# Scotch-Weld™ Vinyl Adhesive 1099

## Product Data Sheet

Updated: July 2006
Supersedes: May 2006

**Product Description**

A fast drying adhesive with good resistance to plasticiser migration. Air dried bonds have high strength, resist weathering, water, oil and most solvents. Excellent for bonding vinyl extrusions and sheeting. Also bonds fabrics, foam and flexible plastics.

**Physical Properties**
Not for specification purposes

| | | |
|---|---|---|
| **Base** | Nitrile Rubber | |
| **Solvent** | Acetone | |
| **Flash Point of Solvent** | -15°C | |
| **Consistency** | Medium Syrup | |
| **Density** | 0.88 | |
| **Viscosity** (26°C A3 V10 Brookfield RVF) | 2500 mPa·s | |
| **Colour** | Light brown to purple | |
| **Shelf Life** | 15 months from date of dispatch by 3M when stored in the original carton at 21 oC and 50% relative humidity | |

**Performance Characteristics**
Not for specification purposes

**180° Peel Strength**

Canvas/Aluminium
3M test method C4013.
C4013 : speed of pulling : 50mm/min.

Following values have been measured on 1 lot.

| TIME | TEST METHOD | RESULTS (N/cm) |
|---|---|---|
| 1 hour at 24°C<br>96 hours at 24°C<br>72 hours at 24°C + 24 hours in water. | C4013 e<br>C4013 e<br>C4013 f | 10.8<br>52.8<br>58.0 |

**Performance Characteristics**

Not for specification purposes

**Temperature performance** 180° Peel Strength Canvas/Steel

| TIME | TEMP. TEST | VALUE (N/cm) |
|---|---|---|
| 1 day | 24°C | 14 |
| 3 days | 24°C | 31 |
| 5 days | 24°C | 32 |
| 7 days | 24°C | 24 |
| 2 weeks | 24°C | 23 |
| 3 weeks | 24°C | 21 |
| 3 weeks | -34°C | 38 |
| 3 weeks | 65°C | 14 |
| 3 weeks | 82°C | 5.0 |

**Directions for Use**

**Surface Preparation:**
Surfaces must be clean, dry and free from oil or greasy film.

**Application:**
Stir well before using. With a stiff, short bristled brush or other spreading method, apply a thin even coat to one or both mating surfaces. Coating both surfaces is generally advisable because it gives greater strength and permits a longer open time before bonding. Porous surfaces may require more than one coat to ensure that enough remains on the surface. Allow the adhesive to dry to an aggressively tacky stage where it will adhere, but there is no transfer to the finger when touched lightly. Since Scotch-Weld 1099 adhesive dries rapidly, this open time is rather short. Press or roll surfaces firmly together to ensure good contact at all points. Bonds have considerable strength immediately after joining. Development of ultimate strengths depends largely upon porosity of surfaces being bonded and how soon after joining they permit complete release of the solvent.

Ultimate strengths may be obtained sooner by either of the following reactivation methods. Reactivation is usually advisable where large areas are involved because the adhesive dries rapidly and may result in a poor bond when using the open time method. Reactivation is particularly useful where small areas at a time can be bonded

**Solvent Reactivation:**
Allow adhesive to dry completely. Wipe adhesive film rapidly with a cloth moistened in either ketone or ester type solvent and complete bond in the regular manner. If coated areas are kept clean, films of 1099 may be solvent reactivated up to six months after application.

**Heat Reactivation:**
Allow adhesive to air dry completely. Join surfaces and heat in an oven, press, or under lamps at 120°C to 150°C. Allowance must be made for transfer of heat through mating parts to the adhesive film.

Enough pressure should be applied during heating to ensure intimate contact.
If desired, to obtain superior properties, heat cure the adhesive as shown in the table below, after making the bond as above.

**Coverage:**
Approx 10m²/litre for a medium brush application (0.025mm dry film).

**Bonding Range:**
Up to 10 minutes for a one surface application.
Up to 50 minutes for a two surface application.
0.25mm wet film at 25°C.

**Directions for Use**

**Application Temperature Range:**
15°C to 25°C.

**Clean Up:**
Excess adhesive may be removed with methyl ethyl ketone, acetone or 3M Industrial Cleaner. When using solvent for clean-up, it is essential that proper precautionary measures for handling such materials are observed.

| Temperature of Adhesive Film | Time for Minimum Cure |
|---|---|
| 93°C | 120 minutes |
| 116°C | 40 minutes |
| 138°C | 12 minutes |
| 160°C | 8 minutes |
| 182°C | 5 minutes |
| 204°C | 2 minutes |

**Applications**

Light colour and plasticiser resistance make 1099 adhesive particularly suitable for plastic bonding. Typical applications and end uses are:
Bonding of ABS parts for appliances, automotive interior panels.

Bonding of phrenolic resins used in electrical equipment, circuit boards.
Bonding of vinyl polymers/ copolymers used in piping, sheet panels, packaging.

Bonding of leathers, urethane foam, rubbers and a variety of plastic on metal, wood and hardboards.

**Storage Conditions**

Store product between 15°C and 25°C for maximum storage life.

**Health and Safety Information**

Refer to Material Safety Data Sheet for safety and health information before using this product**.**

**Specifications**

Meets the requirements of: MMM-a-189 C Class 2.

AFS 87C.

DTD 900/4698



Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.

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