



## Automotive Aftermarket Division

### 3M™ 08122 Structural Adhesive

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#### 1) Part Numbers

3M™ 08122 : Duo Pack cartridges (37.5ml)

Equipment:-

3M™ 08190 : Manual applicator gun

3M™ 08197 : Mixing Nozzles

#### 2) Description and end uses

3M™ 08122 is a clear/white two-part epoxy adhesive which provides high performance bonding.

3M™ 08122 is designed to bond steel, aluminium and SMC. Used in the replacement of automotive quarter panels, door panels, roof panels and other outer body sheet metal.

DO NOT USE on structural components such as pillars, sills, core support etc.

#### 3) Physical Properties

	Base (B)	Hardener (A)
Chemistry	Toughened epoxy	Modified Amine
Colour	Off-white	Off-white
Consistency	Low sagging paste	Low sagging paste
Specific gravity	1.14	1.07
Mix ratio by weight	100 parts	47 parts
Mix ratio by volume	100 parts	50 parts
Pot life (23°C) 20g	30 min	
Mixer dwell time (23°C)	15min	
Working time (23°C)	30 min	



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## 4) Product Performance

The results are expressed in Megapascals (Mpa) for shear strength (1 Mpa= 10Kg/cm<sup>2</sup>)

The detailed test standards are available to European AC&S Lab (Tech. Service)

### A. Overlap Shear Strength (OLSS)

Specimen: Abraded and degreased steel.

Conditions: 5 minutes open time  
Room temperature  
Approx. 100 µm thick film of adhesive

Drying time in hour	1.5	2	3	4	24
Shear strength (Mpa)	0.8	2.9	10.2	16.1	20.0

### B. Peel strength build up

Specimen: Abraded and degreased steel

Conditions: 5 minutes open time  
Room temperature  
Approx. 100 µm thick film of adhesive

Drying time in hour	1	1.5	2	2.5	3	4	5	8	24
Peel strength (Mpa)	3	4	12	40	75	90	95	100	105

### C. Shear strength versus open-time

Specimen: Abraded and degreased steel

Conditions: Tested after 24 hours drying  
Room temperature  
Approx. 100 µm thick film of adhesive



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OPEN TIME IN MIN.	5	15	30
SHEAR STRENGTH (MPA)	19.9	20.0	19.8

## D. Shear strength with different substrates:

Conditions: 5 minutes open time  
Curing at RT. For 10 days  
Approx. 100 µm thick film of adhesive

	<u>Shear strength (Mpa)</u>
Abraded steel	: 18.5
Bare steel	: 10.6
PVC	: 2.0
Polycarbonate	: 2.3
Polypropylene	: 1.3

## E. Effect of Temperature on curing

Specimen: Abraded and degreased steel

Conditions: - 5 minutes open-time  
- Approx. 100 µm thick film of adhesive

	<u>Shear strength (Mpa)</u>
2hrs at R.T	: 2.9
30 min. at 60°C	: 18.1

## F. Temperature Resistance

Specimen: Abraded and degreased

Conditions: - 5 min open-time  
- 10 days curing at R.T.  
- Approx. 100 µm thick film of adhesive

Sample tested at :	R.T.	80°C
Shear strength (Mpa)	18.5	1.5

## 5) Directions for Use

Surface preparation



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## Metal:

- Wipe free of dust with oil-free solvent such as 3M™ 08984 adhesive cleaner
- Sandblast or abrade using clean fine grit abrasive
- Wipe again with 3M™ 08984 Adhesive Cleaner to remove loose particles

## Rigid plastics:

- Wipe with Isopropyl alcohol or aliphatic solvent
- Abrade with fine grit abrasives
- Wipe with Isopropyl alcohol or aliphatic solvent

## Cartridge preparation

- Insert the duo pack cartridge into 3M™ 08190 applicator
- Remove cap and fix 3M™ 08197 mixing nozzle
- Pull the trigger until a small amount of adhesive is expelled out from nozzle

Note: check both sides of adhesive are flowing evenly & freely out from the cartridge

## Application method

- Apply a continuous bead on both surfaces to be bonded (or only on one, if easier) Smooth the adhesive in a uniform layer.
- Close the bond within 30 minutes and clamp surfaces firmly together for at least 2 hours.
  - *Note: To hold surfaces in place while adhesive is curing, you can:*
- Tack weld, or spot weld along the joint at 10-15 cm intervals
- Use clamps making sure the panel does not bow.
  - The handling strength for non-weld-bended parts is reached in about 2 to 3 hours at
  - 23°C. This time can be reduced to 15 minutes by heating at 60°C (oven or IR)

## FAB Chart

Features	Advantages	Benefits
DUO PACK SYSTEM	No mixing required Easy to apply	Saves time Ease of use
TWO PART EPOXY ADHESIVE	High shear strength Toughen & flexible (impact resistant) Prevents corrosion	Quality of the repair



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## Major Features

- Easy to use system.....See below
- Extremely high shear strength.....Nb4
- Fast curing
- Curing can be reduced by heating.....See below
- Impact / corrosion resistant

*Note: For the demonstration techniques, refer to the corresponding Tech. Service Bulletin/Chapter*

## Specific demonstration techniques:

- Easy to use : Show the ease and rapidity to prepare the system
- High shear strength : Have a shear sample (steel/steel) ready and ask the end- user to try to break it.
- Curing reduced by heating : Prepare a shear sample with steel.  
Place it in an oven or in front of IR lamp and show it is cured after 15 minutes

## Do's & Don'ts

- Do prepare the surfaces correctly
- Do change the nozzle when not used for more than 20 minutes
- Do close cartridge with cap after use.
- Don't apply in too thick a layer
- Don't store below 0°C

## 6) Storage

Cool dry place. Best results are obtained when material is stored and applied at room temperature, 15 to 30°C.

Shelf Life: 12 months from date of manufacture under normal storage conditions. Refer to "Best Before Date" and "Lot Number" on the cartridges

## 7) Safety

Please refer to the material safety data sheet or contact your local 3N toxicological Department.



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3M™ 08122 Structural Adhesive is designed FOR PROFESSIONAL INDUSTRIAL USE ONLY.

## 8) Disclaimer

All statements, technical information and recommendations are based on tests we believe to be reliable but the accuracy or completeness thereof is not guaranteed. Please ensure before using our product that it is suitable for your intended use. All questions of reliability relating to this product are governed by the Terms of Sale subject, where applicable, to the prevailing law.

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