



Toase-che Park Sanati Gohar Ofogh  
Petrochemical Co.  
**CONCEPTUAL, BASIC and DETAIL DESIGN  
ENGINEERING OF STYRENE PARK OFFSITE**



Document Title: Inspection Test Plan (ITP)

Document No.: EI027-DMF-VD-QC-ITP-021-R0

Rev. R0

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# STYRENE PARK OFFSITE

**Document Title:**  
**Inspection Test Plan (ITP)**

R0	29-JUL-2024	Issued for Approval	A.Parsafar	A.Shadmand	M.Heidarzadeh
<b>Rev.</b>	<b>Issued Date</b>	<b>DESCRIPTION</b>	<b>PREPARED</b>	<b>CHECKED</b>	<b>APPROVED</b>



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**REVISION RECORD SHEET**

Page	Revisions							Page	Revisions						
	R0	R1	R2	R3	R4	R5	R6		R0	R1	R2	R3	R4	R5	R6
1	X							41							
2	X							42							
3	X							43							
4	X							44							
5	X							45							
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ABBREVIATIONS USED

<b>UT:</b>	Ultrasonic Test	<b>Witness Point (W)</b>	An activity designated by OWNER, TPA and PURCHASER, which requires witnessing by OWNER, TPA and PURCHASER as the activity will be performed after proper notification has been provided. VENDOR is not obliged to hold further processing, if OWNER, TPA and PURCHASER are not available to witness the activity or does not provide the comments before the date related activity. Basis of acceptance shall be as per relevant technical specification.
<b>PT:</b>	Liquid Penetrate Test		
<b>RT:</b>	Radiographic Test		
<b>WPS:</b>	Welding Procedure Specification	<b>Hold Point (H):</b>	An activity designated by OWNER, TPA and PURCHASER in the approved ITP which requires inspection/verification and acceptance by OWNER, TPA and PURCHASER before proceeding to any further steps. VENDOR shall not perform any activities/items beyond a Hold Point without written approval by Relevant parties when obtaining prior written permission for proceeding to further steps
<b>PQR:</b>	Procedure Qualification Record		
<b>PWHT:</b>	Post Weld Heat Treatment	<b>Review / Approval</b>	RA means that documents reviewed by involved party shall be signed and stamped as reviewed and approved. Where a document is subjected to party approval, next steps of work shall not proceed until related party approved is obtained.
<b>WPQCs:</b>	Welder's performance qualification certificates		
<b>Spot witness: (SW)</b>	Inspection and witnessing an activity during presence time of the inspection in the shop for other notified R/W/H points. No notification is required.	<b>Supplier or Vendor or Manufacturer</b>	Any person, firm or business which manufactures or supplies. Materials, equipment or services for the performance of any item of WORK.



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<b>Review: R</b>	COMPANY/CONTRACTOR will verify the Inspection by Reviewing, VENDOR's inspection/test record instead of making physical inspection. It is processed through reviewing any results of inspection or test as a method of ensuring that the inspection or test .	<b>Purchase Order (PO)</b>	The documents and attachments in the which Please add Ener Technology.
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No.	Description of Inspection/Test	Applicable Specification or Procedure	Acceptance criteria	Reporting Format	Participation by			
					Vendor	Thid Part	MC	Owner
1	<b>PIM</b>	As Per Approved Procedures, Spec, Standard ,Data Sheet,	-	M.O.M	H	H	-	H
2	<b>GENERAL REQUIREMENT</b>							
2.1	All Engineering Documents & Drawings	Project Spec. / Relevant Applicable Standard/As Per Approved VPIS	Procedure & Drawing	Related Documents	H	R	R/A	R/A
2.2	All Inspection & Test Procedure				H	R		R
2.3	WPS / PQR				H	R		R
3	<b>MANUFACTURING OF HEADER BOXES</b>							
3.1	Material certificate for all pressure parts (Plate,Tube, Flange, Plug & Paint) + visual inspection	ASME II Part A& B - EN 10204 3.1	Drawing	Certificate/ Lab Result	H	R	R	R
3.2	Cutting & Marking	Approved Drawing	Drawing	Report	H	R	R	R
3.3	Primary Fit up Header Box with Stiffener /Partition Plates	ISO5817©& Drawing	Drawing	Report	H	R	S W	R
3.4	Fit up Flange to pipe and nozzle to Header Box & Visual Check of Welds	ISO5817©& Drawing	Drawing	Report	H	R	S W	R
3.5	Tube / Plug Sheet Drilling Visual and Dimensional	API 661	Drawing	Report	H	R	SW	R
3.6	Final Visual & Dimensional inspection	API 661-DIN 7168(m) & Drawing	Drawing	Report- M.O.M	H	W& R/A	H	R
3.7	Review of Radiographic Films	ASME V & VIII Div.1, As Per NDT Map & NDT	Procedure	Report/ MOM	H	R/A	R	R
3.8	UT	ASME V & VIII Div.1, As Per NDT Map & NDT Procedure	Procedure	Report/ MOM	H	W	W	R
3.9			Procedure	Report/ MOM	H	R/A	R/ A	R



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PWHT & relevant graphs.  
(and move it to row 3.9)

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	PWHT ( Stress Relieve ) +	ASME V & VIII							
3.10	Hardness Test	API 661	Standard	Report	H	R	R	R	
3.11	NDT after PWHT (PT)	<p>To be added for tube bundle: -Check of Dryness and Cleanliness and Charge With N2 -Confirmation of Tube Expanding (Check of Roller Expansion) -Name Plate Stamping (Before Attaching)</p>	Procedure	Report	H	R	R	R	
3.12	Header Sandblast & Painting inspection		Procedure	Report	H	R	SW	R	
4	<b>TUBE BUNDLE</b>								
4.1	Visual and Dimensional Check of Finned Tubes		Procedure & Drawing	Report	H	R	R	R	
4.2	Galvanizing Thickness Measurement		Procedure	MOM	H	R		R	
4.3	Final Visual and Dimensional Inspection	API 661& Drawing	Drawing	Report/ MOM	H	SW& R/A	H	R	
4.4	Hydrostatic test	API 661-ASME VIII &As Per Procedure	Procedure & Drawing	Report/ MOM	H	H	H	H	
5	<b>Steel Structure</b>								
5.1	NDT (10% PT for Fillet Welds & 100% UT For CJP Butt Welds)	<p>-Dimensional Inspection and Visual Inspection (to be added for FAN)</p>	Procedure	Report	H	SW	S	R	
5.2	Bolt & Nut Check		Procedure & Drawing	Certificate	H	SW	W	R	
5.3	Galvanizing check & Final Paint Check		Procedure	Report	H	SW		R	
5.4	Final Visual and Dimensional inspection	AWS D1.1 & DIN 7168(m)&Drawing	Drawing	Report	H	SW		R	
6	<b>Vibration Switch</b>	<b>Data Sheet</b>	<b>Data Sheet</b>	<b>Certificate</b>	<b>H</b>	<b>R</b>	-	<b>R</b>	
7	<b>Electrical</b>								
7.1	Balance test for fan blades and hubs and Shaft	<p>To be added, For Electrical motor: -Explosion Proof/Intrinsically Safe Certificates Manufacturer and Mechanical Protection Degree Certificate (If Required) -Visual And Dimensional and Name Plate Check</p>		Certificate	H	R	-	R	
8.1	Routine test		<p>Following items to be considered for Routine test: -Measurement of winding resistance (hot/cold). -High potential test (power frequency voltage test) -Overload test. -Over speed test. -Insulation test. -Bearing inspection. -Vibration Severity</p>	Sheet	Certificate	H	R	R	R
8.2	No-load test			Sheet	Certificate	H	R		R
8.3	Locked-rotor test	Sheet		Certificate	H	R		R	
9	<b>Belt &amp; Driven Pulley</b>		Sheet	Certificate/ DTT Certificate	H	R		R	
10	<b>Packing and marking for shipping -Packing list &amp; Checking of Name Plate</b>			<b>Packing List</b>	H	H	H	R	
11	<b>Release Note</b>			<b>Release Note</b>	-	H	H	R	

-Balance Test for Pully (to be added for Belt & Pulley)

motors

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12	Manufacturing data book	Project Spec.	Final Book Data	H	R/A	R/A	R
<b><i>All Inspection Notifications should be at least 2 working days before.</i></b>							

The following to be added also:

- 1- shop run in test.
- 2- Fat for one assembled bay

**Please add Type test too.**  
**and consider the following for TYPE Test:**

- Determination of starting torque
- Determination of breakdown torque
- Full-load heat run
- Determination of percent slip
- Determination of efficiencies and power factor and temperature rise at 100, 75 and 50 percent load
- Dielectric test
- Bearing temp. rise