



# Scotch-Weld™

## PUR Easy 250 Adhesive

EZ250030 • EZ250150 • EZ250200

### Technical Data

October, 2017

<b>Product Description</b>	3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Adhesives are 100% solid, warm temperature applied, moisture curing urethanes. These products bond a wide variety of <b>plastics</b> and <b>wood to themselves and to metal and glass.</b>		
	3M™ Scotch-Weld™ PUR Easy 250 Adhesive EZ250030		Fast setting adhesive ideal for bonding many plastics including polystyrene and polyacrylic.
	3M™ Scotch-Weld™ PUR Easy 250 Adhesive EZ250150		Long open and set time ideal for bonding a wide variety of substrates including wood, plastics, aluminum
	3M™ Scotch-Weld™ PUR Easy 250 Adhesive EZ250200		Long open time, medium set time for bonding a wide variety of substrates including wood and most plastics excluding polyolefin

<b>Features</b>	<ul style="list-style-type: none"> <li>• 100% solids</li> <li>• One component</li> <li>• Open time from 2 - 4 minutes</li> </ul>	<ul style="list-style-type: none"> <li>• Moisture curing urethane</li> <li>• Rapid rate of strength build up</li> <li>• Set times from 30 - 150 seconds</li> </ul>
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**Typical Uncured Properties**      **Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.**

Property	3M™ Scotch-Weld™ PUR Easy 250 Adhesive		
	EZ250030	EZ250150	EZ250200
<b>Application Temperature</b>	250°F (121°C)	250°F (121°C)	250°F (121°C)
<b>Viscosity @ 250°F (121°C)<sup>1</sup></b>	13,000 cps	9,000 cps	2,750 cps
<b>Color (solid)</b>	white/off-white	white/off-white	white/off-white
<b>Open Time<sup>2,4</sup></b>	2 minutes	4 minutes	3 minutes
<b>Set Time<sup>3,4</sup></b>	30 seconds	150 seconds	120 seconds
<b>Density, Lbs/Gallon (molten)</b>	8.7	9.1	9.7

<sup>1</sup>Measured on Brookfield viscometer with Thermosel using spindle #27.

<sup>2</sup>The bonding range of a 1/8" bead of molten adhesive on a non-metallic substrate.

<sup>3</sup>The minimum amount of time required between when the bond is made and when it will support a 5 psi tensile load.

<sup>4</sup>Open times and set times are based on a room temperature environment. High environmental temperatures lengthen open times and set times while lower temperatures will shorten open times and set times.

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## 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.**

Property	3M™ Scotch-Weld™ PUR Easy 250 Adhesive		
	EZ250030	EZ250150	EZ250200
Shore D Hardness <sup>1</sup>	50	45	30
Tensile @ Break <sup>2</sup>	3,900 psi	3,300 psi	1,675 psi
Elongation @ Break <sup>2</sup>	725%	700%	400%

<sup>1</sup>Measured on .090" - .110" thick bars.

<sup>2</sup>ASTM D638, Die C, measured on .011" - .012" thick films cured for a minimum of 7 days at 77°F (25°C)/50% relative humidity (RH).

## Handling/Curing Information

### Directions for Use

Apply to clean, dry surfaces. Remove oil, grease and other contaminants by wiping with isopropyl alcohol.\* For fiber reinforced plastics and other materials that are often contaminated with mold release agents, it is recommended that the surface be solvent wiped, abraded and solvent wiped.\* For additional information, see section on surface preparation. After heating to recommended application temperature, apply adequate amount of 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Plastic Adhesive to one of the substrates to be bonded. Join the substrates within the adhesives specified open time and hold/fixture the bonded part until the adhesive has adequately set. Do not use to bond metal or glass to itself or each other or cure will not occur due to low moisture vapor transmission of the substrate.

**(Important: Adhesive heated at application temperature for more than 16 hours should be discarded.)**

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

### Dispensing Equipment

3M™ Scotch-Weld™ PUR Easy 250 Adhesive Cartridges can only be dispensed through the 3M™ Scotch-Weld™ PUR Adhesive Applicator or the 3M™ Scotch-Weld™ PUR Easy 250 Adhesive Applicator. Other container sizes can be dispensed through bulk equipment specifically designed for use with hot melt polyurethane reactive adhesives (PUR). For more information on PUR application equipment, contact your local 3M sales representative. All equipment must be used in strict accordance with the recommendations of the manufacturer.

**Warning: Do not use Scotch-Weld™ PUR easy 250 plastic adhesive above 275°F (135°C) and should not be applied to substrates that exceed 275°F (135°C).**

**Caution: Wear heat resistant gloves and safety glasses when handling.**

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**Handling/Curing Information**  
*(continued)*

**Cleanup:** Allow products to solidify. Remove uncured waxy material (usually within the first 20 minutes after application) by scraping with a putty knife or similar tool. For cured material, remove by cutting or sanding. **Do not use heat or flame to remove adhesive.**

**Cure Time:** The cure rate will vary depending on air temperature, relative humidity, substrate type and bond line thickness. Cure rate is more rapid on wood (moisture rich substrate) than on plastic.

**Typical Performance Characteristics**

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

**A. Overlap Shear Strength (psi), tested @ 73°F (23°C)**

Overlap shear (OLS) strengths were measured on 1" wide 1/2" overlap specimens. These bonds were made individually using 1" x 4" sample coupons. The thickness of the bond line was .003-.006".

The thickness of the substrates were approximately: Maple, .375", plastics .125". The separation rate of the testing jaws was 2" per minute.

Substrate	3M™ Scotch-Weld™ PUR Easy 250 Plastic Adhesive		
	EZ250030	EZ250150	EZ250200
Polycarbonate	2,100	1,490	1,450
Polyacrylic	1,330 <sup>1</sup>	1,280 <sup>1</sup>	1,275
ABS	1,350 <sup>1</sup>	930	1,025
PVC	1,805	1,675	1,171
Maple	1,540	1,570	1,320

<sup>1</sup>Substrate failure

**B. Overlap Shear Strength (psi), tested @ 180°F (82°C)**

Substrate	3M™ Scotch-Weld™ PUR Easy 250 Plastic Adhesive		
	EZ250030	EZ250150	EZ250200
Maple	540	410	440
PVC	310	275	285

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**Typical  
Performance  
Characteristics  
(continued)**

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

**C. 180° Peel Strength (piw) tested @ 73°F (23°C)**

180° peel strengths were measured on 1" x 8" pieces of flexible cotton duck (canvas) bonded to rigid 1" x 4" substrates. The rigid substrates were approximately .125" thick and the separation rate of the testing jaws was 2" per minute. All tests were conducted at 73°F (23°C).

Substrate	3M™ Scotch-Weld™ PUR Easy 250 Plastic Adhesive		
	EZ250030	EZ250150	EZ250200
Polycarbonate	95 <sup>1</sup>	95 <sup>1</sup>	63
Polyacrylic	75 <sup>1</sup>	50	50
ABS	83 <sup>1</sup>	55	45
PVC	100 <sup>1</sup>	75 <sup>1</sup>	70
Aluminum	N/R	50	63
Glass	N/R	60	78

<sup>1</sup>Cotton duck failed during testing  
N/R – Not Recommended

**D. Typical Rate of Strength Build-Up**

PVC and maple Overlap Shear Strength (psi) tested @ 73°F (23°C) at various times after bonding. The substrates were conditioned for 7 days at 77°F (25°C)/50% RH prior to bonding.

	3M™ Scotch-Weld™ PUR Easy 250 Plastic Adhesive					
	EZ250030		EZ250150		EZ250200	
Time	PVC	Maple	PVC	Maple	PVC	Maple
10 minutes	325	450	285	410	184	127
60 minutes	600	1,295	530	815	196	974
24 hours	1,900	1,240	1,460	1,280	753	1,208
72 hours	1,775	1,155	1,530	1,275	1,004	1,272
7 days	1,805	1,500	1,675	1,150	1,171	1,320

The cure rate will vary depending on air temperature, relative humidity, substrate and bond line thickness. Cure rate is more rapid on wood (moisture-rich substrate) than on plastic.

**Cure Cycle**

With the exception of rate of strength build-up, all bonds, unless otherwise noted, were cured for a minimum period of 7 days at 77°F (25°C)/50% RH before testing or subjecting to further conditioning or environmental aging. Bonds were prepared using the suggested procedure for the particular substrate tested.

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<b>Surface Preparation</b>	All wood should be dry and free of contaminants such as sawdust, dirt or other substances that may interfere with the adhesive bonding process. If the surface to be bonded contains a coating or finish, bonds should be made and evaluated to ensure proper adhesion. It may be necessary to evaluate other 3M™ Scotch-Weld™ PUR Easy 250 Adhesive products that are better suited to bond plastic surfaces.
<b>Storage</b>	For maximum shelf life, store product at 60°F (16°C) to 80°F (27°C), indoors and protected from exposure to moisture.
<b>Shelf Life</b>	Products in 10 fluid ounce cartridges have 12 months while all others have a 6 month shelf life in unopened containers.
<b>Precautionary Information</b>	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.
<b>Product Use</b>	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. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.
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