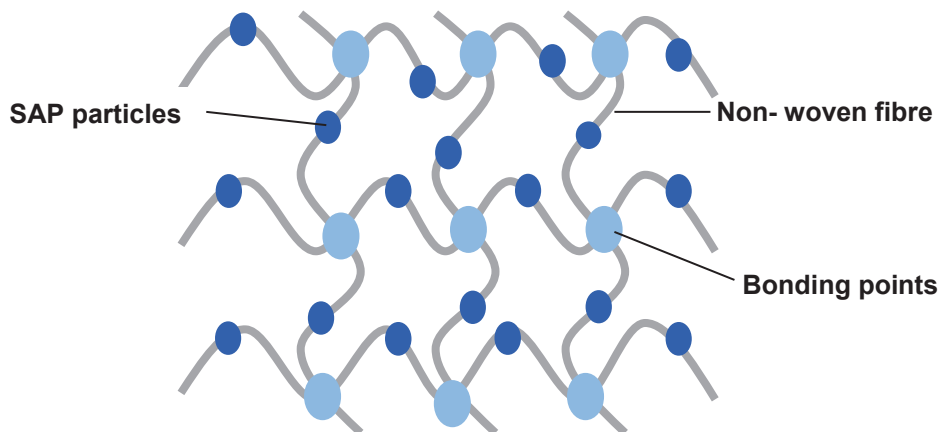


Fig. 1: Cross section of Luquafleece®

Luquafleece® consists of a high molecular weight, lightly cross linked and part- neutralized polyacrylate polymer which is applied to a polyester nonwoven. Luquafleece® is characterized by the immobilization of superabsorbent polymer through the strong mechanical interaction between the fiber and the superabsorbent allowing for high polymer loadings. This offers advantages in terms of abrasion stability and absorption capacity.

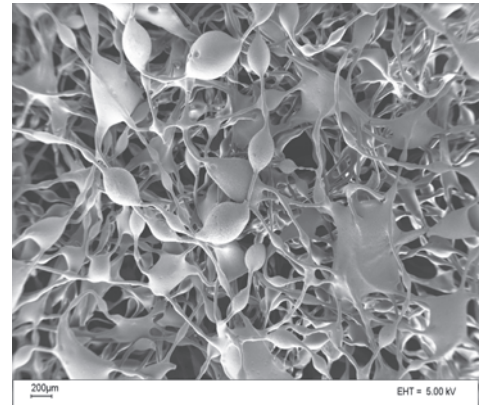
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The microscopic image of Luquafleece® demonstrates the strong interaction between the superabsorbent polymer and the fiber.

Climate Control

Superabsorbents absorb and release more moisture from the air per mass of absorbent than silica gel. Per square meter, **Luquafleece®** can absorb more than 180g/m² of moisture from the environment, depending upon the polymer loading. This reversible absorption and release of moisture is well illustrated in fig.2. It shows the results obtained by monitoring the mass of a sample of Luquafleece® as a function of consecutive cycles of increased and decreased humidity levels.

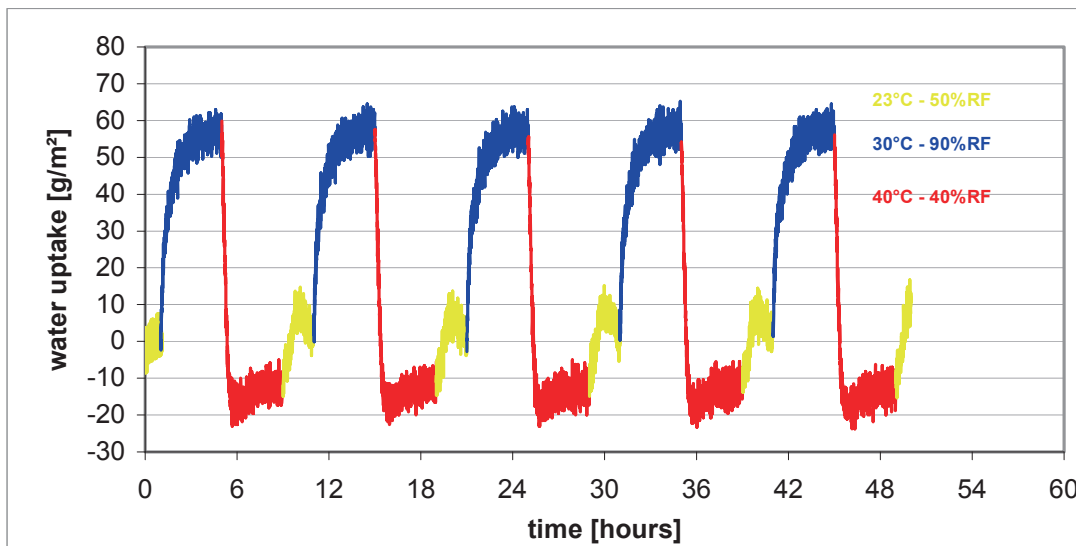
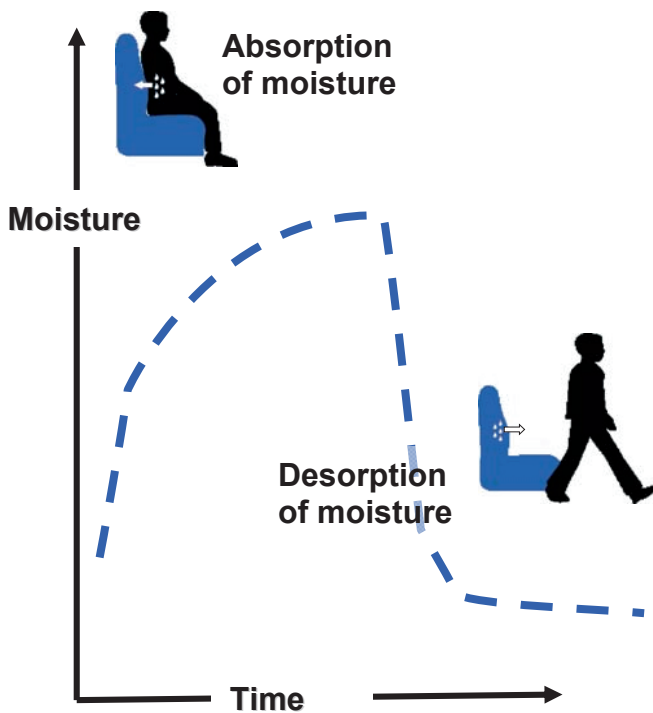


Fig. 2: Reversible moisture uptake and release

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Luquafleece® offers:

- Efficient climate control
- Moisture uptake and release is a reversible process
- Immobilized SAP – no release of powder
- Easily combined with other materials (such as textile, nonwoven, and film)
- Ensured long-term stability
- Light weight performance product

Applications:

- Functional textiles
- Furniture
- Automotive
- Aeronautics
- Transport

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