

Inspection and Test Plan for Centrifugal Pump

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	API 610	API 610	DWG, Calculation book	H	R	A	-
3	WPS&PQR	ASME	ASME IX	Welding Book	H	R	A	-
4	Welder Qualification Certificates	ASME	ASME IX	Certificates	H	R	-	-
5	NDT procedure	ASME	ASME V,VIII, IX	Procedures	H	R	A	-
6	NDE Personnel Certificates	ASME	ASME V	Certificates	H	R	-	-
7	PWHT Procedure (if needed)	API 610/ASME	API 610/ASME	Procedure	H	R	A	-
	Centrifugal Pump Impeller Dynamic Balance Test Procedure	API 610	API 610	Procedure	H	R	A	
9	Centrifugal Pump Performance Test Procedure	API 610	API 610	Procedure	H	R	A	-
10	Centrifugal Pump Mechanical Running Test (if specified)	API 610	API 610	Procedure	H	R	A	-
12	Casing Hydro Static Test Procedure	API 610/ASME VIII	ASME VIII/API 610	Procedure	H	R	A	-

13	Painting Procedure	Spec.	Spec.	Procedure	H	R	A	-
Materials								
14	Material Certificates	ASME II/ASTM	ASME II/ASTM	Original Material Certificates	H	R	-	-
15	Material Identification	ASME II/ASTM	ASMEII/ASTM	Report	H	W	-	-
16	Visual, Dimension and Marking Control	ASME II/ASTM	ASME II/ASTM	Report	H	W	-	-
During Fabrication								
	Casing Visual Inspection for damage	API 610	API 610	Report	H	W	-	
	Casing Dimensional Check to Drawing Requirements	DWG/API 610	DWG/API 610	Report	H	W	-	
	Casing Visual Examination of Welded on Connections	ASME/API 610	ASME/API 610	Report	H	W	-	
	Casing Confirmation of Satisfactory NDE	ASME/API 610	ASME/API 610	Report	H	W		
	Casing Hydrostatic Testing	Procedure/API 610	Procedure/API 610	Report	H	H	-	
22	Impeller Visual and Dimensional Inspection	DWG/API 610	DWG/API 610	Report	H	W	-	-
17	Impeller Confirmation of Satisfactory NDE	ASME/API 610	ASME/API 610	Report	H	W	-	-
18	Impeller Dynamic Balance Test	Procedure/API 610	Procedure/API 610	Report	H	H	-	-
19	Centrifugal Pump Assembly inspection	DWG/API 610	DWG/API 610	Report	H	SW	-	

20	Wear Ring Clearances Control	DWG/API 610	DWG/API 610	Report	H	W	-	-
21	Centrifugal Pump Performance Test (If specified)	Procedure/API 610	Procedure/API 610	Report	H	H	-	-
23	Centrifugal Pump NPSH Test	Procedure/API 610	Procedure/API 610	Report	H	H	-	-
30	Centrifugal Mechanical Running Testing (If specified)	Procedure/API 610	Procedure/API 610	Report	H	H	-	-
31	Centrifugal Pump Strip Down Inspection (If specified)	Procedure/API 610	Procedure/API 610	Report	H	H	-	-
Final Inspection								
33	Final Visual & Dimensional Check	DWG/Spec.	DWG	Report	H	H	-	-
34	Surface Preparation and Painting	Procedure	Procedure	Report	H	W	-	-
35	Check of Name Plate	DWG	DWG	-	H	H	-	-
36	Check of Final Book	-	Spec.	DWG/ P.O	H	R	-	Submitted by
Documentation								
37	Inspection Reports	Spec./DWG	Spec./DWG	Report	H	R	-	-
38	NCR	Spec./DWG	Spec./DWG	Report	H	R	-	-
39	Review Final Data Report	Spec./DWG	Spec./DWG	-	H	R	-	-
Pre-Shipment Inspection								

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40	Preservation and Packing	Spec.	Spec.	Report	H	H	-	-
41	Marking	Spec.	Spec.	Report	H	H	-	-
42	Loading Inspection	Spec.	Spec.	Report	H	H	-	-
43	Shipping Document Control	Procedure	Spec.	Packing List	H	H	-	-
auxiliary equipment such as lube oil system, filter, strainer, piping, steel structure and etc. are not included to this ITP								

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

P.O: Purchase Order

for more information review following articles:

<http://www.inspection-for-industry.com/third-party-inspection-for-centrifugal-pump.html>

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

<http://www.inspection-for-industry.com/factory-acceptance-test-for-centrifugal-pump.html>