

3M™ Bumpon™ Protective Products

Resilient Rollstock - Clear Series

SJ5600

Product Description

3M™ Bumpon™ Protective Product SJ5600 series are resilient clear polyurethane rollstock products utilizing an aggressive acrylic-based, pressure sensitive adhesive. These products have a high strength acrylic adhesive that provides excellent shear properties at elevated temperatures. The adhesive adheres well to glass, many metal surfaces, some paints, and many high surface energy plastics (e.g. ABS and polycarbonate).

Note: This adhesive is not recommended for use on low surface energy plastics (e.g. polypropylene, polyethylene), or powdercoat painted and other various surfaces.

Product Construction

Products	3M™ Bumpon™ Protective Products			
	SJ5632		SJ5616	
Material	Clear polyurethane		Clear polyurethane	
Release Liner	4 mil, silicone coated, translucent polyester (PET), with printed 3M logo.		4 mil, silicone coated, translucent polyester (PET), with printed 3M logo.	
Adhesive	Acrylic		Acrylic	
Color	Transparent		Transparent	
Thickness*	1/32 inches 0.031 inches (0.8 mm)		1/16 inches 0.062 inches (1.6 mm)	
Thickness Tolerance ± inches ± (mm)	0.010 (0.25)		0.015 (0.38)	
Roll Length	72 yards		36 yards	
Available Roll Widths	4.5 inches (114.3 mm)	9 inches (228.6 mm)	4.5 inches (114.3 mm)	9 inches (228.6 mm)
Slitting Tolerance ± inches ± (mm)	0.031 (0.8)			

*Tested in accordance with ASTM-D-3767 method, procedure A (3.2 psi) measured without liner.

Custom Rollstock Products

3M can customize thickness to your specifications. Call your 3M sales representative for details. Custom products require a minimum order quantity.

The thickness capability range for 3M™ Bumpon™ Resilient Rollstock SJ5600 series is 1/32 in. (0.031) minimum and 1/16 in. (0.167) maximum.

3M™ Bumpon™ Protective Products
Resilient Rollstock - Clear Series SJ5600

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.

Property	Test Method***	Test Results
Hardness, Shore M	ASTM-D-2240	73-78
Approximate Density, lb./ft. ² (gm/cm ³)		70 (1.1)
Resilience, %	ASTM-D-2632	8-11
Kinetic Coefficient of Friction*	ASTM-D-1894 Glass, Stainless Steel	> 1
Abrasion Resistance, gm/1000 cycles	ASTM-C-501; Taber H, 1 kg	< 0.13
Tensile, lb./in. ² (MPa)	ASTM-D-412, Die A	> 580 (4.0)
Elongation, %	ASTM-D-412, Die A	100
Stain Resistance**	3M - 24 hrs. at 158°F against white paint, 7 days, 7 days exposed to UV	No staining
Solvent Resistance**	3M - 24 hr. immersion 5% Detergent in water 25% Detergent in water 5% Bleach in water Gasoline (10% ethanol) Motor Oil (10W30) Isopropyl Alcohol	No apparent effect No apparent effect No apparent effect Slight swelling No apparent effect Slight swelling
Flammability Listing	Classification	UL94HB
Load Tolerance	The “recommended” maximum load which 3M™ Bumpon™ Protective Product SJ5600 series rollstock will support is 100 psi (690 kPa) at 21°C (70°F) to 49°C (120°F).	
Application Temperature	4°C (40°F) to 52°C (125°F)	
Service Temperature	-34°C (-30°F) to 66°C (150°F); 107°C (225°F) intermittent exposure	

* Two important laws of friction applicable to 3M™ Bumpon™ Protective Products Resilient Rollstock are (1) friction is independent of the area of contact between solids and (2) friction is proportional to the load between solids surfaces. Thus, if the load (weight) is doubled the force required to cause surface sliding is also doubled. This is expressed mathematically as follows: Slide force = (kinetic coefficient of friction) x (weight)

** = Reference test for 24 hours only.

Results may vary for different product application conditions.

*** = When ASTM method is listed, data was collected in accordance with ASTM test method.

3M™ Bumpon™ Protective Products
Resilient Rollstock - Clear Series SJ5600

Typical Adhesive Performance Characteristics

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

Static Shear Adhesive Performance

Temperature Tested at:	Time to Failure, minutes
24°C (75°F)	> 10,000
49°C (120°F)	> 10,000
70°C (158°F)	> 10,000
82°C (180°F)	> 10,000

One in. overlap shear test; tested in accordance with the ASTM-D-3654-M (1000 gram) method; testing completed on stainless steel test panels using 3M™ Bumpon™ Protective Product SJ5616.

90° Peel Adhesion Performance

Substrate	Peel Force, oz. per 1 inch (N/cm)
Polypropylene	6 (0.67)
Polystyrene	22 (2.45)
ABS	45 (5.01)
Stainless Steel	45 (5.01)
Aluminum	45 (5.01)
Glass	45 (5.01)

3M Test Method TM-2065; 72 hour dwell, 1 inch wide samples pulled at 12 in. per minute. Testing completed using Bumpon Protective Product SJ5616.

Environmental Exposure

3M™ Bumpon™ Protective Products Resilient Rollstock Clear Series is intended for interior applications where resilience and all other physical properties will remain unchanged. When exposed to UV light for extended periods, some discoloration may occur. Bumpon clear rollstock may be used outdoors in a protected area with some discoloration possible. Simultaneous exposure to high humidity and temperature may degrade (soften) the product composition.

3M™ Bumpon™ Protective Products Resilient Rollstock - Clear Series SJ5600

Features

- Transparent – universal color match
- Excellent resistance to yellowing
- Can be die cut to a variety of shapes and sizes
- Good resistance (resulting from a urethane composition which contains no plasticizers) to marring or staining
- Long aging resiliency – will not crack or harden
- Excellent cushioning properties
- Excellent abrasion resistance
- Vibration and shock damping
- Easy application – pressure sensitive adhesive backing

Application Ideas

- Die cut shapes for glass table tops, cushioning glass from metal and wood frames
- Die cut shapes for use as cushions and spacers on cabinet doors, drawers, and lids
- Die cut shapes for use as skid-resistant feet on small appliances and desk top equipment, hand held or desktop electronic devices
- Die cut shapes for use as cushions and pads on glass or clear plastic shelves
- Strips or pads for use as skid-resistant surfaces on glass or clear plastic shelves
- Spacer or stop to prevent surface damage
- Corner protection strips
- Door kick pads
- Anti-rattle spacer to fill gaps, dampen noise and reduce vibration

Application Techniques

To obtain maximum adhesion, surfaces must be unified, dry, and free of contaminants. Surface contact is fundamental to adhesive performance. To maximize contact on a substrate:

- Clean surfaces with low strength solvents such as isopropyl alcohol (rubbing alcohol) or heptane.
Note: Be sure to follow the solvent's manufacturer's precautions and directions for use when using solvents.
- Apply firm pressure to increase the cold flow and contact of the adhesive with the substrate.
- Allow time (dwell) to increase the surface contact and adhesion.

Note: Product selection is ultimately the user's responsibility. Users should conduct their own tests under actual use and storage conditions to determine whether the product is fit for a particular purpose and method of application.

Storage and Shelf Life

The shelf life of 3M™ Bumpon™ Protective Products SJ5600 Series is 18 months from the date of manufacture when stored in the original packaging materials and stored at 16-27°C (60-80°F) and 50% relative humidity.

3M™ Bumpon™ Protective Products Resilient Rollstock - Clear Series SJ5600

Regulatory: For regulatory information about this product, contact your 3M representative.

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.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 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 OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 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 where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



Electronics Materials Solutions Division

3M Center, Building 224-3N-11
St. Paul, MN 55144-1000

Phone 1-800-251-8634
Fax 651-778-4244
Web www.3M.com/electronics

3M and Bumpon are trademarks of 3M Company.
Please recycle.
©3M 2017. All rights reserved.
60-5002-0524-4