



We developed the Comfort Release® technology to help people of all ages who have experienced the discomfort or injury associated with the removal of bandages, medical tapes or dressings.

Comfort Release® is recommended by doctors and nurses, caregivers and other patients – particularly for pediatric and geriatric patients.



A Global Biomedical Technology Company

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Visit [comfortrelease.com/where-to-buy](http://comfortrelease.com/where-to-buy) for more product details and where to buy.  
All Comfort Release® products are waterproof or water resistant.

#### TECHNICAL DATA COMPARISON

**PEEL  
+ BREATHABILITY  
TESTING**

## BACKGROUND

Global Biomedical Technologies, LLC has recently manufactured Comfort Release® bandages, tapes, foam dressings and transparent dressings, by incorporating a special additive in a medical grade acrylic adhesive. Comfort Release® allows the adhesive device to be removed painlessly and trauma free from the skin, after the application of common rubbing alcohol turns off the adhesive skin bond.

This report studied the adhesive properties on stainless steel plates.

Global Biomedical commissioned DermaMed Coatings to perform adhesive property and breathability testing of the Comfort Release® products compared to a market leader's similar products.

## PURPOSE

The purpose of this report is to describe the results of peel adhesion measurements (with and without the application of isopropyl alcohol) in accordance with DMT-PSTC-1 standards, and breathability test measurements in accordance with ASTM-E96 standards. The studies were done on adhesive products identified by DermaMed Coatings Company, LLC as DM2270, DM-4305 and DM-8029, and 3M™ Transpore™ and 3M™ Tegaderm™ adhesive products.

## SCOPE

The scope of the testing included the evaluation of peel adhesion results off stainless steel panels with and without the application of isopropyl alcohol (OTC 70% rubbing alcohol). Breathability was observed by moisture vapor transmission rate (MVTR) testing upright at 98° with 50% relative humidity. This report includes details about planning and sampling, pertinent test procedures and results.

## MATERIAL DESCRIPTION

**DM-2270** is a film product used in bandages and border dressings that consists of a nonwoven polyurethane fabric coated on one side with a medical grade, pressure sensitive acrylic adhesive blended with OGS additive.

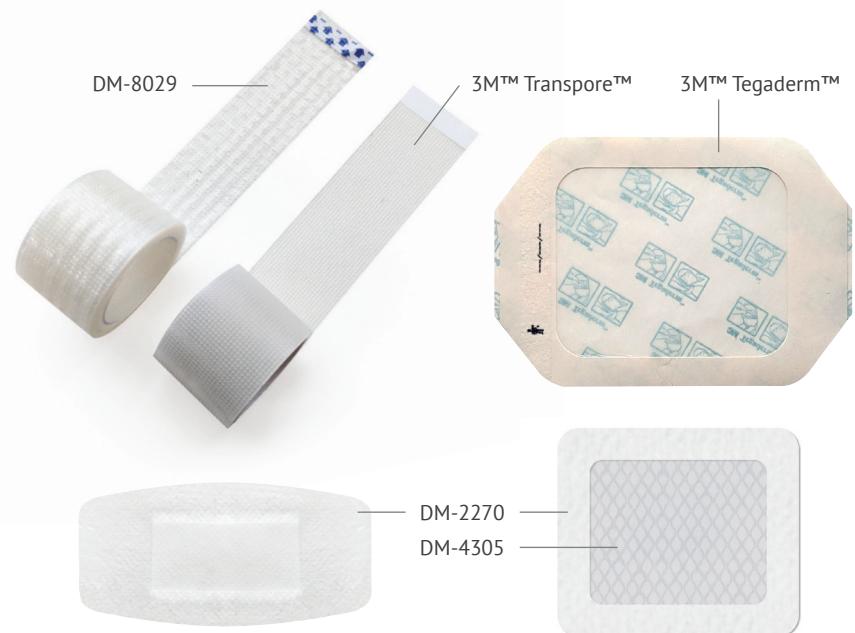


**DM-8029** is a laser perforated tape product that consists of a bilateral tear polypropylene film, coated on one side with medical grade, pressure sensitive acrylic adhesive blended with OGS additive.



OGS is a proprietary polymer manufactured for Global Biomedical Technologies, LLC.

**DM-4305** is a thin polyurethane (transparent window) film coated on one side with a low tack pattern coated, medical grade, pressure sensitive acrylic adhesive to create a highly breathable, transparent dressing. OGS additive is not included.



# TEST METHOD DESCRIPTION

## PEEL ADHESION DMT-PSTC-1 TEST PROTOCOL

The three adhesive coated films identified as DM2270, DM-4305 and DM-8029, along with the 3M™ Transpore™ and Tegaderm™, were peeled off of stainless steel panels after a one minute dwell period.

Ten samples of each product were cut into 1" wide strips and applied to the stainless steel with a four and a half pound roller. After the appropriate dwell period, the samples were peeled off the plates at 180°, at a rate of 12 in/min in accordance with DMT-PSTC-1 protocol.

Ten additional samples of DM2270 and DM8029 were tested after the application of 70% isopropyl alcohol (OTC, rubbing alcohol). The test protocol included a 1 min dwell time, followed by wetting the outside film surface with isopropyl alcohol and waiting an additional ten seconds.

Additionally, both the DM-4305 and 3M™ Tegaderm™ polyurethane films were backed with a 2 mil polyester film single coated with a 1.5 mil silicone adhesive system for needed stability. Neither of these products had the isopropyl alcohol applied to them.

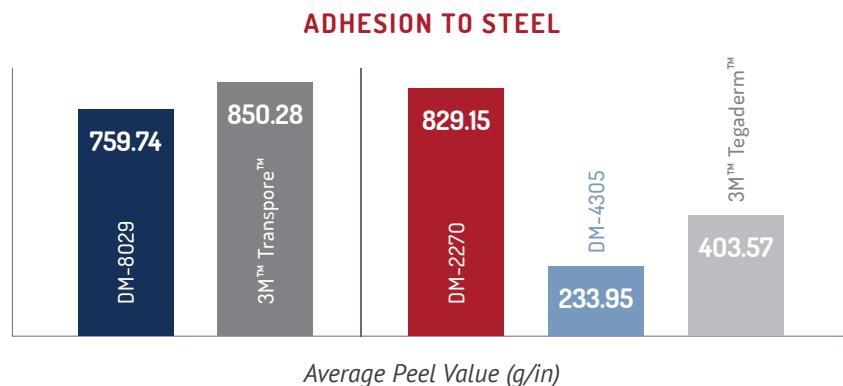
## MOISTURE VAPOR TRANSMISSION RATE (MVTR) ASTM-E96 TEST PROTOCOL

Four products (DM-2270 was not included) were die cut to 3" x 3" circles and applied to water filled test cups and placed in a temperature and humidity controlled chamber. The test conditions were 98°F, 50% relative humidity and the cups were placed in the upright position. Weight loss due to vapor transmission through the test specimens were tested over a 28 hour time period.

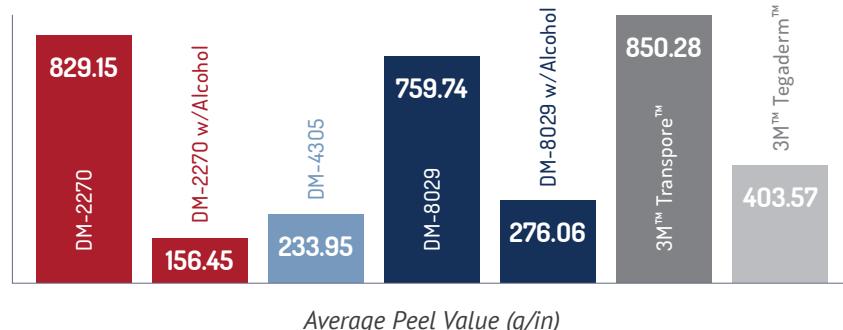
The MVTR test measured the weight of the samples at 4, 8 and 16 hour intervals. Twenty samples of each product were tested.

## PEEL TEST RESULTS WITHOUT RUBBING ALCOHOL - WITH 1 MINUTE DWELL TIME

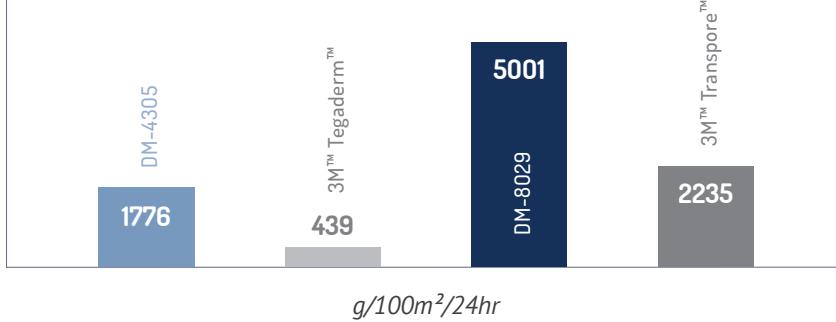
PEEL ADHESION TO STEEL (g/in)					
TEST NO.	DM-2270	DM-4305	DM-8029	3M™ TRANSPORE™	3M™ TEGADERM™
AVERAGE	829.15	233.95	759.74	850.28	403.57
MAXIMUM	925.40	323.80	835.50	958.10	492.80
MINIMUM	685.60	141.70	631.00	714.10	317.90
STANDARD DEVIATION	77.17	55.67	65.03	76.24	59.42



## PEEL TEST RESULTS WITHOUT AND AFTER APPLICATION OF RUBBING ALCOHOL SWIPED THE OUTSIDE SURFACE OF THE FILM



## MVTR RESULTS



The Comfort Release® transparent window material (DM-4305) demonstrated a MVTR of 1776g/100m<sup>2</sup>/24hr compared to 3M™ Tegaderm™ transparent window MVTR of 439g/100m<sup>2</sup>/24 hr.

The Comfort Release® polypropylene tape (DM-8029) demonstrated a MVTR of 5001g/100m<sup>2</sup>/24hr compared to 3M™ Transpore™ tape MVTR of 2235g/100m<sup>2</sup>/24 hr.

## RESULTS

In standard adhesive peel testing, there were high peel values (or high tack) skin adhesion of the Comfort Release® products. When the 70% isopropyl alcohol was applied to the outside of the Comfort Release® products the peel values on steel were reduced by 81% and 65%.

All three of Global Biomedical's Comfort Release® products demonstrated high moisture vapor transmission rates indicating high breathability. In direct product comparison of similar products, Comfort Release® products were up to 4x more breathable than 3M™ products.

## CONCLUSION

In direct comparison to similar adhesive products, Comfort Release® products adhere to skin as well, yet release more easily when the adhesive bond is "switched off" with common rubbing alcohol. Comfort Release® Tapes are twice as breathable as 3M™ Transpore™ and Comfort Release® Transparent Dressings are four times as breathable as 3M™ Tegaderm™.

# COMFORT RELEASE® PRODUCTS

## BORDERED FOAM DRESSING

Adhesive in border, not on foam. Recommended wear time is 3 to 7 days. Removes painlessly by swiping the outside border with rubbing alcohol.



## BORDERED TRANSPARENT FILM DRESSING

Adhesion comparable to the market leader with adhesive primarily in the border, not in the film window. Occlusive. Moisture vapor transmission rate (MVTR) is more than 4x the market leader. Recommended wear time is 3 to 7 days. Removes painlessly by swiping the white outside border with rubbing alcohol.



## TAPE

Adhesion comparable to the market leader. Removes painlessly by swiping the outside with rubbing alcohol. Available in multiple sizes, including single use, single patient short rolls.



## BANDAGES

Removes painlessly by swiping the outside with rubbing alcohol. Available in multiple sizes, with alcohol prep pads or without alcohol prep pads.



Visit [comfortrelease.com/where-to-buy](http://comfortrelease.com/where-to-buy) for more product details and where to buy. All Comfort Release® products are waterproof or water resistant.