Membrane Switch White Spacers with Adhesive 200MP

7956MWS • 7966MWS • 7956WDL • 7966WDL

Technical Data **April, 2013**

Product Description

3M™ Membrane Switch White Spacers use 3M™ High Performance Acrylic Adhesive 200MP on both sides of an opaque polyester film. It is linered on one side and can be used for demanding requirements in graphic as well as non-graphic lamination applications.

Construction Information

Product	Liner	Adhesive	Polyester	Adhesive	Liner
3M™ Membrane Switch White Spacer 7956MWS		2.0 mils 200MP	2.0 mil PET (white /silver)	2.0 mils 200MP	58# PCK
3M™ Membrane Switch White Spacer 7966MWS		2.0 mils 200MP	2.0 mil PET (white /silver)	5.0 mils 200MP	58# PCK
3M™ Membrane Switch White Spacer 7956WDL	58# PCK	2.0 mils 200MP	2.0 mil PET (white /silver)	2.0 mils 200MP	58# PCK
3M™ Membrane Switch White Spacer 7966WDL	58# PCK	2.0 mils 200MP	2.0 mil PET (white /silver)	5.0 mils 200MP	58# PCK

Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Peel Adhesion Properties:

Typical values based on testing of 1 lot – not for specification use)
Adhesion: ASTM D-3330 (modified) 90 degree peel, 12"/min.
(305 mm/min.) 1 mil PET to stainless steel, 72 hr. R.T. dwell.

	2 mil Adhesive Side		5 mil Adhesive Side	
Product	Oz./In.	N/100mm	Oz./In.	N/100mm
3M™ Membrane Switch White Spacer 7956MWS & 7956WDL	51	56	–	–
3M™ Membrane Switch White Spacer 7966MWS & 7966WDL	58	63	89	98

Shear Properties, static dead load

ASTM D3654 (Modified)
1/2" x 1" - overlap bond - 1000g @ R.T.

Product	Shear Strength (minutes to failure or slippage)
3M™ Membrane Switch White Spacer 7956MWS & 7956WDL	10,000+
3M™ Membrane Switch White Spacer 7966MWS & 7966WDL	10,000+

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Features

- Ease of assembly and a high-performance pressure sensitive adhesive system to help ensure your membrane switch or graphic assembly perform through difficult environmental conditions throughout the product life.
- Metallized vapor coat & white color provide strong opacity to the adhesive system for facilitating backlighting & eliminating floodcoats.

Environmental Performance

The properties defined are based on the attachment of impervious faceplate materials (such as aluminum) to an metal surface.

Bond Build-up: The bond strength of 3M™ Adhesive 200MP increases as a function of time and temperature.

Humidity Resistance: High humidity has a minimal effect on adhesive performance. Bond strengths are generally higher after exposure for 7 days at 90°F (32°C) and 90% relative humidity.

U.V. Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by outdoor exposure.

Water Resistance: Immersion in water has no appreciable effect on the bond strength. After 100 hours in room temperature water the bond actually shows an increase in strength.

Temperature Cycling Resistance: Bond strength generally increases after cycling four times through:

4 hours at 158°F (70°C)
4 hours at -20°F (-29°C)
16 hours at room temperature.

Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including gasoline, oil, Freon TF, sodium chloride solution, mild acids and alkalis.

Available Roll Sizes / Tolerances

Rolls to 360 yds. on 6" core (48" wide max.).
Slitting tolerance, ± 1/16".

Available Sheet Sizes / Tolerances

Length:	-0 to +1/4 in.
Width:	-0 to +1/4 in.
Squareness:	1/16 in.
Size (standard):	24 in. x 36 in.

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Application Techniques

Processing

Die Cutting: Steel rule die and hard tooling - Good die-cutting and kiss-cutting properties. Lubricate dies with vanishing oil or similar low residue lubricants for improved processing if required. Optimal design, quality construction, and make ready give best results when cutting PSA materials and substrates. Consult with your tooling supplier for design and qualification of new tooling needs.

Laser Converting: Laser cutting, kiss-cutting, scoring and perforating using CO_2 lasers has proven very successful for cutting PSA materials particularly for prototyping and short-run work. Consult with your laser job shop or vendor to test and qualify converting process.

Roll Laminating: Use rubber over steel roll set up with moderate application pressure. Make adhesive to substrate contact at nip area only to avoid air entrapment in bond. Proper rubber roll durometer hardness, parallelism of rolls, roll diameters and width, PLI and nip gap, and web thread up and table configuration set-up parameters are all critical to satisfactory results to eliminate wrinkles, entrapped bubbles, etc. Heated rolls or heat assist can be very helpful to good lamination quality and bond build-up. Consult with your laminating equipment supplier for details.

Special Considerations

For maximum bond strength, surface should be thoroughly cleaned and dried. A typical substrate cleaning solvent is heptane or isopropyl alcohol***** There are many others that will work well, but cleaning materials must be tested to assure compatibility with the substrate and that residues are not deposited on the surface.

Bond strength may be improved with firm application pressure and moderate heat causing adhesive to flow and develop intimate contact with bonding surface.

***Note:** When using solvents, be sure to follow the manufacturer's precautions and directions for use when handling such materials.

Application Ideas

- Use where opacity of the adhesive layer is helpful to eliminate graphic ink flood coat or facilitate backlighting.
- Attachment of nameplates, appliques, and decorative trim to metal and high surface energy plastics.
- Suitable for lamination to back-printed polycarbonate or polyester graphic overlay materials.
- Used in the automotive, appliance and electronic industries for cost-effective, long-term bonding.

Application Equipment

For assistance in helping you determine the best equipment for your application, contact your local 3M sales representative, or call 1-800-362-3550.

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Storage

Store at room temperature conditions of 70°F (21°C) and 50% relative humidity.

Shelf Life

If stored properly, product retains its performance and properties for 18 months from date of shipment.

Recognition/ Certification

TSCA: These products are defined as articles under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

MSDS: These products are not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, the products should not present a health and safety hazard. However, use or processing of the products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

UL: These products have been recognized by Underwriters Laboratories, Inc. under Standard UL 969 Marking and Labeling in File MH26206. For more information on the UL Certification, please visit the website at http://www.3m.com/converter, select UL Recognized Materials, then select the specific product area.

Note: One of 3M's core values is to respect our social and physical environment. 3M is committed to comply with ever-changing, global, regulatory and consumer environmental, health, and safety (EHS) requirements. As a service to our customers, 3M is providing information on the regulatory status of many 3M products. Further regulation information including that for OSHA, USCPSI, FDA, California Proposition 65, READY and RoHS, can be found at 3M.com/regs.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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ISO 9001

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

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