

KINECO**“REPAIR PROCEDURES FOR GEL-COATED PANELS”**

Sr.No.	Created By	Issue Date	Revision
1	PVN	30/11/2005	0

GENERAL GUIDELINES

Analysis of Problem:

Generally condition of Product, whether it can be repaired or not shall be analyzed by a GRP Specialist, depending on the extent of damage and also cost implication of repair.

Work Environment:

To control dust and over spray of Gel coat, the following measures are to be taken during the repair:

- Mask and cover all the unwanted area to avoid over-spray.
- Provide suitable ventilation/Exhaust system during the spray.
- Remove the masking before the Gelcoat is cured.
- Protect Gel-coated surface from dust etc. until it is fully cured.

Dust Control:

- Working tools are to be connected to Dust extraction unit, by which no grinding and trimming dust will be deposited or left on air.

Evaluation:

Repair can be carried out based on the type & complexity of defect.
Evaluation is based on:

- The Extent of the damage i.e. whether the damage is **Structural damage** or **Aesthetical damage**.

- If the damage is Structural damage, build thickness approximately 1.5 times of existing laminate and the finish should be matched to the existing Surface.
- If the damage is Aesthetical damage such as scratches, resurfacing the gelcoat needs to be done.




The Procedure for the repair based on the kind of defect is listed ahead.

TYPE OF DEFECT: SURFACE SCRATCHES

Tools: Buffing Machine, Buffing Pad, Sanding Block, Sanding Papers, Mixing Glass Rod, Dust Mask, Safety Glasses, Plastic cup and Cotton Cloth.

Materials: Buffing compound, Clean Water and Sanding Papers of grit no. 400 to 2000.

Procedure:-

<p>a) Mark the border of scratch area by water base marker.</p>	
<p>b) Use the Rubber block and clean water; sand the surface by wet sand paper (from paper no. 600 to 2000) to eliminate the scratches.</p> <p>c) Use a flat & even hand for sanding at curved surfaces.</p>	
<p>d) Clean the area by Clear water, Apply buffing compound and polish it by using Buffing machine. Uniformly buff the affected area, to achieve the required gloss.</p>	

TYPE OF DEFECT: SURFACE / STRESS CRACKS

Tools: Grinding Burr, Putty Knife, Orbital Sander with sand grit paper no. 180-220, Buffing Machine 4000rpm, Buffing Pads, Sanding block, measuring Cylinder, Mixing Glass rod, Dust Mask, Safety Glasses and Plastic Cup.

Materials: Gelcoat, FR Glass putty, Catalyst, Buffing Compound, Acetone, Clean Water and Sand paper grit no. 600-2000.

Procedure:

a) Paper the surface using a 80 grit size paper to abrade the topcoat. Open up the underlying layers using a grinder up to 2 mm thickness.






b) Clean the opened up area with acetone to get rid of any localized dirt particles.

c) If the crack is deep to the underlying layers, then the repair area needs to be widened to a size of 1.5 times (in depth) to the size of the stress crack, to open up the laminate. The laminate needs to be build up with product design lay up (using correct glass reinforcement + FR resin)

d) After the resin has cured sufficiently (barcol > 25), grind the surface to give a level finish.

Cont....

<p>e) Cover the affected area with catalyzed glass putty to level the surface, using a spatula.</p>	
<p>f) After the glass putty has hardened, sand & smoothen the surface using a grinding M/c with 220 & 500 grit paper to give a smooth & level finish.</p>	
<p>g) Recoat the topcoat at the correct thickness using a spray gun & catalyzed material. (gelcoat – 400 – 500 microns, resin coat 200 -250 microns)</p>	
<p>h) Abrade the affected area using orbital sand/ Rubber blocks and sand paper grit no. 1000 to 2000.</p>	

Cont....

i) Clean the area by Clear water, Apply buffing compound and polish it by using Buffing machine. Uniformly buff the affected area, to achieve the required gloss.

