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English-US

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Technical Data Sheet

3M™ High Performance Industrial Plastic Adhesive 4693

Product Details

Regulatory Info/SDS

Product Features

- 3M™ High Performance Industrial Plastic Adhesive 4693: low viscosity grade for spray or brush application.
- Clear, elastomeric adhesives with high immediate bond strength, long tack range and contact bond properties.
- Exhibit outstanding bond strength to many metals and many plastics such as ABS, glass filled polyester, polypropylene, linear polyethylene and hi-impact styrene.
- Dries to a tough, flexible and transparent film with good resistance to water and aging.

Note: Not recommended for use onPlasticized Vinyl. Use onPlasticized Vinyl may result in poor adhesion or bonds that deteriorate over time.

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 Uncured Physical Properties

Attribute Name	Value
Net Weight	0.79 — 0.84 kg/L (6.6 — 7 lb/gal)
Base	Synthetic Elastomer

Typical Physical Properties

Attribute Name	Temperature	Value
Color		Clear
Solids Content by Weight		24 — 28 %
Carrier Solvent		Clyclohexane, acetone
Coverage		7.6 m²/L (310 ft²/gal) [1]
Flash Point		-17 °C (1 °F) [2]
Viscosity	27 °C (80 °F)	175 — 275 cP [3]

[1] @ 27 g/m² (2.5 g/ft²) dry

[2] Closed Cup

[3] Brookfield Viscometer RVF #2 spindle @ 20 rpm

Typical Performance Characteristics

180° Peel Adhesion

Dwell Time: 72 h

Substrate	Value
Canvas to ABS	35 N/cm (320 oz/in) [1]
Canvas to Acrylic	32 N/cm (288 oz/in) [1]
Canvas to Aluminum	40 N/cm (368 oz/in) [1]
Canvas to Nylon 6	33 N/cm (304 oz/in) [1]
Canvas to Phenolic Board	35 N/cm (320 oz/in) [1]
Canvas to Polyester, filled	37 N/cm (336 oz/in) [1]
Canvas to Polyethylene, linear	19 N/cm (176 oz/in) [1]
Canvas to Polypropylene	33 N/cm (304 oz/in) [1]

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Substrate	Value
Canvas to PVC, Hi-impact	35 N/cm (320 oz/in) [1]
Canvas to Steel	39 N/cm (352 oz/in) [1]
Canvas to Styrene, Hi-impact	37 N/cm (336 oz/in) [1]

[1] 1-2 days @ Room Temperature and 1 day @ 49 °C (120 °F)

Handling/Application Information

Surface Preparation

Surfaces must be dry and free of dust, dirt, grease, oil, mold release materials or other contaminants. For best results, temperature of adhesive should be at least 65°F (18°C).

Application Techniques

Porous Surface: Brush, spray or flow an even coat of adhesive to both surfaces. Very absorbent materials may require more than one coat. Bond while adhesive is tacky. Join surfaces with firm pressure.
Non-**Porous Surface:**Brush, spray or flow an even coat of adhesive to both surfaces. To achieve a satisfactory bond, adhesive must be force dried @ 180°F (82°C). Bond with firm pressure while warm.

Drying Time: Drying time depends on temperature, humidity, air movement and porosity of the materials bonded. When brushing, wait a minimum of 10 minutes. Bonds can be made up to 60 minutes. Sprayed bonds may be made almost immediately and up to 60 minutes.

Heat Reactivation: Adhesive may be heat reactivated by raising the glueline temperature to 180°F (82°C).

Cleanup: Excess adhesive may be removed with a solvent such as 3M™ Solvent No. 2.*

*Note: When using solvents, extinguish all ignition sources, including pilot lights, and follow manufacturer's precautions and directions for use.

Application Equipment

Note: Appropriate application equipment can enhance adhesive performance. We suggest the following application equipment for the user's evaluation in light of the user's particular purpose and method of application.

1. Pumping: A 2:1 divorced design pump is suggested. All material hoses should be nylon or PVA lined. Packings and glands in contact with the adhesive should be PTFE lined.

2. Spray (Air Atomized):
Production Type Spray Equipment

Spray Gun	Air Cap	Fluid Tip	Air Pressure	Approximate Air Requirement*	Fluid Flow
DeVilbiss JGA	777	FX	80 psi	25 CFM	8 fl. oz./min.
Binks No. 95 or 2001	66 PH	63A	80 psi	25 CFM	9 fl. oz./min.
Low Volume Spray Equipment					
DeVilbiss JGA	45	E	25 psi	3½ CFM	8-9 fl. oz./min.
Binks No. 95 or 2001	66 SE	66	25 psi	6 CFM	8-9 fl. oz./min.

*3 H.P. Compressor for intermittent use. 5 H.P. Compressor for continuous use.
**To Measure Fluid Flow: Pressurize fluid source only; pull trigger, flow material into measuring device for 60 seconds, increase or decrease fluid source pressure to obtain desired fluid flow.

3. Hoses: All material hoses should be nylon or PVA lined. If product is sprayed, use functioning spray booth.

4. Brush/Roller: Typical brushes/rollers designed for oil-based paint may be used.

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Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original, unopened packaging, out of direct sunlight. Lower temperatures cause increased viscosity of a temporary nature. For best performance, use this product within 30 months from date of manufacture.

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

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

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