Panel Bonding Adhesive

08115 / 38315 / 58115

Technical Data **March 2018**

3M Part Numbers	3M Part Descriptor
08115	3M™ Panel Bonding Adhesive – 200 ml
38315	3M™ Panel Bonding Adhesive – 47.3 ml
58115	3M™ Panel Bonding Adhesive – 450 ml

Product Description

3M™ Panel Bonding Adhesive is intended for use in outer body, non-structural panel attachment applications, including applications where panels are used in conjunction with welding and/or riveting. Industry professionals appreciate the performance benefits that 3M™ Panel Bonding Adhesive provides, including the continuous bond, load distribution, ease of use that drives more consistent results, corrosion protection, and excellent adhesion to a wide variety of substrates. 3M™ Panel Bonding Adhesive is a two-part epoxy adhesive which provides a long open-time or work-time but can be rapidly cured with heat once the panel has been positioned and clamped into its proper position (see: Rate of Strength Buildup at Various Temperatures chart below). 3M™ Panel Bonding Adhesive also contains 10 mil glass beads to help users control bond line thickness and to prevent excessive squeeze out.

There are of course many factors and variables that can affect an individual repair, so the technician and repair facility need to evaluate each specific application and repair process, including relevant vehicle, part and OEM guidelines, and determine what is appropriate for that repair.

Features

- 3M™ Epoxy Technology
- Corrosion Inhibiting
- Heat Cure on Demand
- Bonds Steel, Aluminum, SMC, FRP
- Contains Glass Beads to Control Bond Line Thickness

3M™ Panel Bonding Adhesive

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Product Uses

3M™ Panel Bonding Adhesive is intended for use in outer body, non-structural panel attachment applications, including applications where panels are attached in conjunction with welding and/or riveting.

There are of course many factors and variables that can affect an individual repair, so the technician and repair facility need to evaluate each specific application and repair process, including relevant vehicle, part and OEM guidelines, and determine what is appropriate for that repair. Examples of where Panel Bonding Adhesive may be used in conjunction with other traditional joining methods in a repair scenario, subject to OEM recommendations, can include door skins, roof skins, quarter panels and box sides.

This product is not intended to be used for structural parts, such as pillars, rockers, strut/shock towers, frame rails, or frame members unless specifically recommended by the vehicle manufacturer and used in the manner specified in the OEM repair manual and procedures. If doubt exists as to whether a particular component is structural, consider it structural.

Initial Physical Properties

The accuracy or completeness of the following product information is considered reliable, but is not guaranteed and is subject to change without notice.

Container Options	PN 08115: 200 ml Duo Syringe Cartridge PN 38315: 47.3 ml Duo Syringe Cartridge PN 58115: 450 ml DMS Duo Syringe Cartridge	
Base	Epoxy	Amine
Density lbs/Gallon (Appx.)	8.0	10.0
Color	Black	Butterscotch
Solids Content (Appx.)	100%	100%
Consistency	Viscous Liquid	Viscous Liquid
Mix Ratio by Weight	172 Parts	100 Parts
Mix Ratio by Volume	200 Parts	100 Parts

Performance Specifications

The values shown below are for ambient air temperature and substrate temperature at 73°F (23□C

Work Time:	Clamp Time:	Cure Time:
90 minutes	4 hours	24 hours

Overlap Shear Adhesion to Various Substrates

Typical overlap shear strength of bonds with 10 to 12 mil bond lines are reported below as pounds per square inch (psi). All materials except aluminum, E-Coat, and two-part epoxy primed steel, were abraded with a 50 grit coated abrasive and solvent wiped with 3M™ General Purpose Adhesive Cleaner, PN 08984. Aluminum samples were abraded with a Scotch-Brite™ Rivet Cleaning Disc, PN 07410 and solvent wiped. E-Coat samples were solvent wiped. No extra surface preparation was performed on the epoxy primed steel. The bonds were allowed to cure for 7 days at 73°F and then tested on a Sintech tester at a joint separation rate of 0.5 inches (12.7 mm) per minute.

*all adhesion values in psi

Substrate	-40°F	73°F	180°F
0.057" Steel to 0.057" Steel	4003(C)	3935(C)	
0.036" Steel to 0.036" Steel	3309(C)	2904(C)	1259(A)
0.035" E-Coat Primed Steel to 0.035" E-Coat Primed Steel		3514(S)	
0.036" Galvanized Steel to 0.036" Galvanized Steel		3008(C)	
Two-Part Epoxy Primed 0.036" Steel to Two-Part Epoxy Primed 0.036" Steel		2183	
0.062" Aluminum 6111 to 0.062" Aluminum 6111		3144(C)	
0.063" Aluminum 5754 to 0.063" Aluminum 5754		2152(A)	
0.057" Steel to 0.062" Aluminum 6111		3795(C)	
Fiberglass Reinforced Plastic (FRP) to FRP		1283(S)	
Sheet Molded Compound (SMC) to SMC		785(S)	
Acrylonitrile Butadiene Styrene (ABS) to ABS		942(S)	

(S) = Substrate Failure
(A) = Adhesive Failure
(C) = Cohesive Failure

Adhesion to Steel at Varying Bond Line Thickness

*all adhesion values in psi

Bond line Thickness	0.036" thick steel	0.057" thick steel
10 mils	2690	3935
20 mils	2638	3863
30 mils	2653	3693
40 mils	2601	3510
50 mils	2432	3268