


# Best solution for fixation: Hypafix® is number one in overall performance

Results of external studies from 2021 to evaluate relevant technical properties for the clinical functionality and application of Hypafix® in comparison with several competitor products.

 A vital but often taken-for-granted part is the role of adhesive fixation. The secure adherence of devices is essential for perioperative patient management. The accidental dislodgement of one device due to inadequate fixation can be life-threatening and potentially devastating to the patient<sup>1</sup>.

A survey<sup>2</sup> showed that in terms of fixation, there is a high demand for strong and long-term adhesion, easy application and residue-free removal, breathability, good conformability and stretchability. In the following, the results of independent external laboratories will be presented, which show that Hypafix® meets this required condition best in an overall comparison with various competitor products.



## RELIABLE FIXATION

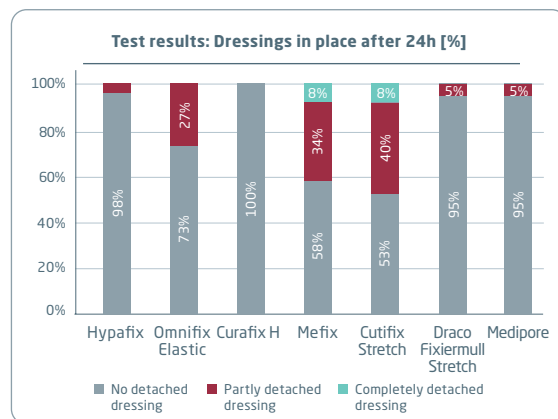
Due to weak adhesion, a fixation product may peel off earlier than intended, especially when it is used to fix heavy medical devices or for advanced dressings such as swelling dressings.

Early detachment can result in a situation where wounds are no longer protected against contamination.

## Hypafix® provides reliable fixation<sup>3</sup>

**Method:** The participants (n=40) got fixation products (approximately 3 in length x 1 in width) applied to several defined areas on intact skin of their back by an external testing institute (proderm). After 24 h, the number of partially and completely removed dressings was recorded and evaluated.

**Results:** When using Hypafix® 98 % of the dressings stood in place for 24 hours and only 2 % were partially detached. No dressing fixed by Hypafix® came off completely during this test.



**Conclusion:** The test proves a secure fixation of dressings of 98 % over a period of 24 hours. This result matches with internal performed tests, which support the facts that the products show a good adhesive strength. Further tests prove that Hypafix® stays securely in place for up to 7 days<sup>4</sup>. Unnecessary dressing changes can thereby be avoided.



## STRETCHABLE FIXATION

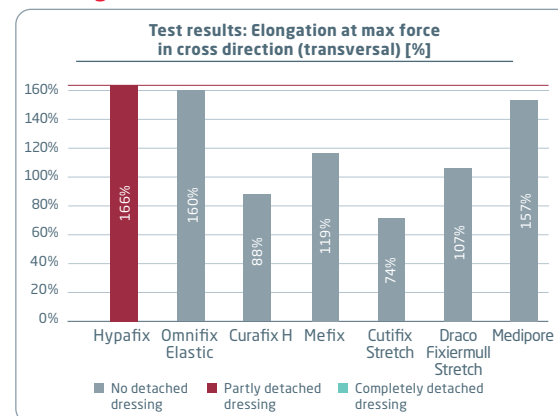
It is also important that the dressing is conformable and has high transversal stretch, otherwise constrictions may occur, especially with body contours or moving joint.

## Hypafix® has the highest stretchability<sup>5</sup>

**Method:** To measure the stretchability of Hypafix®, the elongation at max. force in cross direction (transversal) [%] was recorded. The maximum load at break was recorded and the percentage of elongation was calculated.

**Results:** For Hypafix® a mean elongation of 165.5 % was measured.

**Conclusion:** Hypafix® has the highest stretchability of all tested products. Stretchable products lead to flexibility especially on joints as well as on frequently moved and contoured parts of the body or could be needed for swelling dressings. This prevents constriction and disturbance of blood circulation.





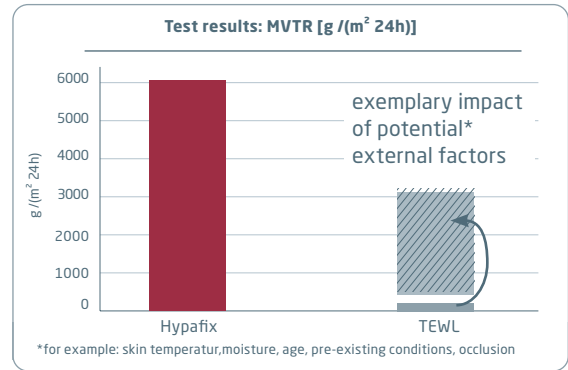
## BREATHABLE FIXATION

Another key factor is the breathability. A low moisture vapor transmission rate (MVTR) can cause maceration, which may delay wound healing and can increase the risk of infections.

## With its high MVTR<sup>5</sup> Hypafix® helps to prevent skin maceration

**Method:** The moisture vapor transmission rate (MVTR) was examined. MVTR is the amount of water vapor that passes through a medical device over a specific period of time of 24 hours.

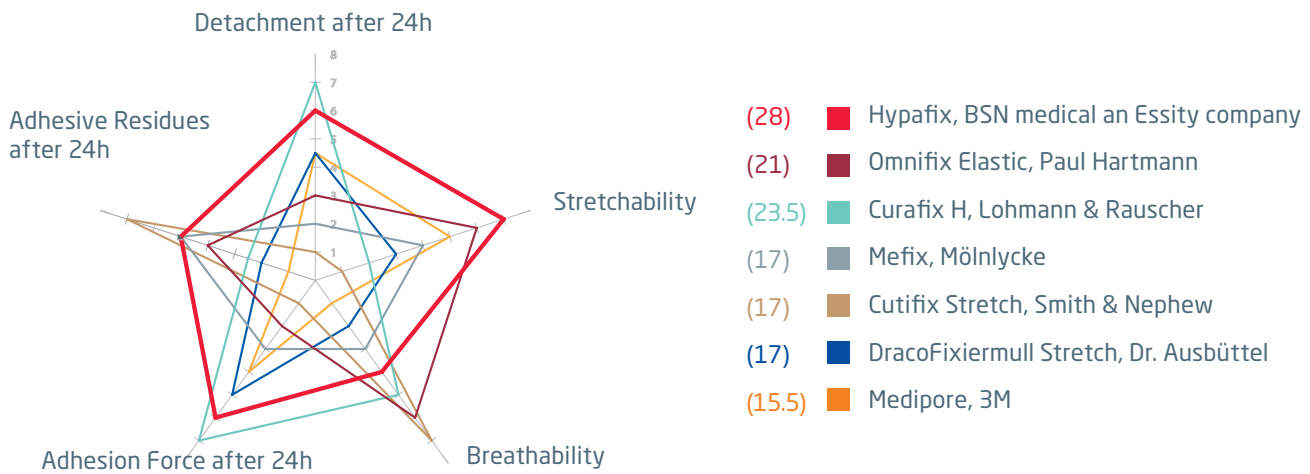
**Results:** For Hypafix® a mean moisture vapour transmission rate of 4859 g/(m<sup>2</sup> 24h) was measured.



**Conclusion:** Non-woven dressings should be able to handle at minimum the amount of water which is evaporated from normal skin, this is usually called transepidermal water loss (TEWL) and is around 150 to 200 g/(m<sup>2</sup> 24h)<sup>6,7</sup>.

It should be considered that factors such as high humidity or hot temperatures can lead to a higher TEWL<sup>8</sup>. Hypafix® with 4859 g/(m<sup>2</sup> 24h) is far more permeable to water vapor than the requirement demands, therefore Hypafix® can help to reduce the risk of skin maceration.

## Overall performance



All in all, Hypafix® is number one in overall performance. The network diagram provides an overview of all results of our external tests. As a simplification, the tested products were arranged according to their performance in the respective categories from the lowest (1) to the highest (7).

The larger the resulting pentagon, the better the total performance. Furthermore, these scores were summated (number in the legend) to achieve a simplified overall comparison as well. Hypafix® is a WAF product that not only fulfills certain requirements very well, but also with 28 of max. 35 points provides the best result in total. Overall, Hypafix® offers the best solution for fixation and was identified as the clear favorite in a wearing test<sup>4</sup>.

<sup>1</sup> Patel N, Smith CE, Pinchak AC, Hancock DE. The influence of tape type and of skin preparation on the force required to dislodge angiocatheters. Canadian journal of anaesthesia = Journal canadien d'anesthésie. 1994;41(8):738-41.

<sup>2</sup> Adhesive Fixation Exploration Report (data on file)

<sup>3</sup> proderm data 2021, 21.0041-79; n= 40 (data on file)

<sup>4</sup> proderm data 2021, 21.0371-79; n=30 (data on file)

<sup>5</sup> SMTL 2021 Report No: 21/6438/1

<sup>6</sup> S. Thomas, Surgical Dressings and Wound Management, MedetecPublications, Great Britain, 2010.

<sup>7</sup> Lamke LO, Nilsson GE, Reitner HL, The evaporative water loss from burns and water vapour permeability of grafts and artificial membranes used in the treatment of burns, Burns, 1977;3:159-165.

<sup>8</sup> Grice K, Sattar H, Sharratt M, Baker H. Skin Temperature and Transepidermal Water Loss. J Invest Dermatology. 1971; 57:108-110.

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