



Scotch-Weld™

Polyurethane Reactive (PUR) Easy 250 Wood Adhesive

EZ250015 • EZ250060 • EZ250120

Technical Data

February, 2007

Product Description 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Wood Adhesives are 100% solid, warm temperature applied, moisture curing urethanes. These products **bond well to wood and wood based surfaces as well as select plastics**. These products offer a wide variation of open and set times as well as the ability to produce very thin bond lines.

3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Wood Adhesive EZ250015 Fast setting adhesive ideal for bonding wood and select plastics.

3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Wood Adhesive EZ250060 Medium setting, low viscosity ideal for wood and select plastics.

3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Wood Adhesive EZ250120 Medium setting, low viscosity ideal for bonding wood and producing thin glue lines.

- Features**
- 100% solids
 - One component
 - Open time from 1½ - 4 minutes
 - Moisture curing urethane
 - Rapid rate of strength build up
 - Set times from 15 - 120 seconds

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 Wood Adhesive		
	EZ250015	EZ250060	EZ250120
Application Temperature	250°F (121°C)	250°F (121°C)	250°F (121°C)
Viscosity @ 250°F (121°C) ¹	7,000 cps	7,000 cps	3,000 cps
Color (solid)	white/off-white	white/off-white	white/off-white
Open Time ^{2,4}	1.5 minutes	2 minutes	4 minutes
Set Time ^{3,4}	15 seconds	60 seconds	120 seconds
Density, Lbs/Gallon (molten)	8.9	8.8	8.9

¹Measured on Brookfield viscometer with ThermoSol using spindle #27.

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

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

⁴Open 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

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Property	3M™ Scotch-Weld™ PUR Easy 250 Wood Adhesive		
	EZ250015	EZ250060	EZ250120
Shore D Hardness ¹	65	60	60
Tensile @ Break ²	3,900 psi	4,200 psi	4,000 psi
Elongation @ Break ²	750%	675%	625%

¹Measured on .090" - .110" thick bars.

²ASTM 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 Wood 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™ Polyurethane Reactive (PUR) Easy 250 Wood Adhesive Cartridges can only be dispensed through the 3M™ Scotch-Weld™ Polyurethane Reactive Adhesive Applicator or the 3M™ Scotch-Weld™ Polyurethane Reactive (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 polyurethane reactive (PUR) easy 250 wood 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

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 Maple, .375".

The separation rate of the testing jaws was 2" per minute.

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

Substrate	3M™ Scotch-Weld™ PUR Easy 250 Wood Adhesive		
	EZ250015	EZ250060	EZ250120
Maple	1,650	1,910	1,950

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

Substrate	3M™ Scotch-Weld™ PUR Easy 250 Wood Adhesive		
	EZ250015	EZ250060	EZ250120
Maple	550	380	620

B. Typical Rate of Strength Build-Up

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

Time	3M™ Scotch-Weld™ PUR Easy 250 Wood Adhesive		
	EZ250015	EZ250060	EZ250120
10 minutes	980	1,210	1,105
60 minutes	1,650	1,725	1,805
24 hours	1,725	1,845	1,915
72 hours	1,690	1,830	1,975
7 days	1,650	1,910	1,950

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.

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Typical Performance Characteristics (continued)

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C. 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.

Surface Preparation

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™ Polyurethane Reactive (PUR) Easy 250 Wood Adhesive products that are better suited to bond plastic surfaces.

Storage

For maximum shelf life, store product at 60°F (16°C) to 80°F (27°C), indoors and protected from exposure to moisture.

Shelf Life

Products in 10 fluid ounce cartridges have 12 months while all others have a 6 month shelf life in unopened containers.

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.

Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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