


Vendor:		Contractor:	Owner/Purchaser:
	Inspection and Test Plan (ITP)		
	Vendor's Doc. No.:		



DE		EXT			
Eng. Phase		Purpose Of Distribution (POD)		Purpose Of Issue (POI)	
Rev.	Date	Description	Prepared by	Checked by	Approved by



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ITEM NO.	QUALITY VERIFICATION ACTIVITY	REFERENCE PROCEDURE/ DOCUMENT	ACCEPTANCE CRITERIA	VERIFYING DOCUMENTS	INSPECTION POINT		
					FPA	OWNER/TPI	Contractor

NOTE:

1. Description of Inspection Points

HOLD POINT (HP)

The designated feature shall to be witnessed by OWNER INSPECTOR. Vendor/manufacturer is to notify Project quality coordinator two weeks prior to performing the designated feature. Activities do not proceed until the continuation of work is permitted by Project Quality coordinator or waived in writing by him ("inspection waiver").

WITNESS POINT (WP)

The designated feature is to be witnessed by OWNER INSPECTOR. Vendor/manufacturer is to notify Project quality coordinator two weeks prior to performing the designated feature. If the INSPECTOR fails to be present, activities may proceed without witnessing or waiving of the inspection as will be decided by Project quality coordinator.

RANDOM INSPECTION (RI)

The inspection of the designated feature will take place during inspection visits as a standard performance. Vendor/manufacturer does not have to notify Project quality coordinator prior to performing the designated feature. Activities may proceed without witnessing or waiving by Project quality coordinator

REVIEW DOCUMENTATION (RD/RA)

Documentation will be reviewed & approved by Project Engineering team or INSPECTOR depend the nature of documents (refer to RFD form in order to find that documents which shall be reviewed & approved by Project engineering team and/or inspector).

2. Abbreviations

FPA

FARNIKAN PARS AVIN COMPANY

LEGEND:

HOLD POINT(HP)

WITNESS POINT(WP)

RANDOM INSPECTION(RI)

REVIEW DOCUMENTATION(RD/RA)



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1 Before Fabrication							
1-1	Review & Approval of Documents	<ul style="list-style-type: none"> - Drawing - Strength Calculation - Inspection & Test Plan - Welding Procedure (WPS,PQR,Welding Map & NDT Map) - Welders Performance Qualification - PWHT Procedure (if Any) -Hydrostatic Test Procedure -Painting Procedure -Packing, Marking And Shipping Procedure - NDT Procedure, ... 	Vendor Print Index & Schedule ASME Sec. V ASME Sec. VIII. Div.1 ASME Sec. IX Project Specification	Vendor Print Index & Schedule	HP		-
1-2	Pre-Inspection Meeting (PIM)	Pre-Inspection Meeting (PIM)	PO NO : Pre-Inspection Meeting Agenda	Minutes of Meeting	HP		
2 Material Inspection & Components							
2-1	Material Receiving Inspection of Pressure Retaining Parts (Plate, Flange, Pipe,...)	<ul style="list-style-type: none"> - Check of Material Test Certificate(MTC) a. Confirmation of Heat No. b. Chemical properties c. Mechanical properties d. Other tests (NDE, Simulation Impact, etc.- if any) 	ASME Sect. II MTC Fabrication Drawings	ASME Sect. II Part A Certificate Type : EN10204 Type 3.1	Material Identification Report	HP	
2-2	Material Identification	<ul style="list-style-type: none"> - Material Identification - Visual & Dimensional Check of Material - Verify Transfer of Identification 	ASME Sect. II MTC/Lab. Result Fabrication Drawings	ASME Sect. II Part A Certificate Type : EN10204 Type 3.1	Material Identification Record	HP	
2-3	Welding Consumable Control	Check of Welding Material	WPS & PQR ASME Sec. II, Part C	WPS & PQR ASME Sec. II, Part C	-	HP	
2-4	Inspection of Components	- Visual & Dimensional Inspection of Tube,Tubesheet,Baffle, Forged Disk & Ring,...	Fabrication Drawings MTC TEMA	Fabrication Drawings MTC TEMA	Material Identification Report	HP	

LEGEND:

HOLD POINT(HP)

WITNESS POINT(WP)

RANDOM INSPECTION(RI)

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3	Fabrication and Inspection of Shellside						
3-1	Transfer of Material Identification Before Cutting	Visual Inspection	ASME Sect. II Fabrication Drawings	Material Identification Record	HP		
3-2	Marking, Cutting, Rolling & Drilling of Plate (If Any)	Visual & Dimensional Inspection	Fabrication Drawings	-	HP		
3-3	Edge Preparation & Fit up Alignment Check	- For Long. & Circum. Joints - Head to Shell Joint - Nozzle Neck to Flange Joints - Visual & Dimensional Inspection	Fabrication Drawings WPS & PQR	Report	HP		
3-4	Welding Inspection	- Welding of Long. & Circum. Joints - Welding of Head to Shell Joint - Welding Nozzle Neck to Flange Joints - Visual Inspection - NDT: Full or Spot RT (Nozzle >= 10") 100% PT (If Any)	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	NDT Report	HP		
3-5	Marking & Cutting of Nozzle Opening	- Check of nozzle marking - Dimensional Inspection of Opening (Elevation/Orientation/ Opening Size)	Fabrication Drawings	-	HP		
3-6	Edge Preparation & Fit up Alignment Check	- For Nozzle to shell joints - Visual & Dimensional Inspection	Fabrication Drawings WPS & PQR	Report	HP		
3-7	Welding Inspection	- Welding of Nozzle to shell joints - Visual Inspection - NDT of Weld	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	NDT Report	HP		
3-3	Edge Preparation & Fit up Alignment Check	- Saddle/Skirt/Lug to shell welds - Visual & Dimensional Inspection	Fabrication Drawings WPS & PQR	Report	HP		
3-7	Welding Inspection	- Welding of Saddle/Skirt/Lug to shell - Visual Inspection - NDT of Weld	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	NDT Report	HP		
3-8	Final Visual & Dimensional Inspection	- Dimensional inspection: Overall length ID Check, Location of nozzle, ... Visual for completed surface of internal & external welds, ...	Fabrication Drawing ASME Sec. VIII, Div1, UW-35 TEMA Fig. F-1~F-3, Purchase Order All Vendor Procedure and QC verified test / Inspection reports / records	Report	HP		

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HOLD POINT (HP)

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4 Fabrication and Inspection of Channel

4-1	Transfer of Material Identification Before Cutting	Visual Inspection	ASME Sect. II Fabrication Drawings	Material Identification Record	HP		
4-2	Marking, Cutting & Rolling of Plate	Visual & Dimensional Inspection	Fabrication Drawings	-	HP		
4-3	Edge Preparation & Fit up Alignment Check	- For Long. & Circum. Joints- Head to Channel - Nozzle Neck to Flange Joints -Visual & Dimensional Inspection	Fabrication Drawings WPS & PQR	Report	HP		
4-4	Welding Inspection	- Welding of Long. & Circum. Joints - Welding of Head to Channel Joints - Welding Nozzle Neck to Flange Joints - Visual Inspection - NDT: Full or Spot RT(Nozzle >= 10") 100% PT (If Any)	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	NDT Report	HP		
4-5	Marking & Cutting of Nozzle Opening	- Check of nozzle marking -Dimensional Inspection of Opening (Elevation/Orientation/ Opening Size)	Fabrication Drawings	-	HP		
4-6	Edge Preparation & Fit up Alignment Check	- For Nozzle to channel joints -Visual & Dimensional Inspection	Fabrication Drawings WPS & PQR	Report	HP		
4-7	Welding Inspection	- Welding of Nozzle to channel joints - Visual Inspection - NDT of Weld	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	NDT Report	HP		
4-8	Final Visual & Dimensional Inspection	-Dimensional inspection: Overall length ID Check, Location of nozzle,... Visual for completed surface of internal & external welds,...	Fabrication Drawings ASME Sec. VIII, Div1, UW-35 TEMA Fig. F-1~F-3, Purchase Order All Vendor Procedure and QC verified test / Inspection reports / records	Report	HP		

5 Fabrication and Inspection of Bundle

5-1	Tube bundle Assembly	- Visual&dimension of tubesheet &Baffle - Baffle arrangement - Cleaning of tubesheet hole/tube end	Fabrication Drawings	Report	HP		
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HOLD POINT(HP)

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5 Fabrication and Inspection of Bundle

5-2	Tube Insertion(Insert of tube to bundle)	- Visual Inspection	Fabrication Drawings	-	HP		
5-3	Welding Inspection (Tube to Tubesheet Joints)	- Welding of tube to tubesheet Joints - Visual Inspection 100% - PT on final welds	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	Report	HP		
5-4	Tube Expanding	- Check of Expanded length	Fabrication Drawing Tube Expanding Procedure	Report	HP		
5-5	Final Visual & Dimensional Inspection	-Dimensional inspection: Overall length Baffle distance,... -Visual for weld / surface of material	Fabrication Drawings	Report	HP		
5-6	Bundle Insertion	Insert of bundle to shell	Fabrication Drawings	-	HP		
5-7	Edge Preparation, Fit up & Welding of Tubesheet to Shell/Channel	-Visual & Dimensional Inspection - Welding of tubesheet to shell/channel - NDT: UT, PT (If Any)	Fabrication Drawings NDT Procedure Welding Book (WPS, PQR, Welding Map)	Report	HP		

6 Final Inspection

6-1	Final Visual & Dimensional Inspection		ASME Sec. II Part A & C	Report	HP		
6-2	Positive Material Identification (PMI) & Ferrite Check on Weld Alloys		ASME Sec. VII, Div.1	Report	HP		
6-3	PWHT for Shell and Channel (if Any)			Report	HP		
6-4	Leak test of all reinforcing pad	Test pressure used on reinforcing pad shall be at 0.5 barg.	Fabrication Drawing	Report	HP		
6-5	Pressure Test (Hydrostatic Test) - 1st Shell Side - 2nd Tube Side		Fabrication Drawings ASME Sec. VIII, Div.1 UG-99 Hydro. Test Procedure	No Deformation & No leak Report	HP		

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6	Final Inspection						
6-6	Picking & Passivation (if Any)	Picking & Passivation Procedure		Report	HP		
6-7	Blasting & Painting Inspection(if Any)	Project Spec. & Painting Procedure		Report	HP		
6-8	Marking / Packing & Shipping	<ul style="list-style-type: none"> - Final Visual & Dimension Inspection before shipment -Name Plate Check -Spare Parts Check - Bolting and gaskets for blind flanges - N2 Purging or VCI inspection (if any) 	<ul style="list-style-type: none"> Packing & Marking Procedure Spare Part List AS-Built Drawing N2 Purging Procedure 	Packing List	HP		
6-7	Release for Shipment			Release Note	HP		
6-8	Manufacturer's Data Book	Manufacturer's Data Book		MDB	HP		

SAMPLE