

Inspection and Test Plan for Power Transformer								
No.	Inspection and Test Plan	Reference Document	Acceptance Criteria	Verifying Document	Activity By			Remark
					Manuf.	TPI	Client	
1	Pre-Inspection Meeting	Spec.	Spec.	MOM	H	H	H	-
Before Manufacturing								
2	DWG, Design, Calculation Document	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	DWG, Calculation book	H	R	A	-
3	WPS&PQR	ASME IX	ASME IX	Welding Book	H	R	A	-
4	Welder Qualification Certificates	ASME IX	ASME IX	Certificates	H	R	-	-
5	NDT procedures	ASME V	ASME V	Procedures	H	R	A	-
6	NDE Personnel Certificates	ASME IX	ASME IX	Certificates	H	R	-	-
7	Power Transformer Winding Resistance Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
8	Power Transformer Winding Ratios Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
9	Power Transformer Temperature Rise Test - Type Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	

10	Power Transformer Load Loss Test (Copper Loss)- Type Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
11	Power Transformer No Load Loss Test (Iron Loss)- Type Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
12	Power Transformer Efficiency –Type Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
13	Power Transformer Induced Overvoltage Withstand Test (Overpotential Test) Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
14	Power Transformer Dielectric Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
15	Power Transformer Separate Source Voltage Withstand Test Procedure	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
16	Power Transformer Ancillaries Test	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA	Procedure	H	R	A	
17	Painting Procedure	SSPC	SSPC	Procedure	H	R	A	
Materials								
18	Raw Material Inspection	ASTM	ASTM	Original Material Certificates	H	H	-	-

19	Review of Certificates	ASTM	ASTM	Certificates	H	H	-	-
20	Material Identification	ASTM	ASTM	Report	H	H	-	
During Fabrication								
21	Fabrication Inspection	DWG/Spec	DWG/Spec	Report	H	SW	-	
22	Welding Inspection for Required Welding Components	WPS	WPS	Report	H	SW	-	
23	Inspection for Outline Dimensions, Interface Dimensions and Clearances and other Specified Dimensions	DWG/Spec	DWG/Spec	Report	H	SW	-	
24	Inspection to confirm all Instruments, Terminal Boxes, Compartments, Control Switches etc. are Correctly Rated and are Correctly Located, with Specified Labeling	Procedure	Procedure	Report	H	SW	-	
25	Power Transformer Winding Resistance Test	Procedure	Procedure	Report	H	SW	-	

26	Power Transformer Winding Ratios Test	Procedure	Procedure	Report	H	SW	-	
27	Power Transformer Temperature Rise Test - Type Test	Procedure	Procedure	Report	H	H	-	
28	Power Transformer Load Loss Test (Copper Loss)- Type Test	Procedure	Procedure	Report	H	H	-	
29	Power Transformer No Load Loss Test (Iron Loss)- Type Test	Procedure	Procedure	Report	H	H	-	
30	Power Transformer Efficiency –Type Test	Procedure	Procedure	Report	H	H	-	
31	Power Transformer Induced Overvoltage Withstand Test (Overpotential Test)	Procedure	Procedure	Report	H	H	-	
32	Power Transformer Dielectric Test	Procedure	Procedure	Report	H	H	-	
33	Power Transformer Separate Source Voltage Withstand Test	Procedure	Procedure	Report	H	H	-	
34	Power Transformer Ancillaries Test	Procedure	Procedure	Report	H	H	-	
Final Inspection								

35	Final Visual & Dimensional Check	DWG	DWG	Report	H	H	-	-
36	Surface Preparation and Painting Inspection	Procedure	Procedure	Report	H	W	-	
37	Check of Final Book	Spec.	Spec.	DWG/ P.O	H	R	-	
Documentation								
38	Inspection Reports	Spec./DWG	Spec./DWG	Report	H	R	-	-
39	NCR	Spec./DWG	Spec./DWG	Report	H	R	-	-
40	Review Final Data Report	Spec./DWG	Spec./DWG	Report	H	R	-	-
Pre-Shipment Inspection								
41	Preservation and Packing	Spec.	Spec.	Report	H	H	-	-
42	Marking	Spec.	Spec.	Report	H	H	-	-
43	Loading Inspection	Spec.	Spec.	Report	H	H	-	-
44	Shipping Document Control	Procedure	Spec.	Packing List	H	H	-	-

Abbreviations:

H: Hold Point = Hold on the production till TPI Inspector performs inspection and supervise the required test

W: Witness Point = Manufacture shall notify client and TPI Inspector but there is no hold on the production; Client can waive this inspection based on his discretion and informs TPI Inspector accordingly.

R: Document Review = Review means Review document, which includes of material test certificates, WPS, PQR, NDT Procedures and etc.

A: Approval

SW: Spot Witness = for items with spot witness manufacture shall notify TPI inspector as fulfilling the monitoring; For example one random visit for whole UT tests or one or two visits for whole surface preparation works for painting.

MOM: Minute of Meeting

www.inspection-for-industry.com

P.O: Purchase Order

for more information review following articles:

<http://www.inspection-for-industry.com/third-party-inspection-for-power-transformer.html>

<http://www.inspection-for-industry.com/inspection-and-test-plan-for-power-transformer.html>