

Mazda 46G Machine Gray Repair

Waterborne Basecoat Full Panel Repair Process

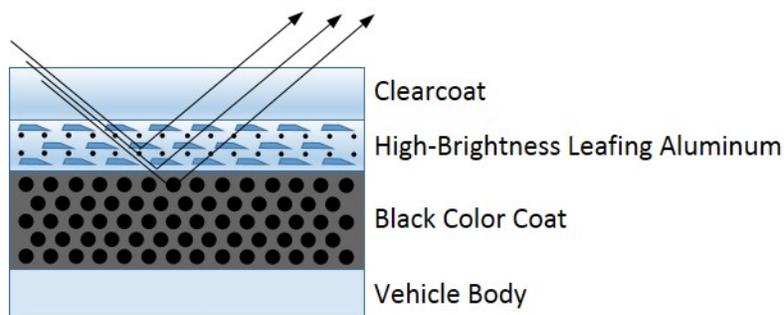
TCB103 Technical Bulletin
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This specific full panel / new panel repair process is necessary to meet appearance, performance, and VOC regulatory requirements. You should contact your PPG representative for full documentation on the approved products, systems and processes.

DESCRIPTION:

- Mazda's 46G is a special effect gray metallic color which gives the paint a "sculpted from solid steel" appearance.
- The OEM process utilizes an exotic tri-coat system made up of a black color coat followed by high brightness leafing aluminum, then overcoated by a clear coat layer. See the following illustration:



- The repair outlined in this document is intended to replicate the OEM finish as closely as possible utilizing products similar to those at the factory.

PREPARATION OF SUBSTRATE:

- Any damaged body work on the vehicle should be repaired using a PPG and Mazda approved repair process for the substrate being refinished (Aluminum, Steel, Plastic etc).

PREPARATION OF THE COLOR CHECK PANEL:

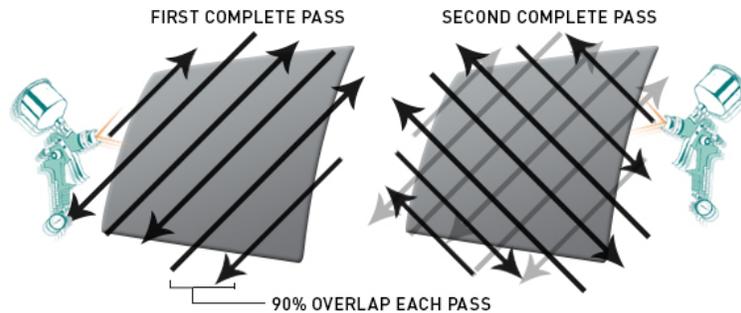
- Prior to applying any color on the vehicle, a color check panel must be produced utilizing the same application methods employed in the actual refinish repair. This color check panel is required on every car being repaired due to variation of color from one area of the car to the next and from car to car. Multiple color check panels should be created to determine the best application technique to achieve correct color alignment to the vehicle.
- The G7 color check panel (PPG Part #ARMC464G7) should be prepared as follows:
- Mix and apply 2 coats of clearcoat to the entire color check panel. Two coats are required so that enough film build is present to allow for sanding. The use of a PPG or AQUABASE® Plus premium clearcoat is recommended.
- Once the clearcoat has fully dried, remove any orange peel or texture with P1200 dry.
- Further refine the surface with P1000 Trizact wet to minimize any final scratches or pigtales.

Sandable Clearcoat Note:

- **Sanding of this clearcoat layer is mandatory because the leafing aluminum requires a smooth surface for proper orientation.**
- Using PAINTMANAGER® program software for mixing and managing the paint operation, mix the Mazda 46G basecoat color formulated with leafing aluminum, according to one of these formulas.
 - ENVIROBASE® High Performance waterborne basecoat Brand Code 944846
 - AQUABASE® Plus waterborne basecoat Brand Code 8R8PB
- Reduce the basecoat 2:1 with waterborne reducer (50% reduction).
 - Viscosity is 15-16 seconds DIN #4

Spray Gun Notes:

- **Best results are achieved by using small fluid tip setup (1.0, 1.1, 1.2 or WSB).**
- **Best results are achieved by restricting spraygun fluid amount.**
 - **Completely close spraygun fluid knob, then open 1 to 1 ½ turns.**
 - **Reduce spraygun pressure to achieve thin wet coats.**
- Apply 3 to 4 thin wet coats of the reduced 46G basecoat to the color check panel. Thoroughly dehydrate each layer before applying the next. Apply this basecoat layer using an X-Pattern crosscoat technique (see below) at 90% overlap to help evenly align the leafing aluminum in a horizontal position. This is the same application technique to be used on the vehicle. The X-Pattern crosscoat technique must be used with every coat.



1 coat consists of two complete passes

Control Coat Note:

- **Do not apply a final control coat. A control coat will orient the leafing aluminum on top of the basecoat causing coarseness or increased sparkle.**
- Ensure complete dehydration of the basecoat and evaluate with a color inspection light for uniform coverage before the final clearcoat is applied.
- Mix and apply clearcoat to the entire color check panel. The use of a PPG or *Aquabase* premium clearcoat is recommended.
 - Apply the first coat of clear as a light (tack) coat. Avoid overwetting as movement of the leafing aluminum basecoat may occur resulting in blotchiness and allow to flash 5 minutes.
 - Apply 2 additional coats of clear using normal clearcoat application methods for the clearcoat selected.

CHECK THE COLOR:

- Use the completed color check panels to evaluate the color on the car.
- If the color achieved on the color check panel is acceptable / blendable to the car proceed to the section FULL PANEL or MULTIPLE PANEL REPAIR PROCESS.
- If tinting of the color is necessary, tint utilizing toners within the original formula, prepare additional color check panels and re-check. Continue in this fashion until an acceptable / blendable match is achieved.

FULL PANEL or MULTIPLE PANEL REPAIR PROCESS:

FULL PANEL REPAIR PREP:

- If using urethane G7 / SG07 sealer, sand repair area with P400-P600.
- If using waterborne G7 / SG07 basecoat, sand repair area with P800-P1000.

BLEND PANEL PREP: CAUTION – Be careful not to sand through the OE finish

- Sand blend panel with P1200 – P1500 dry and P1500 dry on edges by hand.

SEALER APPLICATION:

- Apply sealer to repair area and blend edge as needed.

SANDABLE CLEARCOAT APPLICATION:

- Mix and apply 2 coats of clearcoat to the panel being repaired or replaced and adjacent blend panels edge-to-edge.
- Two coats are required so that enough film build is present to allow for sanding. The use of a PPG or *Aquabase* premium clearcoat is recommended.
- Once the clearcoat has fully dried, remove any orange peel or texture with P1200 –P1500 dry.
- Further refine the surface with P1000 Trizact wet to minimize any final scratches or pigtails.

Sandable Clearcoat Note:

- **Sanding of this clearcoat layer is mandatory because the leafing aluminum requires a smooth surface for proper orientation.**

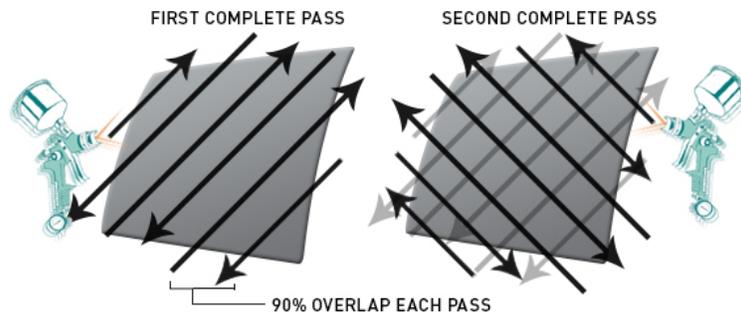
WET-BED APPLICATION:

- Reduce T490 or P990-8999 with 40% waterborne thinner (**21-23 seconds DIN #4**) and apply as a wet-bed over the entire area to be refinished.

BASECOAT 46G COLOR APPLICATION:

Spray Gun Notes:

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- **Best results are achieved by restricting spraygun fluid amount.**
 - **Completely close spraygun fluid knob, then open 1 to 1 ½ turns.**
 - **Reduce spraygun pressure to achieve thin wet coats.**
- Apply 3-4 thin wet coats of reduced 46G basecoat using an X-Pattern crosscoat technique (see below) at 90% overlap to help evenly align the leafing aluminum in a horizontal position. The X-Pattern crosscoat technique must be used with every coat.



1 coat consists of two complete passes

- Thoroughly dehydrate each layer before applying the next.
- After each coat is fully dry, tack with a *OneChoice* tack rag (part #SX1070) to remove any overspray or dust that may have settled on the surface.

Control Coat Note:

- **Do not apply a final control coat. A control coat will orient the leafing aluminum on top of the basecoat causing coarseness or increased sparkle.**

- Ensure complete dehydration of the basecoat and evaluate with a color inspection light for uniform coverage before the final clearcoat is applied.

FINAL CLEARCOAT APPLICATION:

- Mix and apply clearcoat to all repaired panels, edge to edge. The use of a PPG or *Aquabase* premium clearcoat is recommended.
 - Apply the first coat of clear as a light (tack) coat. Avoid overwetting as movement of the leafing aluminum basecoat may occur resulting in blotchiness and allow to flash for 5 minutes.
 - Apply 2 additional coats of clear using normal clearcoat application methods for the clearcoat selected.



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