

MANUFACTURER'S ADDRESS		MANUFACTURING QUALITY PLAN						PROJECT NAME						
		ITEM : CURRENT TRANSFORMER VOLTAGE CLASS - UPTO 230 kV			QP NO :	REV.NO. :	DATE :				PAGE : 1 OF 4			
SL. NO.	COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK			REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	INSPECTION AGENCY			REMARKS
					M	C	N				M	C	N	
1	2	3	4	5	6			7	8	9	10			11
1.0	Bought out items													
1.1	Insulation Paper	1 Visual	Major	Visual	100%	1 sample	1 sample	Free From Damage	Free From Damage	In-House TC	P	V	V	Sub Supplier Test Certificate (STC) shall be provided during final inspection at our works
		2 Dimension Thickness	DO	Measure	1 sample/ lot	-	-	As per Mfg. Std / IS : 9335 PART-3	As per Mfg. Std / IS : 9335 PART-3	STC	V	-	-	
		3 Grammage	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		4 Tensile Strength	DO	Test	DO	-	-	IS : 9335 PART-3	IS : 9335 PART-3	DO	V	-	-	
		5 Elongation at Break	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		6 Conductivity of aq. Extract	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		7 Ph of aq. Extract	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		8 Ash Content	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		9 Moisture Content	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
1.2	Supper Enamellod Copper wire	1 Dimension	Major	Measure	1 sample/ lot	-	-	IS 13730	IS 13730	STC	P	-	-	
		2 Elongation	DO	Test	DO	1 sample	1 sample	DO	DO	DO	V	V	V	
		3 Springness	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		4 Flexibility & adherence	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		5 Resistance to abrasion	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		6 Resistance Measurement	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		7 Heat Shock Test	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		8 Cut Through Test	DO	Test	1 sample	-	-	IS 13730	IS 13730	STC	V	-	-	
		9 Breakdown Voltage	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
1.3	Porcoiain Insulator	1 Visual Examination	Major	Visual	100%	1 sample	1 sample	Free From Damage	Free From Damage	STC	P	V	V	
		2 Dimension	DO	Measure	1 sample/ lot	-	-	As per Drg. / Mfg Std. IS 5621	As per Drg. / Mfg Std. IS 5621	DO	V	-	-	
		3 Electrical Routine Test	DO	Test	DO	-	-	IS 5621	IS 5621	DO	V	-	-	
		4 Porosity Test	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
		5 Temperature Cycle Test	DO	DO	DO	-	-	DO	DO	DO	V	-	-	
1.4	Tank & Tank Cover	1 Visual	Major	Visual	100%	-	-	Free from Damage	Free from Damage	In-House TC	P	-	-	
		2 Dimension	DO	Measure	1 sample/ lot	-	-	As per Drawing	As per Drawing	DO	P	-	-	
		3 Leakage Test	DO	Test	100%	-	-	Leakage Check at 30 P.S.I	No Leakage at 30 P.S.I	STC	V	-	-	
MANUFACTUER SEAL			LEGEND :- * M : MANUFACTURER / SUB- SUPPLIER, C : CONTRACTOR, N : CUSTOMER , " P " PERFORM " W " WITNESS AND " V " VERIFICATION , "P.C.C" PROCESS CONTROL CARD . " STC " SUB SUPPLIER TEST CERTIFICATE "P.O." PURCHASE ORDER											
SIGNATURE									REVIEWED BY	APPROVED BY	APPROVAL SEAL			

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1.5	Nitrile butyle Rubbar O Ring	1 Visual 2 Dimension 3 Hardness 4 Tensile Strength 5 Elongation at Break % 6 Compression Set at 70°C	Major DO DO DO DO DO	Visual Measure Test DO DO DO	100% 1 sample/ lot DO DO DO DO	1 sample - - - - -	1 sample - - - - -	Free from Damage As Per Drg. / Mfg.Std. IS : 3400 DO DO DO	Free from Damage As Per Drg. / Mfg.Std. IS : 3400 DO DO DO	In-House TC STC DO DO DO	P V V V V V	V - - - - -	V - - - - -	
1.6	Core (CRGO)	1 Dimension 2 Surface defects 3 Magnetising characteristics	Major DO DO	Measure Visual Test	1 sample/ lot 100% DO	- - 1 sample	- - 1 sample	As per Dwg. / P.O. Free From Damage As per Dwg. / P.O.	As per Dwg. / P.O. Free From Damage As per Dwg. / P.O.	In-House TC DO DO	P P P	- - V	- - V	V
1.7	S.R.B.C Gasket	1 Visual 2 Dimension 3 Hardness 4 Tensile Strength 5 Compressibility 6 Compression Set at 110°C for 24 hours	Major DO DO DO DO DO	Visual Measure Test DO DO DO	100% 1 sample/ lot DO DO DO DO	1 sample - - - - -	1 sample - - - - -	Free from Damage As Per Drg./ Mfg. Std. IS : 4253 DO DO DO	Free from Damage As Per Drg./ Mfg. Std. IS : 4253 DO DO DO	In-House TC STC DO DO DO	P V V V V V	V - - - - -	V - - - - -	
1.8	Insulating Oil	1 Appearance 2 Density at 29.5 °C 3 Kinematic viscosity 4 Interfacial tension at 27 °C 5 Flash Point 6 Pour Point 7 Neutralization Value 8 Water Content ,ppm 9 Corrosive Sulpher 10 Electrical Strength (B.D.V.) K.V.(rms) 10 Dielectric dissipation factor (tan delta) 11 Specific resistivity a) at 90 ° C b) at 27 ° C	Major DO DO DO DO DO DO DO DO DO DO DO	Visual Test DO DO DO DO DO DO DO DO DO DO	100% 1 Sample / Chamber DO DO DO DO DO DO DO DO DO DO	- - - - - - - - - - - -	- - - - - - - - - - - - 1 Sample / Chamber 1 Sample 1 Sample 1 sample	IS 335 : 1993 DO DO DO DO DO DO DO DO DO DO	Oil shall be clear & Transparent IS 335 : 1993 DO DO DO DO DO DO DO DO DO DO	STC DO DO DO DO DO DO DO DO DO DO	V V V V V V V V V V V	- - - - - - - - - - - V V V	- - - - - - - - - - - V V V	
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					M	C	N				M	C	N	
1	2	3	4	5	6			7	8	9	10			11
2.0	IN PROCESS CHECK													
2.1	Secondary Winding	1 Accuracy Test (Wound core) 2 over Voltage Interturn Test 3 Resistance Measurement 4 Turn Ratio for PS Core 5 Exciting Current Measurement 6 Measurements of ISF 7 Kneepoint Voltage Test 8 Power Frequency withstand Test for 1 min.@ 3 K.V. rms	Major DO DO DO DO DO DO DO	Test DO DO DO DO DO DO DO	100% DO DO DO DO DO DO DO	- - - - - - - -	- - - - - - - -	IS 2705 DO DO DO IS 2705 DO DO DO DO	IS 2705 DO DO DO IS 2705 DO DO DO DO	P.C.C. DO DO DO DO DO DO DO DO	P P P P P P P P	- - - - - - - -	- - - - - - - -	
2.2	Base & Tank Assembly	1 Pressure test on complete assembly at 10 p.s.i. for 8 hrs 2 Visual Inspection & Fitment of Secondary Terminals 3 Fitment of Primary Terminal 4 Fitment of Insulator	Major DO Major DO	Measure Visual Physical DO	100% DO 100% DO	- - - -	- - - -	Leakage check at 10 P.S.I As per App. Dwg. As per App. Dwg. DO	No Leakage As per App. Dwg. As per App. Dwg. DO	P.C.C. DO DO DO	P P P P	- - - -	- - - -	
2.3	Vaccum Drying & Oil Impregnation	1 Temperature of Oven 2 Vaccum Leakage 3 Measurement of Water in Vapor Condenser 4 Oil Test A) Tan Delta B) B.D.V C) PPM D) Specific Resistivity	Major DO DO DO	- Test DO Test	Hourly Reading 6 Hourly DO For every charge	- - - -	- - - -	W I / VAC / 7.5.1/ 02 W I / VAC / 7.5.1/ 02 W I / VAC / 7.5.1/ 02 IS 335 : 1993	90 - 100 deg.C No Leakage No water for 6 hours in vapor IS 335 : 1993	LOG BOOK DO DO DO	P P P P P P P P	- - - -	- - - -	

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1	2	3	4	5	6			7	8	9	**	10	N	11
3.0	Final Testing (ROUTINE & ACCEPTANCE TEST)													
	1 Visual & Dimension Check		Critical	Test	1 Sample / Lot	1 Sample / Lot	1 Sample / Lot	Approved Drawing	Approved Drawing	Test Report	P	W	W	
	2 Verification of Terminal marking Polarity		DO	Measure	100%	100%	100%	IS 2705	IS 2705	DO	P	W	W	
	3 Accuracy Test a) Ratio & Phase angle error b) Turn Ratio for PS core		DO	Test	DO	DO	DO	DO	DO	DO	P	W	W	
	4 Knee point Voltage Measurement		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
	5 Exciting current measurement		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
	6 Secondary winding resistance Measurement		DO	DO	DO	DO	DO	IS 2705	IS 2705	Test Report	P	W	W	
	7 P.F. Test on Primary winding for 1 min.		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
	8 P.F. Test on Secondary winding for 1 min.		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
	9 Over Voltage Inter turn test		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
	10 Partial Discharge Test		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
	11 Measurement of Capacitance & Tan delta		DO	DO	DO	DO	DO	DO	DO	DO	P	W	W	
4.0	Packing & Dispatch													
	1 Check for Proper Packing		Major	Physical	100%	-	-	As per Plant Std.	As per Plant Std.	-	P	-	-	
	2 Preparation of Invoice		DO	DO	DO	-	-	-	-	-	P	-	-	

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