

DucoraTek™ Electroplating Procedures

STEP	VOLT	OPERATION	PURPOSE/REMARK	SURFACE CHANGE
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**1. MECHANICAL PREPARATION**

1a.	N/A	Grind out	Remove debris, open pits, chamfer edges.	Round edges, no pits
1b.	N/A	Degrease	Remove all grease and oil	No visible oil
1c.	N/A	Mask	Leave 3/16" (5mm) chrome border around damage.	Masked surface
1d.	N/A	Abrasive Blast	Etch damage and 3/4" (2cm) chrome border. Removes any residue corrosion products and debris.	Matte finish. No shiny spots

**2. CHEMICAL PREPARATION**

2a.	14-18	HydraPrep I	Obtain water break surface	No change
2b.	N/A	Water rinse	Check for water breaks	No water breaks
2c.	10	HydraPrep II	Remove Oxide layer. Do not rinse. Apply HydraCap immediately	Uniform dark gray
2d.	14	HydraCap	"Hard" Bonding layer. Apply twice as long as it takes to achieve uniform color change.	Uniform light color
2e.	N/A	Water rinse	Check for water breaks. Change rinse tray or collection bottle before performing next step.	No water breaks
2f.	5	Hydrabond	"Soft" Bonding layer. Apply twice as long as it takes to achieve uniform color change.	Gold color
2g.	N/A	Water rinse	Check for water breaks. May pause after this step, if necessary.	

**3. METAL FILL**

3a.	6-9	HydraFill	Deposit fill metal as required to repair	Silver white color Visible fill build-up
3b.	N/A	Water rinse	Rinse. Remove mask. Repeat rinse.	
3c.	N/A	Dress-back	Remove collection tray. Grind flush with surface contour.	Flush white color

**4. FINISH**

4a.	N/A	Wet Abrade	Abrade the surrounding un-etched chrome surface with a red abrasive pad and distilled water.	Visible scratches on chrome surface
4b.	14-18	HydroPrep I	Place collection tray or rinse bottle. Obtain water break free surface.	No change
4c.	N/A	Water rinse	Check for water breaks	No water breaks
4d.	10	HydraPrep II	Remove oxide layer. Do not rinse. Apply HydraCap immediately.	Uniform light Blue color on abraded area
4f.	14-16	HydraCap	Allow 400 counts to accumulate on the "Ampere-Hour Meter" for every square inch of hard cap area (62 counts/cm2). Change rinse tray or collection bottle before next step. Abrade surface regularly.	Fill outline disappears, during hard cap build up.
4g.	N/A	Finish/Polish	Use grind, finish and polish belts to apply the final finish.	Cosmetic blend

**Notes:** All steps must be performed in sequence. Do not skip steps.  
Solution names are highlighted with corresponding solution color.

**HydraFill:** Tin/Silver alloy  
**HydraCap:** Nickel/Cobalt alloy  
**HydraBond:** Gold alloy

**HARD CHROME RESURFACE REPAIR PROCEEDURE**

Reference Military Specifications:  
MIL STD (SH) / NAVSEA 0900-LP-038-6010  
28 March 1989  
Brush Electroplating on Marine Machinery: Anti-Corrosion



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