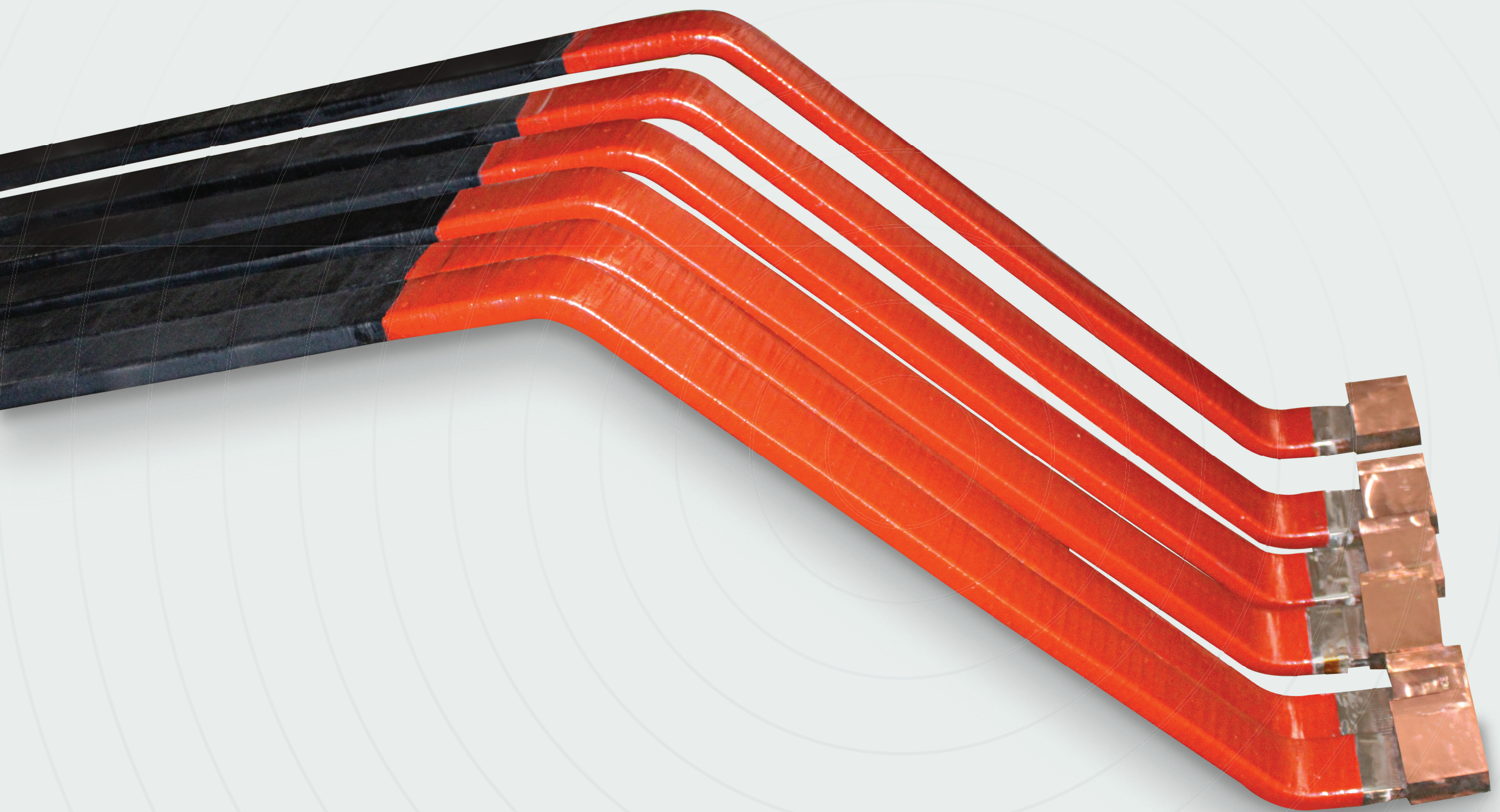


Lower Periyar



Powering Precision, Shaping Progress
60 MW Hydro VPI Bar Manufacturing Process

Project Name:

Lower Periyar – 60 MW Hydro VPI Bar

Scope of Work:

- Manufacture and supply of 300 Hydro VPI Bars
- Class F materials used
- No winding kit included

Objective:

Deliver precision-engineered bars for efficient hydroelectric performance.



Step-by-Step Precision Engineering

1. Conductor Straightening, Buffing & Cutting

- Exact enamel removal without damaging bare copper.
- Straightening unit avoids conductor twists.
- Smooth cutting using CNC-based machines.

2. Transposition (Roebel forming)

- 360-degree transposition on the slot portion ensures performance reliability.



3. Prestack Insulation (Stackpress taping)

- Micanite putty ensures a flat and uniform surface in transposition areas.

4. Pre-Consolidation (Stack press)

- Pressure and temperature applied for proper conductor alignment.
- Resin flow achieved using hydraulic systems.

5. Inter-Element Testing:

- Short-circuit identification with an inter-element tester ensures quality.



6. Bending & Shaping:

- Machine bending ensures exact contour profile in overhang portions.
- Each bar maintains a precise contour radius.

7. Brazing:

- Universal brazing kits ensure perfect lug connections.

8. Taping:

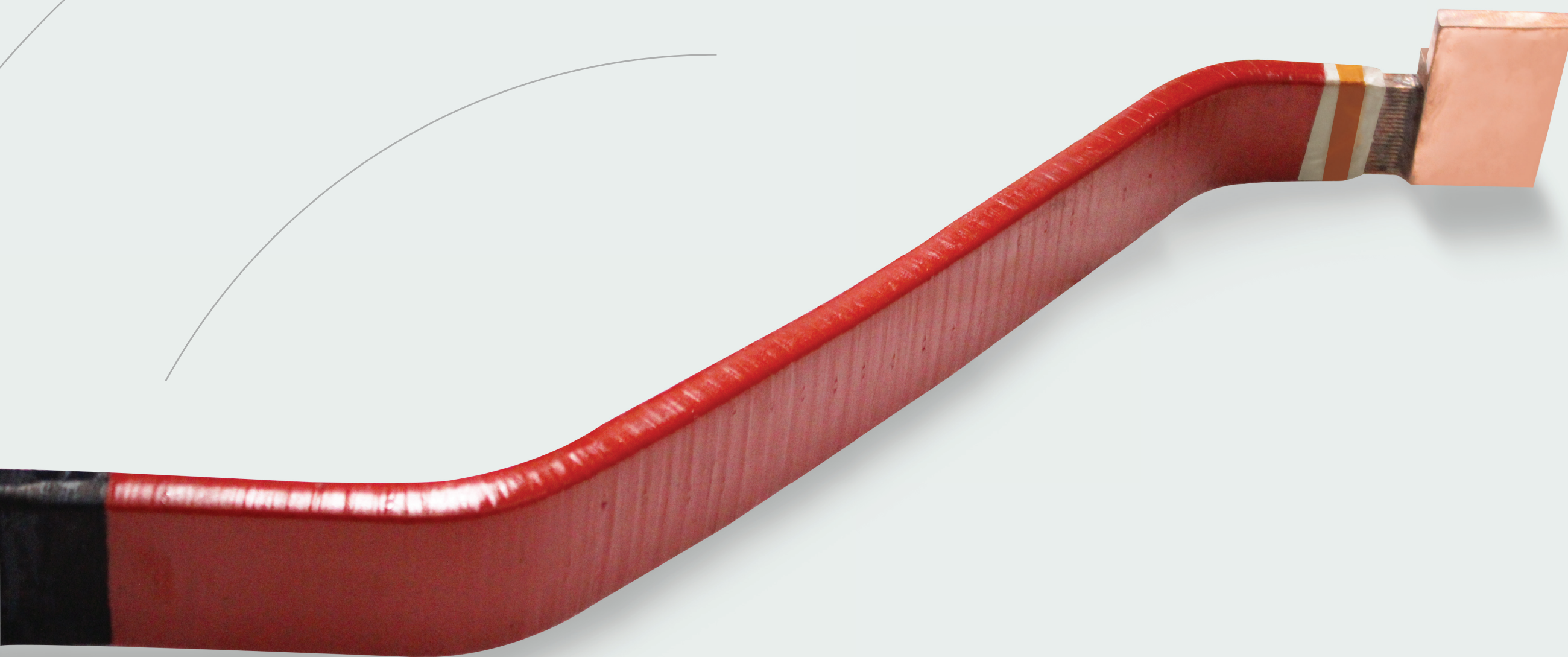
- 2-axis taping machine ensures a flawless slot and overhang winding.

Note: Each process guarantees durability, precision and efficiency for 60 MW hydroelectric turbines.



Final Quality Assurance

- Dimensional checking
- Bar resistance measurement
- Surface resistance measurement
- Insulation resistance at 2.5KV (before & after HV test)
- AC HV test at 15 KV for 1 minute
- Voltage endurance test (as per IEEE1043)
- Thermal cyclic test (as per IEEE1310)



Successful Project Completion

Coral's contribution to the Lower Periyar project reflects our commitment to precision and sustainability.

By delivering high-quality Hydro VPI Bars, we empower hydroelectric projects to achieve greater efficiency and reliability.



CORAL

A one-stop solution for your requirements.

High quality. Best Value. Real Partners.

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