

April, 2013

3M™ Membrane Switch White Spacer 7966WDL

Product Description

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



Product 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.

Technical Information Note

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

Typical Physical Properties

Property	Values	Notes
Faceside Adhesive Thickness	2 mil	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Thickness	5 mil	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Carrier Thickness	2 mil	
Adhesive	200MP	
Faceside Adhesive Type	200MP	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Type	200MP	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Adhesive Carrier	White/Silver PET (Polyester)	
Primary Liner Type	58# PCK	Inner liner is primary(stays with die-cut part); Outer liner is secondary (removed first)
Secondary Liner Type	58# PCK	Inner liner is primary(stays with die-cut part); Outer liner is secondary (removed first)

Typical Performance Characteristics

Property	Values		Method	Test Condition	Notes	Dwell/Cure Time	Substrate	Backing
Static Shear	10,000+ min		ASTM D3654	1000 g @ Room Temperature	using 1/2 in x 1 in sample size			

Table continued on next page

3M™ Membrane Switch White Spacer 7966WDL

Typical Performance Characteristics (continued)

Property	Values		Method	Test Condition	Notes	Dwell/Cure Time	Substrate	Backing
90° Peel Adhesion (2 mil adhesive side)	6.3 N/cm	58 oz/in	ASTM D3330		12in/min (305 mm/min)	72 hr @ Room Temperature	Stainless Steel	Polyester Film
90° Peel Adhesion (5 mil adhesive side)	9.7 N/cm	89 oz/in	ASTM D3330		12in/min (305 mm/min)	72 hr @ Room Temperature	Stainless Steel	Polyester Film

Available Sizes

Property	Values		Notes
Standard Roll Length	329 m	360 yd	
Standard Sheet Size	24in x 36in in		Custom sheets are available for 3M™ Adhesive Transfer Tapes 8132LE, 8153LE
Squareness	1/16 in		
Master Width	0 to +6.35 mm		
Length Tolerance	0 to +1/4 in		
Maximum Available Width	1219 mm	48 in	
Width Tolerance	-0 to +1/4 in		
Core Size (ID)	152.4 mm	6 in	

3M™ Membrane Switch White Spacer 7966WDL

Environmental Performance

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

Handling/Application Information

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, longterm bonding.

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 CO2 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 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.

Storage and Shelf Life

Store at room temperature conditions of 70°F (21°C) and 50% relative humidity.
 If stored properly, product retains its performance and properties for 24 months from date of manufacture.

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and 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. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer’s application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M’s option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Trademarks

3M is a trademark of 3M Company.

References

Safety Data Sheet (SDS)

https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=7966WDL

Family Group

	7956MWS	7966MWS	7956WDL	7966WDL
Adhesive	200MP	200MP	200MP	200MP
Faceside Adhesive Type	200MP	200MP	200MP	200MP
Backside Adhesive Type	200MP	200MP	200MP	200MP
Adhesive Carrier	White/Silver PET (Polyester)	White/Silver PET (Polyester)	White/Silver PET (Polyester)	White/Silver PET (Polyester)

Table continued on next page

Family Group (continued)

	7956MWS	7966MWS	7956WDL	7966WDL
Primary Liner Type	58# PCK	58# PCK	58# PCK	58# PCK
Secondary Liner Type			58# PCK	58# PCK

ISO Statement

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

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, USCPIS, FDA, California Proposition 65, REAY and RoHS, can be found at 3M.com/regs.

