Design and Drawings/documents :
Schematic G.A. and preliminary control circuit drawings are prepared with tentative list of materials & bought out components and are sent for approval to customer. Drawings are received as per comments. Thereafter detailed engineering is done, shop drawings and final list of materials are prepared. Drawings are done by highly skilled draftsmen using drawing tools like AUTOCAD, Proge Soft etc.

Construction features :

- Modular/Non-compartmentalized construction
- Panel Structure with MS CRCA/SS 304/SS326
- Single Front/Double front operated
- Provision for extensibility from both sides
- Provision of gaskets to meet IP reqts(IP42/52/54/55/65 etc.)
- Arrangement for heat dissipation by means of exhaust fan/louvers

Pre Treatment :

- Seven tank pre-treatment process of steel and other sheet steel materials after sizing and forming.
- Degreasing,/Derusting, Acid pickling, Phosphating, and Passivation followied by thorough washing with running water.

Fabrication :
Fabrication work is taken up as per drawings approved by the client. Pre-treated materials are checked for weight, thickness of sheet before taking up fabrication, thickness of all sheets are checked and sent for painting.

Painting :
Fabrication work is taken up as per drawings approved by the client. Pre-treated materials are checked for weight, thickness of sheet before taking up fabrication, thickness of all sheets are checked and sent for painting.

- Final paint shade as per IS or client specifications
- Synthetic enamel/epoxy based primer/powder coating as per customers reqts.

Bus bar arrangements and cable alleys :

- Segregated Electrical grade aluminium/copper bus bars
- Main bus bar chamber at the top or bottom
- Separate chambers for vertical droppers
- Bus system design on basis of continuous rating & Fault level
- Allowable temperature rise as per IS 8623 or as per specifications
- Bus bar support made of SMC/DMC material
- Simple design of vertical cable alleys for easy access/terminations
- Cable entry from top or bottom. Detachable gland plates are provided for cable entries

Mounting :

- Gasket are fitted after final painting and sufficient care is taken to ensure that the degree of protection is/are maintained.
- Components are mounted on the panel as per approved drawing and complete wiring is done.
- Visual inspection is carried out to check for any distortion / damage.

Identifications :

- Identification labels provided on each components
- Internal wiring with ferrules at the both ends
- Aluminium anodized labels are provided on each feeder with rating, description and Tag no.
- Identification labels are provided on bus bar chambers, cable alley, live bus bar etc.
- We use latest technology of label printing machines for labelling work

Testing :
Following tests are carried out on the assembled panel

- Polarity check of the current transformers.
- Insulation test of bus bars & power circuit by 1000V insulation tester..
- Insulation test of control circuitry by 500V insulation tester.
- Primary injection test.
- Secondary injection test.
- Sequential operation test as per circuit diagram.
- Testing of protection circuit.
- High potential test (in presence of client representatives).

Standards :
RYB manufacturing process is strictly in line with applicable national and international standards: IS standards and its equivalent IEC codes are listed below :

- IS 8623: General requirement for factory built assemblies up to 1000 Volts.
- IS 10118: Code of Practice for selection and maintenance of switchgear and control gear.
- IS 13947-2: A.C. Circuit breaker requirements - Voltage not exceeding 1000Vs Part I & II, Sec I and IEC 60947 part I & III.
- IS 2147: Degree of protection provided by enclosures for low voltage Switchgear and Control gear.
- IS 2705: Specification for current transformers.
- IS 1248: Specification for direct acting electrical indicating instruments.
- IS 3156: Voltage transformers.
- IS 3231: Relays.
- IS 13703: Specification for HRC cartridge fuse links up to 650 Volts.
- IS 6875: Control Switches / Push Buttons.
- IS 11353: Marking and identification of conductors and apparatus.
- IS 13947: part I & II - Moulded Case Circuit Breaker.
- IS 375: Arrangement for Bus bars main connection and accessories
- IS 6005: Code Of practice for Phosphating iron and steel.
- IS 5082: Wrought Aluminium & Aluminium Alloy for electrical purposes.