



Bumpon™ Easy Slide Protective Products

SJ-6344

FOD# 1445

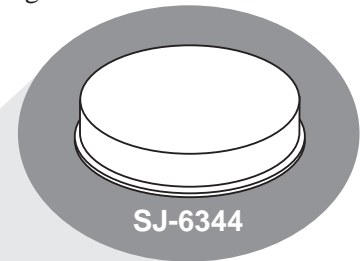
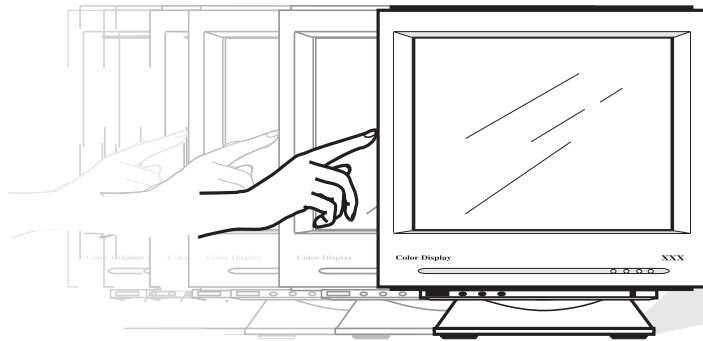
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Technical Data

February 1, 1999

Product Description

SJ-6300 series Bumpon products are pressure sensitive adhesive-backed protective bumpers which feature a low coefficient of friction, abrasion resistant film allowing the bumpers to be used as low friction, easy slide glides.



Features

- Low coefficient of friction, easy slide bumper
- Excellent load bearing capacity *
- Excellent cushioning and surface protection
- Excellent abrasion resistance
- Non-marring and non-staining
- Long aging - will not crack or harden
- High performance R-25 pressure-sensitive adhesive.

* SJ-6344 Bumpon products will support up to 40 lbs per bumper or 160 lbs per four bumpers.

Key Benefits

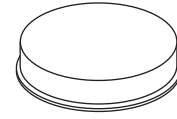
- **Convenient to Use** - when heavy equipment is moved, SJ-6344 products can allow equipment to be pushed or pulled in many applications versus having to be lifted.
- **Easy to Apply** - just peel the bumpers from the easy release liner, position, and apply pressure. No tools required; no holes required.
- **Excellent Adhesion** - R-25 Adhesive System provides excellent initial adhesion and 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.

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

SJ-6344 Product

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



Product Construction

Low Friction Film	Elastomeric Fill	Adhesive	Release Liner
polyester	polyurethane	R-25 synthetic rubber	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	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:

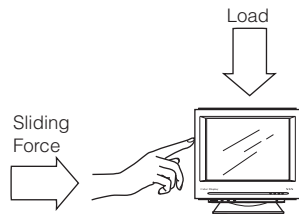
1. Friction is independent of the area of contact between two solids.
2. Friction is proportional to the load between two solids. Thus, if the load is doubled, the force required to cause sliding is also doubled. This is expressed mathematically as follows:

$$\text{Sliding Force} = (\text{Kinetic Coefficient of Friction}) \times (\text{Load})$$

Sliding 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 SJ-5744 Bumpon products and SJ-6344 Bumpon easy slide products.)



	SJ-5744 Product	easy slide SJ-6344 Product
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 SJ-6344 Bumpon easy slide products will support is 40 lbs (18 kg) per bumper at 70°F (21°C) to 150°F (66°C).

SJ-6344

Relative Adhesive Performance Characteristics

The following table provides relative adhesive performance characteristics of the synthetic rubber (R-25) adhesive system used in the construction of SJ-6344 Bumpon easy slide products in comparison to the standard R-30 and A-20 Bumpon adhesive systems used in the construction of the 5000, 5500, 5300, 5400, and 6100 Series Bumpon products.

Bumpon product	5000 Series 5500 Series	5300 Series 5400 Series	6300 Series 6100 Series
Adhesive	Natural Rubber R-30	Acrylic A-20	Synthetic Rubber R-25
Adhesion (Peel)			
Low Surface Energy	Good	Poor	Excellent
High Surface Energy	Good	Good	Excellent
Static Shear			
75°F	Excellent	Excellent	Excellent
120°F	Fair	Excellent	Good
158°F	Poor	Excellent	Fair
Impact Resistance			
Low Surface Energy	Excellent	Poor	Good
High Surface Energy	Excellent	Good	Good
Dynamic Shear	Good	Excellent	Good
Initial Adhesion			
Low Surface Energy	Good	Poor	Excellent
High Surface Energy	Good	Fair	Excellent
Adhesion Buildup	Some	Gradual	Some
Solvent Resistance	Good	Excellent	Good
Age Life	Good	Excellent	Good

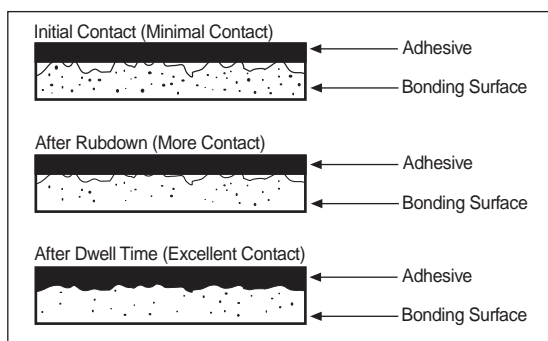
Application Information

Application Temperature: 40°F (5°C) to 125°F (52°C)

To obtain maximum adhesion, surface 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 illustration 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.

Typical Adhesive Performance

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

90° Peel Adhesion Substrate	Peel Force, oz. per 1/2 inch		
	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 SJ-5816, SJ-6016, and SJ-6216 Rollstock products.

Service Temperature

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

Environmental Performance

SJ-6300 series Bumpon easy slide products are intended for interior applications where resilience and other physical properties will remain unchanged.

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.

Technical Information and Data

The technical information and data, recommendations, and other statements provided are based on tests or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

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 method of application.

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