

# Technical data sheet



Product: 4693

Manufacturer: 3M DEUTSCHLAND GMBH

Product group: KLEBSTOFF

Article group: LÖSEMITTEL

Download: 01.07.2025

## 3M™ PLASTIC ADHESIVE 4693

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Tewipack Uhl GmbH  
Industriestraße 15  
D-75382 Althengstett

Telephone:  
+49(0)7051/9297-0  
Fax:  
+49(0)7051/9297-99

E-Mail:  
info@tewipack.de  
Website:  
www.tewipack.de

Managing director:  
Alexander Uhl,  
Michael Uhl  
HRB 330424  
Amtsgericht  
Stuttgart

Bank details:  
Sparkasse  
Sindelfingen  
Pforzheim  
Calw  
BLZ 666 500  
85  
Konto 17 787

Commerzbank  
Sindelfingen  
BLZ 603 400 71  
Konto 8 001 166

Vereinigte  
Volksbank AG  
Böblingen  
BLZ 603 900 00  
Konto 80 089  
003

Postbank  
Stuttgart  
BLZ 600 100  
70  
Konto 146  
294 708



# 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 on Plasticized Vinyl. Use on Plasticized 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     | 6.6 to 7 lb/gal     |
| Base           | Synthetic Elastomer |

### Typical Physical Properties

| Attribute Name           | Temperature   | Value                                 |
|--------------------------|---------------|---------------------------------------|
| Color                    |               | Clear                                 |
| Solids Content by Weight |               | 24 to 28 %                            |
| Carrier Solvent          |               | Cyclohexane, acetone                  |
| Coverage                 |               | 308 ft <sup>2</sup> /gal <sup>1</sup> |
| Flash Point              |               | -17 °C (1 °F) <sup>2</sup>            |
| Viscosity                | 27 °C (80 °F) | 175 to 275 cP <sup>3</sup>            |

<sup>1</sup> @ 2.5 g/ft<sup>2</sup> dry wt.

<sup>2</sup> Closed Cup

<sup>3</sup> Brookfield Viscometer RVF #2 spindle @ 20 rpm

### Typical Performance Characteristics

#### 180° Peel Adhesion

Dwell Time: 72 h

| Substrate                      | Value                  |
|--------------------------------|------------------------|
| Canvas to ABS                  | 320 oz/in <sup>1</sup> |
| Canvas to Acrylic              | 288 oz/in <sup>1</sup> |
| Canvas to Aluminum             | 368 oz/in <sup>1</sup> |
| Canvas to Nylon 6              | 304 oz/in <sup>1</sup> |
| Canvas to Phenolic Board       | 320 oz/in <sup>1</sup> |
| Canvas to Polyester, filled    | 336 oz/in <sup>1</sup> |
| Canvas to Polyethylene, linear | 176 oz/in <sup>1</sup> |
| Canvas to Polypropylene        | 304 oz/in <sup>1</sup> |

| Substrate                    | Value                  |
|------------------------------|------------------------|
| Canvas to PVC, Hi-impact     | 320 oz/in <sup>1</sup> |
| Canvas to Steel              | 352 oz/in <sup>1</sup> |
| Canvas to Styrene, Hi-impact | 336 oz/in <sup>1</sup> |

<sup>1</sup> 1-2 days @ Room Temperature and 1 day @120°F(49°C)

## 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 glue line 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.   |
| <b>Low Volume Spray Equipment</b> |         |           |              |                              |                  |
| 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.

## **Storage and Shelf Life**

Store product at 60-80°F (16-27°C) for maximum storage life. Higher temperatures can reduce normal storage life. Lower temperatures can cause increased viscosity of a temporary nature. Rotate stock on a “first in-first out” basis. When stored at the recommended temperature in the original, unopened container this product has a shelf life of 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 or (651) 737-6501.

## **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.

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## **ISO Statement**

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

3M  
Industrial Adhesives and Tapes Division  
3M Center, Building 225-35-06  
St. Paul, MN 55144-1000  
800-362-3550

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