

3M™ Very Low Outgassing Polyester Seal Tape 6690SP

Product Description

3M™ Very Low Outgassing Polyester Seal Tape 6690SP is a 3.0 mil total thickness, low outgassing, polyester backed, single coated sealing tape for Hard Disk Drive assembly and related electronics sealing applications. This product has a 2.0 mil metalized polyester backing offers a glossy visual appearance along with the functional properties of low static discharge, low diffusivity, and high tensile strength. The low outgassing acrylic adhesive offers excellent chemical resistance, high shear strength, and a permanent yet reworkable level of adhesion to a variety of substrate materials. The adhesive has been further enhanced to eliminate measurable organic acid from the outgassing signature. The proprietary 3M™ Non-Silicone / Non-Fluorine Polyester Liner 5977 completes the construction.

Features and Benefits

- Low outgassing acrylic adhesive offers excellent chemical performance and high shear strength
- Permanent yet workable level of adhesion to a variety of substrates
- Enhanced to eliminate measurable organic acid from the outgassing signature
- Construction includes the proprietary 3M™ Non-Silicone / Non-Fluorine Polyester Liner 5977

Product Construction

Backing	Color	Adhesive	Liner
2.0 mil Metalized Polyester	Silver	Low Outgassing Acrylic	3M Liner 5977



Typical Physical Properties

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

		ASTM Test Method
Adhesion to Stainless Steel:		
(Initial, 15 min)	18 oz/in	D-3330, part F
(24 hrs @ Room Temp)	33 oz/in	D-3330, part F
(24 hrs @ 49°C)	52 oz/in	D-3330, part F
(24 hrs @ 66°C)	62 oz/in	D-3330, part F
Adhesion to Aluminum:		
(Initial, 15 min)	78 oz/in	D-3330, part F
(24 hrs @ Room Temp)	79 oz/in	D-3330, part F
(24 hrs @ 49°C)	86 oz/in	D-3330, part F
(24 hrs @ 66°C)	89 oz/in	D-3330, part F
Tape Thickness:	3.0 mil (0.076 mm)	D-3652
Adhesive Thickness:	1.0 mil (0.025 mm)	D-3652
Release Liner Thickness:	2.0 mil (0.051 mm)	D-3652
Tensile Strength:	52 lb/in width (440 N/100 mm)	D-3759
Elongation:	120%	D-3759

Typical Chemical Properties

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

Outgassing:

Outgassing by Dynamic Headspace, 3 hr @ 85°C, Quantify by GC-Mass Spec

		ASTM Test Method
Hydrocarbons	< 100 ng/cm ²	D-4526 ¹
Benzoic Acid	Not detected	D-4526 ¹
Total Organic Acids	Not detected	D-4526 ¹
Alkyl Acrylates / Esters	< 40 ng/cm ²	D-4526 ¹
Phenols & Alcohols	< 50 ng/cm ²	D-4526 ¹
Siloxanes	< 10 ng/cm ²	D-4526 ¹
Total Outgassing	Not detected	D-4526 ¹

¹Outgassing = Dynamic headspace analysis of volatile components collected during a 3 hr @ 85°C heat cycle using a Hewlett-Packard Model 5890 Series II gas chromatograph coupled with a Hewlett-Packard 5989B Mass Spectrometer.

Typical Chemical Properties (continued)

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

Extractable Ionics:

Water extractable ionics by IC, 1 hr @ 85°C, Quantify by Ion Chromatography

Fluoride	Not detected
Chloride	< 15 ng/cm ²
Nitrate	Not detected
Bromide	Not detected
Phosphate	Not detected
Sulfate	Not detected

General Information

- Storage and die cutting are preferred in controlled temperature and humidity environment. High humidity exposure can cause die cutting defects.
- Poor die cutting could lead to poor product quality.
- Weeds should be removed immediately.
- Rotary die cutting is recommended.
- Substrate should be smooth, clean, dry and oil-free to provide good wet-out and adequate adhesion.
- Adhesive should not be applied at temperatures < 10°C (50°F) [best if room temperature or higher].
- Custom sizes available.

Application Ideas

- Sealing of hard disk clamshells.
- Sealing of other electronic devices or instrumentation requiring a low outgassing adhesive tape product.
- Other permanent applications requiring an exceptionally high chemical purity, single coated tape.

Shelf Life

Product retains its performance for two years from date of manufacture when properly stored at 16-27°C (60-80°F) and 40-50% relative humidity condition.

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.

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