

3M

Bumpon™ Easy Slide Protective Products

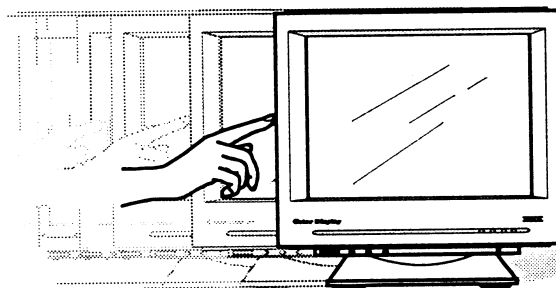
SJ-6344

Technical Data

February, 2003

Product Description

3M™ Bumpon™ Protective Product SJ-6344 is a pressure sensitive adhesive-backed protective bumper which features a low coefficient of friction, abrasion resistant film allowing the bumper to be used as low friction, easy slide glides. When heavy equipment is moved, Bumpon SJ-6344 can allow equipment to be pushed or pulled in many applications versus having to be lifted. Easy Slide Protective Products are easy to apply by just peeling from the easy release liner, position, and apply pressure. No tools required; no holes required. The very high tack adhesive system (R-25) has the capability of providing excellent adhesion to a wide variety of substrates including many low surface energy substrates such as polypropylene, polyethylene, and powder coated paints.



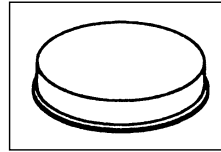
Features

- Low coefficient of friction, easy slide bumper.
- Excellent load bearing capacity (will support up to 40 lbs. per bumper of 160 lbs. per four bumpers).
- Excellent cushioning and surface protection.
- Excellent abrasion resistance.
- Non-marring and non-staining.
- Long aging – will not crack or harden.

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Construction



Color:	Black
Width: inches (mm)	0.75 (19) ± 0.005 (0.13)
Height: inches (mm)	0.16 (4.0) ± 0.015 (0.38)
Shape:	Cylindrical
Form (matrix):	4 x 10
Low Friction Film:	Polyester
Elastomeric Fill:	Polyurethane
Adhesive:	R-25 synthetic rubber
Release Liner:	White 60 lb./ream silicone coated paper, printed 3M logo

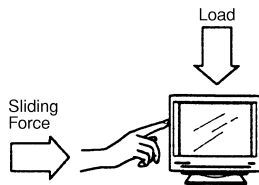
Typical Physical Properties and Performance Characteristics

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 A	ASTM-D-2240	80
Abrasion Resistance (Taber H18, 1kg)	ASTM-C-501	0.02 g/1000 cycles
Kinetic Coefficient of Friction:	ASTM-D-1894	
• Glass		0.3
• Formica®		0.2
• Stainless Steel		0.3
• Wood		0.2
Flammability Listing	UL-94HB	Pass UL recognized (color black only)

Friction
Two important laws of friction applicable to Bumpon products are:
1. Friction is independent of the area of contact between two solids.
2. Friction is proportional to the load between two solids. Thus, if the load is doubled, the force required to cause sliding is also doubled.
This is expressed mathematically as follows:
Sliding Force = (Kinetic Coefficient of Friction) x (Load)

Slide Force Example
Using the mathematical equation given above, the sliding force required to move a 20 lb. computer monitor across a Formica® tabletop is calculated as follows:



(Please note that the sliding force calculation shows a comparison between standard 3M™ Bumpon™ Protective Product SJ-5744 and 3M™ Bumpon™ Easy Slide Protective Product SJ-6344)

	Bumpon SJ-5744	Bumpon SJ-6344
Kinetic Coefficient of Friction (COF)	1.1	0.2
Load	20 lbs.	20 lbs.
Sliding Force = (COF) x (load)	22 lbs.	4 lbs.

Load Tolerance
The "recommended" maximum load which Bumpon SJ-6344 will support is 40 lbs. (18 kg) per bumper at 70°F (21°C) to 150°F (66°C).

Application Temperature
40°F (4°C) to 125°F (52°C)

Service Temperature
-30°F (-34°C) to 150°F (66°C); 225°F (107°C) intermittent exposure.

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Relative 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.

3M™ Bumpon™ Protective Product Series

	Bumpon SJ-5000 Bumpon SJ-5550 Bumpon SJ-5700*	Bumpon SJ-5200 Bumpon SJ-5300 Bumpon SJ-5400	Bumpon SJ-6100 Bumpon SJ-6300
Adhesive	Natural Rubber (R-30) ¹	Acrylic (A-20) ²	Synthetic Rubber (R-25) ³
Initial Adhesion			
Low Surface Energy	Good	Poor	Excellent
High Surface Energy	Good	Fair	Excellent
Adhesion (Peel)			
Low Surface Energy	Good	Poor	Excellent
High Surface Energy	Good	Good	Excellent
Static Shear			
75°F (25°C)	Excellent	Excellent	Excellent
120°F (49°C)	Fair	Excellent	Good
158°F (70°C)	Poor	Excellent	Fair
Impact Resistance			
Low Surface Energy	Excellent	Poor	Good
High Surface Energy	Excellent	Good	Good
Dynamic Shear	Good	Excellent	Good
Adhesion Buildup	Some	Gradual	Some
Solvent Resistance	Good	Excellent	Good
Age Life	Good	Excellent	Good

90° Peel Adhesion

Peel Force, oz. per 1/2 inch

Substrate	Natural Rubber R-30	Acrylic A-20	Synthetic Rubber R-25
Polypropylene	25	3	52
Polystyrene	25	11	55
ABS	25	25	55
Stainless Steel	22	25	55
Aluminum	22	25	55

3M Test Method TM-2011; 72 hour dwell, 1/2 inch wide samples pulled at 12 inches per minute. Testing completed using 3M™ Bumpon™ Protective Product SJ-5816, SJ-6016, and 3M™ Bumpon™ SJ-6216 Rollstock products.

*Some Bumpon SJ-5700 Series custom products may use other adhesives in their construction.

- Natural Rubber (R-30)** - Used in the construction of 3M™ Bumpon Protective Product Series SJ-5000, SJ-5500, and SJ-5700, this high tack adhesive provides excellent initial adhesion. The adhesive has the capability of providing excellent adhesion to a wide variety of surfaces, including many low surface energy surfaces such as polypropylene, polyethylene, and powder coated paints. This adhesive system shows reduced shear properties at elevated temperatures.
- Acrylic (A-20)** - Used in the construction of 3M™ Bumpon Protective Product Series SJ-5200, SJ-5300, and SJ-5400, this high strength adhesive system provides excellent shear strength properties. The adhesive has the capability of providing excellent adhesion to many high surface energy substrates such as metals, ABS, polycarbonate, and acrylic. When adhesion is required on low surface energy/substrates (e.g., polypropylene, polyethylene, etc.), acrylic-based adhesives do not perform as well as rubber-based adhesives.
- Synthetic Rubber (R-25)** - Used in the construction of 3M™ Bumpon Protective Product Series SJ-6100, this very high tack adhesive system provides excellent initial adhesion. The adhesive has the capability of providing excellent adhesion to a wide variety of surfaces, including many low surface energy surfaces such as polypropylene, polyethylene, and powder coated paints. This adhesive system shows reduced shear properties at elevated temperatures.

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Environmental Performance

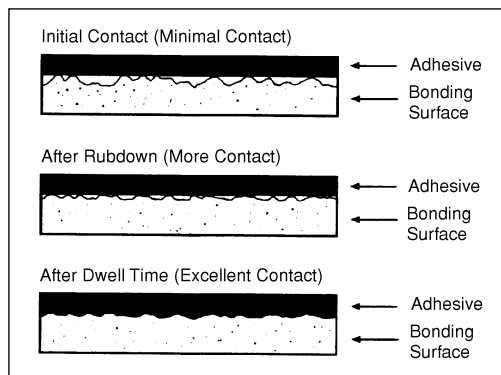
3M™ Bumpon™ SJ-6300 easy slide series is intended for interior applications where resilience and other physical properties will remain unchanged.

Application Techniques

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

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

Adhesive Surface Contact



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

Application Ideas

- Computer Monitors
- Computers
- Televisions
- VCR's
- Electronic Appliances
- Heavy items weighing approximately 5-50 lbs. that could be moved by sliding versus lifting.

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Shelf Life

Shelf life is 18 months from date of manufacture when stored in original cartons at 60-80°F (15-27°C) and 40-50% relative humidity.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550 or visit www.3M.com/industrialtape. Address correspondence to: 3M Industrial Adhesives and Tapes Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55106. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

Important Notice

3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's application. Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's application.

Limitation of Remedies and Liability

If the 3M product is proved to be defective, THE EXCLUSIVE REMEDY, AT 3M'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M PRODUCT. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including, but not limited to, contract, negligence, warranty, or strict liability.

ISO 9002

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9002 standards.



**Industrial Business
Industrial Adhesives and Tapes Division**

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*Recycled Paper
40% pre-consumer
10% post-consumer*

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