



# Scotch-Weld™

## Low Odor Instant Adhesives

LO5 • LO100 • LO1000

Technical Data

March, 2010

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### Product Description

3M™ Scotch-Weld™ Low Odor Instant Adhesives are formulated to have low volatility while maintaining bonding of a wide range of materials. Low volatility means that these products are not only low odor but also low blooming. White residues (chlorosis) of the joint area are eliminated to improve appearance in cosmetically critical applications. Lower odor can improve worker comfort in work areas where ventilation is limited. These products reduce the requirement for sophisticated ventilation systems that may be necessary when dispensing other cyanoacrylates.

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### Specific Features

- 3M™ Scotch-Weld™ Low Odor Instant Adhesive LO5 is a very low viscosity low odor cyanoacrylate that is recommended for the close fitting part and wicking ability. It can be used as a wicking adhesive to provide bonding of pre-assembled parts.
- 3M™ Scotch-Weld™ Low Instant Adhesive LO100 is a low viscosity cyanoacrylate for general purpose low odor bonding.
- 3M™ Scotch-Weld™ Low Odor Instant Adhesive LO1000 (formerly PR03) is a high viscosity low odor cyanoacrylate that has good gap-filling capability.

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## Typical Uncured Physical Properties

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

	3M™ Scotch-Weld™ Low Odor Instant Adhesives		
	LO5	LO100	LO1000
<b>Color</b>	Clear	Clear	Clear
<b>Base</b>	Methoxyethyl	Methoxyethyl	Methoxyethyl
<b>Appearance</b>	Liquid	Liquid	Liquid
<b>Specific Gravity (g/ml)</b>	1.05	1.06	1.08
<b>Viscosity (cps)</b>	3 - 8 <sup>1</sup>	80 - 120 <sup>2</sup>	900 - 1,200 <sup>3</sup>
<b>Time to Handling Strength (sec)</b>	5 - 60	10 - 60	20 - 70
<b>Full Cure Time (hr)</b>	24	24	24

<sup>1</sup> U-Tube IC-C45.

<sup>2</sup> U-Tube E40-E43.

<sup>3</sup> Brookfield LVF Spindle #2 @ 30 rpm.

## Typical Cured Properties

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

	3M™ Scotch-Weld™ Low Odor Instant Adhesives		
	LO5	LO100	LO1000
<b>Temperature Range (°F)</b>	-65 to 160	-65 to 160	-65 to 160
<b>Gap Fill (in)</b>	0.002	0.006	0.008
<b>Tensile Strength (psi)<sup>4</sup></b>	1,900	2,100	2,000

<sup>4</sup> ISO 6922 (grit-blasted steel).

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### Handling Information

#### Surface Preparation

For optimum strength structural bonds, paint, oxide films, oils, dust, mold release agents, and all other surface contaminants must be completely removed. However, the amount of surface preparation depends on the required bond strength and the environmental aging resistance desired by the user. Typical quick surface preparation would include wiping with a clean solvent (such as isopropyl alcohol\*), abrading the surface with a clean fine abrasive, and then wiping again with a clean solvent to remove loose particles.

#### Directions for Use

1. Ensure that parts are clean, dry, and free from oil and grease.
2. A instant adhesive activator may be required if there are bonding gaps or porous substrate surfaces, if substrates are low surface energy plastics (e.g., polyethylene, polypropylene) or if substrates have acidic surfaces (e.g., paper, leather).
3. Bond speed is typically very fast so ensure that parts are properly aligned before dispensing.
4. Product is normally hand applied from the bottle. Apply sparingly to one surface and press parts firmly together until handling strength is achieved. As a general rule, as little cyanoacrylate as possible should be used. Over application will result in slower cure speed and lower bond strength.

#### Cured Bond Characteristics

1. Full bond strength will typically be achieved within a 24 hour cure time.
2. Low humidity or low temperature conditions will slow down the cure rate.
3. After curing, 3M™ Scotch-Weld™ Low Odor Instant Adhesive bonds are suitable for use up to about 160°F (71°C). At 160°F (71°C) the bonds will be approximately 50% of the strength at room temperature.
4. Cyanoacrylate bond resistance to most oils and solvents is excellent. Long term humidity, moisture, or water immersion may affect the strength of a cured cyanoacrylate bond depending on the substrates and the bond gap. Testing is recommended to evaluate the effect.

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

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### Storage

For short term storage (<30 days), keep adhesive in a cool (60°F to 80°F [16°C to 27°C]), dry place out of direct sunlight. Keep containers tightly covered and free of moisture. Refrigeration (40°F [4°C]) gives optimum long term storage stability.

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### Shelf Life

3M™ Scotch-Weld™ Low Odor Instant Adhesives can be expected to have a shelf life of 6 months from the date of shipment from 3M when stored under refrigerated conditions.

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## 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.

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## 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.

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## 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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**ISO 9001:2000**

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This product was manufactured under a quality system registered to ISO 9001:2000 standards.



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