

SR. NO.	MATERIAL INSPECTION	CHARACTERISTICS CHECKED	TYPE OF CHECK	ACCEPTANCE NORM	TESTING AGENCY
1A	MILD STEEL FOR FABRICATION (SHEET STEEL & CHANNEL CRCA '0' GRADE)	A) Surface Finish	Visual	IS:513/1973	Electrosoft
		B) Sheet Metal Thickness	Measurement	Approved Drgs IS:513/1973	Electrosoft
		C) Dimensions	Measurement	Approved Drgs IS:513/1973	Electrosoft
1B	Busbar Support SMC/ DMC	A) Type Of Support	Visual	As per Electrosoft Automation Drgs	Electrosoft
		B) Dimensions	Measurement	As per Electrosoft Automation Drgs	Electrosoft
		C) Surface Finish	Visual	As per Electrosoft Automation Drgs	Electrosoft
		D) H.V. Test	Electrical	As per Electrosoft Automation Drgs	Electrosoft
1C	BUSBAR	A) Size & Cross Section	Measurement	Approved. Drwgs & Specifications IS : 5082/ 1897	Electrosoft
		B) Resistivity / Conductivity	Measurement	Approved. Drwgs & Specifications IS : 5082/ 1897	External Lab
		C) Tensile Strength	Mechanical	Approved. Drwgs & Specifications IS : 5082/ 1897	External Lab
1D	Hardware				
1	Bolt / Nuts / Plain Washer / Spring Washer	A) Dimensional Conformity	Mechanical	IS : 1364/3063	Electrosoft
		B) MOC SS/MS	As per drawing	IS : 1364/3063	Electrosoft

		C) Plating : Zinc / Cd	Mechanical		
1E	Draw out Contact Assembly (Power & Aux. Contacts)	A) Surface Finish	Visual	IS : 1364/3063	Electrosoft
		B) Rating Size	Visual	IS : 1364/3063	Electrosoft
1F	Paint	A) Finish (Shade) Viscosity	Visual	IS : 101/ IS : 5 & Shade no.631	Vendor
		B) Routine Test	Visual	IS : 101/ IS : 5 & Shade no.631	Vendor
		C) Tape Test	Putting Tape	IS : 101/ IS : 5 & Shade no.631	Vendor
1G	Neoprene Rubber Gasket	A) Dimensional Conformity	Visual	Internal Std.	Electrosoft
1H	Conductor / Wire	A) Verification of Cross Section make, Color Code , Grade etc.	Physical Verification / Measurement	Internal Std.	Electrosoft
		B) Thickness of Insulation	Physical Verification / Measurement	IS : 694	Electrosoft
1I	Air Ckt Breaker (ACB)	A) Verification of Current rating	Visual	Approved Drg	Electrosoft
		B) Verification of Voltage Grade	Visual	Approved Drg	Electrosoft
		C) Mounting Arrangement & Dimensions	Measurement	Approved Drg	Electrosoft
		D) Setting Of Releases	Automation	Approved Drg	Electrosoft
		E) Voltage Rating of Closing Coil / Shunt / Trip / Under Voltage	Visual	Approved Drg	Electrosoft
		F) Anti Pumping / Trip Free Feature	Automation	Approved Drg	Electrosoft
		G) Routine / Type Test	Automation / Mechanical	As per IS : 2516	Manufacturer TC

1J	Terminal for Power & Control	A) Size / Current rating	Visual	Approved Drg.	Electrosoft
		B) Connecting Arrangement	Visual	Approved Drg.	Electrosoft
1K	Air Break Switch	A) Verification Of Voltage Grade	Verification	IS : 4064 Approved Drg	Electrosoft
		B) Current Rating	Verification	IS : 4064 Approved Drg	Electrosoft
		C) Operating & Interlocking Arrangement	Verification	IS : 4064 Approved Drg	Electrosoft
1L	HRC Fuses	A) Verification of Make , current rating, rupturing current	Verification	IS : 9224	Electrosoft
1M	Protective Relays	A) Mounting Detail Setting range Aux. Contact Pos.	Physical verification	Approved Drg	Electrosoft
		B) Operation	Test	Approved Drg	Electrosoft
1 N	Air Break Contactors / Timers / Time switches	A) Mounting Detail & Mechanical operation	Physical verification	Approved Drg / IS : 2959	Electrosoft
		B) Current Rating / Make	Physical verification	Approved Drg / IS : 2959	Electrosoft
		C) No. Of Contacts	Physical verification	Approved Drg / IS : 2959	Electrosoft
1O	Current Transformer	A) Mounting Detail & Dimensions	Physical Verification	Approved Drg	Electrosoft
		B) CT Ratio , Class Of Accuracy	Test	Approved Drg	Manufacturer TC
1 P	Indicating Instruments (Voltmeter, Ammeter, Frequency, KW, KWH, Meter etc.)	A) Mounting Detail & Dimensions	Physical Verification	Approved Drg	Electrosoft
		B) Accuracy Class	Visual	Approved drg IS : 1248 IS : 2419	Manufacturer TC

		C) Routine / Type Test	Automation	Approved drg IS : 6875	Manufacturer TC
1Q	Control Switch	A) Visual	Physical verification	Approved Drg	Electrosoft
		B) Contact Rating AC / DC	Visual	Approved Drg	Electrosoft
		C) Operational Test	Functional test	Approved Drg	Electrosoft
1R	Space Heater	A) Mounting Detail	Visual / Physical inspection	Approved Drg	Electrosoft
		B) Verification of Volt / Watt Rating	Electrical test	Approved Drg	Electrosoft
1S	Indicating Light	A) Verification Of Voltage Grade	Verification	Approved Drg / IS : 4795	Electrosoft
		B) Series Resistance Value / TRF, ratio	Verification	Approved Drg / IS : 4795	Electrosoft
1T	Voltage Transformer	A) Mounting Detail & Dimensions	Measurement	Manufacturer Std	Electrosoft
		B) PT Ratio, Class of Accuracy	Visual	Manufacturer Std	Electrosoft
		C) Verification of polarity	Electrical	Manufacturer Std	Electrosoft
		D) Routine / Type test	Electrical	Manufacturer Std	Manufacturer TC
1U	Thermal Overload Relay	A) Verification of Rating & Contact Arrangement	Electrical	Approved drg	Electrosoft
		B) Current Setting	Electrical	Approved drg	Electrosoft
		C) Mounting Arrangement	Electrical	Approved drg	Electrosoft
		D) Re Setting arrangement	Electrical	Approved drg	Electrosoft
1V	MCB / MCCB	A) Verification of rating & Make	Electrical	Approved drg	Electrosoft
1W	Push Button	A) Verification of Rating & Contact Arrangement	Electrical	Approved drg	Electrosoft

		B) Mounting Arrangement	Electrical	Approved drg	Electrosoft
		C) Operational / Functional	Electrical	Approved drg	Electrosoft
	INPROCESS INSPECTION				Electrosoft
2A	PANEL FABRICATION	A) Visual check for weld, dressing, straightness & dimensional control	Physical Verification	Internal Std.	Electrosoft
		B) Checking of Frame with Std. Trolley	Physical	Internal Std.	Electrosoft
		C) Checking of Trollies with standard fixtures	Physical	Internal Std.	Electrosoft
		D) Dimensions	Process (Physical check before assembly)	Internal Std.	Electrosoft
		E) Lifting Facilities	Process (Physical check before assembly)	Internal Std.	Electrosoft
		F) Cable Entry	Process (Physical check before assembly)	Internal Std.	Electrosoft
		G) Waviness	Process (Physical check before assembly)	Internal Std.	Electrosoft
		H) Gasket Arrangement	Process (Physical check before assembly)	Internal Std.	Electrosoft
2B	PRE- TREATMENT / PAINTING	A) Pre- Treatment of sheet steel	Physical Visual	Internal Std./ IS : 6005	Electrosoft
		B) Final Painting	Physical Visual	Internal Std./ IS : 6005	Electrosoft
		- Paint Thickness	Measurement	Internal Std./ IS : 6005	Electrosoft
		- Adhesiveness	Physical	Internal Std./ IS :	Electrosoft

				6005	
		- Finish	Visual	Internal Std./ IS : 6005	Electrosoft
2C	ASSEMBLY	A) Alignment of Panel & Busbar	Physical verification	IS : 101	Electrosoft
		b) Check for Busbar Mounting			Electrosoft
		1) Tightness of Busbar Joints	Physical test by Torque Wrench	Internal Std.	Electrosoft
		2) Busbar Mounting on Insulators	Physical test by Torque Wrench	Internal Std.	Electrosoft
		3) Busbar jointing Arrangement & Overlapping	Physical test by Torque Wrench	Internal Std.	Electrosoft
		4) Busbar bending & Drilling	Physical	Internal Std.	Electrosoft
		5) Phase Identification & Clearance	Physical	Internal Std.	Electrosoft
		6) Busbar Sleeving & Colour Bends	Visual Check	Internal Std.	Electrosoft
		C) Check for CT Mounting	Physical verification	Internal Std.	Electrosoft
		1) Mounting & Adequate Supports of CT	Physical verification	Internal Std.	Electrosoft
		2) Provision for Shorting link on CT terminal	Physical verification	Internal Std.	Electrosoft
		D) Mechanical Interlocking Arrangement	Functional check	Internal Std.	Electrosoft
		E) Check for Arrangement of Gasketing & Sealing by torch test	Physical Verification	Internal Std.	Electrosoft
		F) Arrangement of Components & Terminations	Physical Verification	Internal Std.	Electrosoft

		G) Check for Interchangeability	Functional check	Internal Std.	Electrosoft
		H) Check for Smooth Movement of Trolley During Withdrawal / Insertion operation	Functional Check	Internal Std.	Electrosoft
		I) Check Trolleys for isolate test service position	Physical	Internal Std.	Electrosoft
2D	WIRING	A) Proper Wire Clamping	Visual	Internal Std.	Electrosoft
		B) Continuity & Ferruling as per wiring diagram	Visual / test	Internal Std.	Electrosoft
		C) Proper crimping of lugs / connections tightening at terminals & components	Visual / test	Internal Std.	Electrosoft
3A	FINAL INSPECTION	A) Verification of Component, Rating, Arrangement as per GA Drg make	Physical Verification	Approved Drg IS : 8625/ IS : 4237/ IS : 2127	Electrosoft
		B) Mounting Arrangement of name plate covers interchangeability of Modules	Physical Verification	Approved Drg IS : 8625/ IS : 4237/ IS : 2127	Electrosoft
		C) Wiring Cubicle & Ckt. Function test , operation of indicating instruments wiring completeness	Physical Verification	Approved Drg IS : 8625/ IS : 4237/ IS : 2127	Electrosoft
		D) Continuity test	Routine test	Approved Drg IS : 8625/ IS : 4237/ IS : 2127	Electrosoft
		E) HV / IR Test on both Power / Control Ckt	Routine test	Approved Drg IS : 8625/ IS : 4237/ IS : 2127	Electrosoft

		F) Phase Indication	Visual	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		G) Check for Busbar clearance , Tightness pf Automation / mechanical interlock	Visual / Physical verification of torque wrench	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		H) Degree of protection by insertion of thin paper / light test	Test	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		I) Final Painting	Verify by vender TC	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		1) Shade	Visual	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		2) Surface Finish	Visual	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		3) Thickness	Verify by vender TC	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		4) Adhesion	Physical Verification	Approved Drg IS : 8623 / IS : 4237 / IS : 2127	Electrosoft
		J) Space Heater	Visual		Electrosoft
		1) Function	Physical verification	Internal Specs	Electrosoft
		2) HV / IR test	Routine test	Internal Specs	Electrosoft
		3) Contact Resistance of D/O Components	Visual	Internal Specs	Electrosoft
		K) Degree of protection	Mechanical	Internal Specs	Electrosoft
		L) Temp. Rise Test	Electrical	Internal Specs	Test Certificate
		M) Short Circuit Test	Electrical	Internal Specs	Electrosoft