



Sefar Medical | Fabrics for advanced wound care solutions

Fabric properties for wound care solutions

The use of fabrics in the advanced wound care management shows clear advantages compared to the conventionally used non-woven materials. Fabrics have inherently smooth and regular surfaces. The materials are thin (<math><100\ \mu\text{m}</math>) and perfectly transparent. They allow rapid and controlled transfer of exudates. At the same time they do not absorb humidity and maintain a moist wound environment. The production of most precise mesh openings with defined surface characteristics and within strict biological specifications is a prerequisite for wound care applications.

Advantages are given by the use of fabrics for wound care solutions

The benefits for patients and physicians:

- Reduced pain during dressing exchange
- Faster healing process
- Longer application periods possible
- Lower personnel costs
- Reduced residence time of the patients in hospitals
- Overall therapy cost savings

Basically, synthetic fabrics perfectly meet the requirements of modern and innovative wound management. In addition, biocompatible materials complying with USP VI and ISO 10993 may be required. Woven SEFAR MEDIFAB® structures made of polyester (PET) or polyamide (PA) monofilaments exactly meet these requirements. Further, regulatory requirements of fabric production are met by a finishing process certified according to ISO 13485.

Fitness of use: It is the sole responsibility of the buyer to determine the fitness of use for their application, and in doing so ensure that all local, state and federal regulations are followed. We expressly point out that the SEFAR MEDIFAB® brand products offered are not suitable for medical implants and/or as implant components. In the event of your company and/or any of your end customers using our products for such applications or supplying them to third parties, it will be necessary for us to close a formal liability exclusion agreement with you. In such case, please contact us immediately. Many thanks for your understanding.



Non-adherent surfaces

Contact layer dressings are non-adherent, thin sheets placed on an open wound bed to protect tissue from direct contact with other agents or dressings applied to the wound. They form to the shape of the wound and are porous to allow exudate to pass through for absorption by an overlaying, secondary dressing. Indicated for partial and full thickness wounds, infected wounds, donor sites and split-thickness skin grafts.

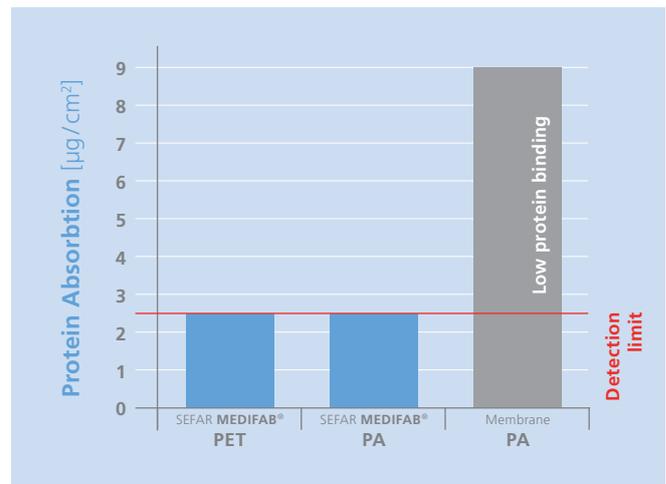
SEFAR MEDIFAB® fabrics meet the criteria for a single-layer overlay

- Smooth and regular surfaces
- Semi-transparent/transparent in wet state
- Rapid and controlled transfer of exudates
- No humidity absorption
- No fiber loss/smooth surface
- Low surface area
- Two dimensional stability

Bovine Serum Albumin (BSA) adsorption

Protein adsorption to surfaces may be critical to medical applications. Sefar conducted qualitative and quantitative studies to test SEFAR MEDIFAB® fabrics protein binding capacity.

The following graph was created in cooperation with NAMSA (a Medical Research Organization MRO). Bovine Serum Albumin (BSA) adsorption studies prove that SEFAR MEDIFAB® fabrics absorb BSA at non-detectable levels, i.e. below 2.5 µg/cm².



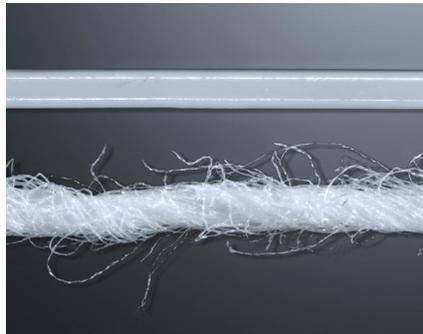
Investigation conducted by NAMSA, Northwood, Ohio, US

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Yarn structure

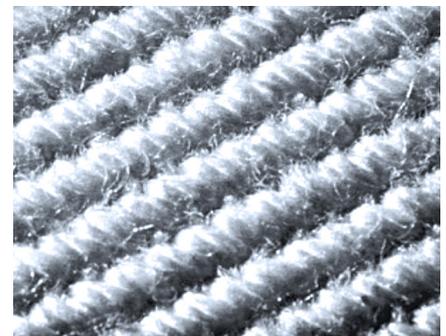
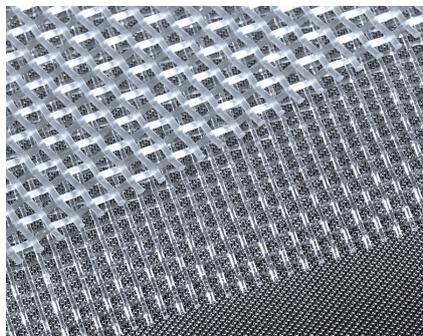
Due to the monofilament yarn structure fiber loss from these materials is not expected. This is in contrast to non-woven, staple or multifilament fiber materials.



Surface structures of monofilament and staple fiber yarns

Two-dimensional stability

Woven fabrics exhibit unrivalled two-dimensional dry and wet stability due to the perfectly controlled and homogenous structure.



Surface structures of woven monofilament and staple fiber yarns

Surface treatment

A variety of coatings can be applied to fabrics. This could include a treatment with hydrophilic and hydrophobic coatings as well as plasma treatments. For example, fabrics can be surface treated to enhance priming, wetting and wicking properties. In addition, fabrics can be dyed in virtually any color.

The use of woven fabrics for wound care management preserves the granulating tissue, because of their unique surface structure. Comparative studies show that wound dressings on the basis of these fabrics can remain up to seven days on healing tissue. Moreover, the atraumatic dressing exchange significantly improves patient's comfort.

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