

A photograph of a woman with short brown hair tied back in a bun, wearing a grey tank top and grey leggings. She is performing a downward dog yoga pose on a light-colored wooden floor. Her arms are straight, supporting her weight, and her legs are bent at the ankles. A tattoo is visible on her left upper arm. The background is a plain, light-colored wall.

We'll stick  
with you.

3M Medical Materials & Technologies

A guide to partnership and “go-to” products for  
**wearable medical device applications**

# Don't let skin be the end

You have a great design. Now you have to attach it to human skin. While that may seem like a straightforward process, it's often not.

Factors such as ergonomic requirements, target patient population characteristics and skin allergens are just a few of the considerations designers need to take into account when selecting the right adhesive material. It's an important decision, as a wrong choice could result in re-engineering delays.

## WE CAN HELP

With over 55 years in the medical adhesive business, no one knows skin better than 3M. We understand the unique challenges of this delicate surface and of the larger design process. As your partner from the beginning, we can help you choose the right materials for your needs and navigate your way to market, with confidence.





## Challenges of skin as a substrate

- Skin is a living organ. It is constantly changing, which makes it a difficult surface to attach to.
- Skin needs to breathe and retain the ability to absorb & expel moisture.
- Skin is difficult to mimic for testing & evaluation of product performance.

## Details that affect adhesion

- How long will a device be attached?
- Where on the body will the device be attached?
- What are the device characteristics?
- Who is the targeted end user?

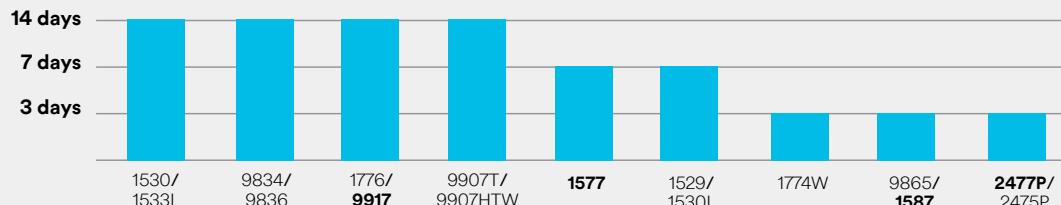
## Application considerations for basic skin challenges

- |              |                   |
|--------------|-------------------|
| • Wear time  | • Repositionable  |
| • Comfort    | • Water Resistant |
| • Breathable | • Device shape    |
| • Gentle     | • Coverage area   |

## Product wear time testing on healthy adults\*

Wear time (worn on back)

Light = Single coated tape    **Bold = Double coated tape**



3M Medical Materials and Technologies tests adhesive according to ISO:10993-5 & -10 for surface contact with intact skin and manufactures under medical device level cGMP conditions.

## Our “go-to” products for wearable medical device applications\*

PRODUCT	BACKING	BREATHABLE	REPOSITIONABLE	CONFORMABLE	WATER RESISTANT	WEAR TIME (DAYS)
4075	N/A	●**		●		≤14
4076	Nonwoven	●		●		≤14
4077	Nonwoven	●		●		≤14
1530	Nonwoven	●				≤14
1533L	Nonwoven	●				≤14
9834	Polyurethane	●		●	●	≤14
9836	Polyurethane	●		●	●	≤14
1776	Nonwoven	●		●		≤14
<b>9917</b>	Nonwoven	●		●		≤14
9907T	Nonwoven	●		●	●	≤14
9907HTW	Nonwoven	●		●	●	≤14
<b>1577</b>	Polyester				●	≤7
1529	Nonwoven	●				≤7
1530L	Nonwoven	●				≤7
1774W	Foam			●	●	≤3
9865	Polyethylene				●	≤3
<b>1587</b>	Polyester				●	≤3
<b>2477P</b>	Thermoplastic Elastomer	●	●	●	●	≤3
2475P	Thermoplastic Elastomer	●	●	●	●	≤3

Light = Single coated tape    **Bold = Double coated tape**

\* Length of wear time can vary on application, thickness, area on body, and age of user.

\*\* Breathability may be impacted by substrate used.

## A comprehensive portfolio of medical device materials

As a global leader in the health care industry, 3M's advanced technologies have contributed to the creation of more than 10,000 new health care products worldwide. We supply the medical device manufacturing, design, and supply industries with a carefully selected line of medical grade tapes, coatings and adhesive technologies, semi-finished components and selected bulk supplies of 3M branded products.

- Stick-to-skin                      • Membranes
- Stick-to-device                    • Flexible circuits
- Microfluidic solutions

The FDA does not define what constitutes "medical" grade for components at this time.

## Material selection and partner selection go hand in hand.

It's simple: as your partner from the start, 3M can help make your material selection process a whole lot easier.

We offer a wide variety of adhesive, backing and tape construction options for different manufacturing processes and patient populations. From highly active patients to those with fragile skin, we can help you select components that both function well together and maintain skin integrity.

As a collaborative partner with decades of experience and global leadership, we also offer supply chain traceability, ISO:13485 operating standards, ISO:10993 biocompatibility testing and validated manufacturing equipment.

No problem is too big or too small for our team of experts to tackle.

**Working together, we can help your customers Wear It Well.**

Visit [3M.com/WearItWell](http://3M.com/WearItWell) to learn more.



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