

Mercedes Alubeam 047

T4705 Liquid Metal 2 Repair Process

The following process outlining the repair of Mercedes-Benz 047 Alubeam paint schemes has been approved by PPG Industries. When repairing Mercedes-Benz vehicles finished in this paint scheme, you should contact your PPG representative for full documentation on the approved product systems and processes.



DESCRIPTION:

- Mercedes-Benz 047 Alubeam is a special effect silver color which gives the paint a “Liquid Metal” appearance. Unlike a traditional metallic or pearlescence this finish appears more like “Molten Metal” that wraps the entire vehicle. Because of the minute particle size of this special pigmentation, light is reflected differently thus making this a very unique finish.
- The OEM process utilizes a specialized 4 coat system made up of a dark undercoat, followed by a sanded clearcoat, to which the tinted liquid metal is applied and then overcoated by another clearcoat layer. See the following illustration;

Final Scratch Resistant Clearcoat Layer
Tinted Liquid Metal Layer
Sanded Clearcoat
Dark Undercoat
OEM Substrate / Primer

The repair outlined in this document duplicates the OEM process as closely as possible utilizing products similar to those used at the factory.

PREPARATION OF THE SUBSTRATE:

- The damaged body work of the vehicle should be repaired using the Mercedes-Benz approved PPG repair and undercoating system for the substrate of the body panels being repaired (Aluminum, Steel and Plastic etc.).
- Finishing the repair with A-Chromatic G7, ECP17 Surfacer (product bulletin EB-100) is recommended as the ground coat.

PREPARATION OF THE COLOR CHECK PANEL:

NOTE: Due to the possible variation in color on a particular vehicle as well as application technique, it is essential that a color check panel be prepared to align the color before applying any basecoat color to the vehicle. The color check panel should be prepared as follows:

- Mix and apply a G7 sealer to the entire color check panel insuring full coverage. Allow suitable flash times between coats. Allow the sealer to completely dry then sand with P600 or finer before applying the sandable clearcoat layer.
- Mix and apply clearcoat to the entire color check panel. Two coats should be applied so that enough film build is present to allow for sanding. The use of the following PPG clearcoats are recommended:
 - EC700 ONEVISIT® Production Clearcoat, product bulletin EB-700
 - EC800 Ultra Fast 2.1 Clearcoat, product bulletin EB-800
 - EC520 **En-V**® High Production Clearcoat, product bulletin EB-520
 - EC530 **En-V** Performance Clearcoat, product bulletin EB-530
- Once the clearcoat has fully dried, remove any orange peel or texture with P1200 dry, then further refine the surface with P1000 Trizact™ wet to minimize any final scratches.

NOTE: This sanding of the clearcoat step is critical due to the leafing nature of the Liquid Metal II material. Any imperfection (dirt or sand scratches) will telegraph through to the final finish.

- Mix the ENVIROBASE® High Performance Basecoat formula for Mercedes-Benz 047 Alubeam (PPG Code 930381). The formula can be found on PAINTMANAGER® or On-Line Color.
- Reduce basecoat 50% (2 : 1 ratio) with T494 Waterborne Thinner.
- Spray gun set up used is a 1.2 mm - 1.3 mm HVLP or Compliant. This process is to be sprayed exactly as you will be spraying the vehicle to insure accurate color alignment.
- Apply first X-pattern cross coat at full legal pressure at the cap with fluid set at 1 ¼ - 1 ½ turns open and flash off until matt (using air blower).
- Apply a second X-pattern cross coat as you did the first and flash off until matt (using air blower).
- If opacity or full coverage has been achieved, proceed to the next step, otherwise apply a third X-pattern cross coat and flash off until matt (using air blower).
- Apply one double or triple mist coat at full legal pressure at the cap with fluid set at ¾ turns open and flash off until matt (using air blower). Care should be taken to apply this final basecoat layer very dry and even without any “wetting up” of the basecoat.
- Allow the basecoat to flash for 20 - 30 minutes before clear coating.
- Mix and apply GLOBAL REFINISH SYSTEM® D8126 CERAMICLEAR® Mar and Scratch Resistant Clearcoat (product bulletin EU-142) to the entire panel.

NOTE: D8126 is the Mercedes-Benz approved clearcoat for warranty repairs.

CHECK THE COLOR:

- Use the completed color check panel to evaluate the color on the car.
- If the color achieved on the color check panel is considered to be “blendable” to the car proceed to the section “GROUNDCOAT PREPARATION AND SANDABLE CLEAR APPLICATION”.
- If tinting of the color is necessary, tint utilizing toners within the original formula and prepare an additional color check panel and re-check. Continue in this fashion until a blendable match is achieved.

GROUNDCOAT PREPARATION AND SANDABLE CLEAR APPLICATION:

Preparation of the substrate is performed in the same manner as the color check panel with the exception of the blend panel. Preparation for the blend panel will require finer sanding as described below.

NOTE: It is important to achieve full coverage or opacity when repairing this Mercedes-Benz 047 Alubeam color. The use of G7, ECP17 A-Chromatic Surfacer will provide the best reference as to when full coverage has been achieved.

- Sand the G7, A-Chromatic ECP17 Surfacer (ground coat) with P600 grit or finer before applying the sandable clearcoat layer.
- Mix and apply clearcoat to the entire repaired panel. Blending of this clearcoat layer is not recommended. Apply clear “edge to edge”. Two coats should be applied so that enough film build is present to allow for sanding. The use of the following PPG clearcoats are recommended.
 - EC700 *OneVisit* Production Clearcoat, product bulletin EB-700
 - EC800 Ultra Fast 2.1 Clearcoat, product bulletin EB-800
 - EC520 *En-V* High Production Clearcoat, product bulletin EB-520
 - EC530 *En-V* Performance Clearcoat, product bulletin EB-530
- Once the clearcoat has completely dried, remove any orange peel or texture with P1200 dry then further refine the surface with P1000 Trizact wet to minimize any final scratches.

NOTE: This sanding of the clearcoat step is critical due to the leafing nature of the Liquid Metal II material. Any imperfection (dirt or sand scratches) will telegraph through to the final finish.

- Where blending of the basecoat occurs as part of the repair, the area of the panel from the basecoat blend to the edge of the panel should be finished with P3000 wet.

Envirobase HIGH PERFORMANCE CODE 047 ALUBEAM APPLICATION:

- Mix the *Envirobase* High Performance basecoat formula for Mercedes-Benz 047 Alubeam (PPG code 930381). The formula can be found on *PaintManager* or On-Line Color.
- Reduce basecoat 50% (2:1 ratio) with T494 Waterborne Thinner.
- Spray gun set up used is a 1.2 mm - 1.3 mm HVLP or Compliant. This process is to be sprayed exactly as you sprayed the color check panel to insure accurate color alignment.
- Apply first X-pattern cross coat at full legal pressure at the cap with fluid set at 1 ¼ - 1 ½ turns open and flash off until matt (using air blower).
- Apply a second X-pattern cross coat as you did the first and flash off until matt (using air blower).
- If opacity or full coverage has been achieved, proceed to the next step, otherwise apply a third X-pattern cross coat and flash off until matt (using air blower).

- Apply one double or triple mist coat at full legal pressure at the cap with fluid set at ¾ turns open and flash off until matt (using air blower). Care should be taken to apply this final basecoat layer very dry and even without any “wetting up” of the basecoat.

NOTE: If blending of the basecoat is required, apply the first X-pattern cross coat to the primed area, then extend each subsequent coat a little further into the panel using normal blending techniques. As with full panel application, care should be taken to not “overwet” the final basecoat blended edge. The final mist coat should be applied very dry and even without “wetting up” the basecoat color.

- Allow the basecoat to flash for 20 - 30 minutes before clear coating.

FINAL CLEARCOAT APPLICATION:

- Mix and apply *Global Refinish System D8126 CeramiClear* Mar and Scratch Resistant Clearcoat (product bulletin EU-142) to the entire panel.

NOTE: D8126 is the Mercedes-Benz approved clearcoat for warranty repairs.

- Apply the first coat of clear as a light coat. Avoid overwetting as movement of the Liquid Metal II material may occur resulting in blotchiness.
- Allow the first coat of clear to flash 10 – 15 minutes
- Apply as second full coat of clear.
- A third full coat of clear may be applied if necessary.
- Bake at 140°F (60°C) (metal temperature) for 30 minutes.
- If necessary and to achieve the smoothest possible final finish, sand with P1200 or finer (dry) and then re-apply the D8126 *CeramiClear* Mar and Scratch Resistant Clearcoat.



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