



INSPECTION REPORT

Table with 4 columns: To, From, Attn, Report Date. Values include xxxxxxxx and Troika Inspection Service Co., Ltd

Table with 2 columns: Field Name, Value. Fields include Project No., Vendor Name, Factory Name, Factory Address, Order No. / PO No., Product description, Inspection Date.

1.0 Scope of Inspection:

(Brief description of details of inspections, tests etc. carried out/witnessed)

Table with 3 columns: Equipment description, I.T.P. line number, Inspection Activity, Results. Results column contains checkboxes for Accepted without deviation, Accepted with deviation, and Reject.

2.0 Reason for visit

The purpose of this visit is to check the status of material in work shop and witness the relative test;

3.0 Documentation used

Table with 4 columns: DOCUMENT NUMBER, REV. No., TITLE, Approval Status. Rows include ST16-00-305-00, 10001-2, TH16--ITP-LMHS-002.



ST16-00-305-00	3	Weld Procedures Specification/ Procedure Qualification Record	A
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#### 4.0 Details of inspection performed

##### 4.1 Material Status

- 4.1.1 All the plates of this PO had been received by mill.
- 4.1.2 All the formed heads of this PO had been received by mill.
- 4.1.3 All the girth/nozzle flanges of this PO had been received by mill.
- 4.1.4 All the nozzle pipes of this PO had been received by mill.
- 4.1.5 Packing metal pall ring, packing support and relevant internal part has been received by mill.

##### 4.2 Fabrication Status

- 4.2.1 All the welding /NDE had been finished by mill.
- 4.2.2 The hydro test and leakage test had been finished by mill.
- 4.2.3 The cleaning and pickling had been finished by mill.
- 4.2.4 Final inspection had been finished by mill.

##### 4.3 Inspection activity summary

###### 4.3.1 Fitting up check

-TIS inspector randomly performed fitting up check of head with skirt of item 445-01-204 (weld joint: E36), including material traceability check, gap check, misalignment check and groove preparation check, no imperfection were found, the result was acceptable according to WPS & PQR (DWG No.:ST16-00-305-00, Rev.3), ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01).

###### 4.4 Welding check

-TIS inspector randomly performed welding check of flanges pipe with shell of item 445-01-204 (weld joint: D1,D29), including welder check, welding materials check, groove preparation check and welding parameter check, no imperfection were found, the result was acceptable according to WPS & PQR (DWG No.:ST16-00-305-00, Rev.3), ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01), Dow specification G8S-6500-01(25-Jan-2016).

###### 4.5 Visual check

-TIS inspector perform visual check of vessel before hydro test and packing for item 445-01-204, including flange seal face, nameplate check, vessel surface and interior check ,no imperfection were found, the result was acceptable according to the ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01) and Dow specification G9S-1000-01 (11-APR-2013).



#### 4.6 Dimension check

-TIS inspector performed dimension check before hydro test for item 445-01-204, including main dimension of vessel and location of nozzle, no imperfection were found, the results was acceptable as note according to ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01) and Dow specification G9G-1500-01A/B(08-Apr-2014) (note: Due to mill cannot to provide favorable conditions (Level measure instrument damage and workshop power outage), the level of nozzle cannot be checked, only check the main dimension and location dimension of nozzle)

--Nozzle location issue as below, the result was unacceptable:

---Nozzle T3: The distance of flange face to center line drawing request is 408mm (+/-3mm), actual measure is 414/412mm.

---Nozzle L2: The distance of flange face to center line drawing request is 408mm (+/-3mm), actual measure is 414/412mm.

---Nozzle B3: The distance of flange face to center line drawing request is 625mm (+/-3mm), actual measure is 635/639mm.

---Nozzle H1 with Nozzle B1 (Top head) has interference after blind installation completed, mill through the removal of part of the hand hole flange, to ensure the normal installation.

#### 4.7 LPT witness

-TIS inspector witnessed LPT of weld of skirt with head, the weld of different steel and the weld of nozzle with pipe/shell of item 445-01-204, including visual check, test panel check, personnel qualification, no imperfection were found, the result were acceptable according to WPS&PQR (DWG No.:ST16-00-305-00, Rev.3), ITP (Doc No.: TH16--ITP-LMHS-002, Rev.C), Drawing (DWG No.:ST16-00-305-00, Rev.01), Code NB/T47013.5-2015 and Dow specification G8S-6500-01(25-Jan-2016).

#### 4.8 leakage witness

-TIS inspector witnessed leakage test of reinforcement pad of nozzle(A3) of item 445-01-204, including calibrated pressure gauges, test pressure, holding time, the solution of SNOOP. No leakage, no visible deformation and no abnormal noise was found, the result were acceptable as note according to ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01) and GB/T150-2011. (Note: mill stated the calibration certificate of gauges will be provided later.)

#### 4.9. Hydro test witness

-TIS inspector witnessed the hydro test of item 445-01-204, including test pressure, test medium, held time, calibrated pressure gauges and water quality certificate(Chloride), no leakage, no visible deformation and no abnormal noise was found during test, the results was acceptable as note according to ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01), GB/T150-2011 and Dow specification G8S-4001-60(19-Apr-2011)/G9S-1000-01(11-APR-2013).(Note: mill stated the calibration certificate of gauges will be provided later.)

#### 4.10 Blasting check

-TIS inspector performed blasting check of skirt of item 445-01-204 before painting, including cleanliness, roughness check, soluble chloride test (Act value: 2.4 um/cm<sup>2</sup>), no imperfection were found, the results was acceptable according ITP (Doc No.: TH16--ITP-LMHS-002, Rev. C), Drawing (DWG No.:ST16-00-305-00, Rev.01) and Dow specification G16S-0201-01(09-Nov-2009).



5.0. Result of Inspection

Accepted without deviation  Accepted with deviation  Reject

6.0. Quality Records reviewed and attached:

- Raw Material certificate
- Hydro test report
- Leakage test report
- Dimension and visual inspection report
- NDE operator certificate

7.0 Progress Status

The pressure vessel was ready for shipment if client can accept the deviation;

8.0 Next Forecasted Inspection Date:

TBA;

9.0 Attendees

- Mr. XXX supplier inspector
- Mr. XXX Vendor Inspector
- Mr. XXX TIS inspector on behalf of XXX

Any deviation & PUNCH attached : Yes <input checked="" type="checkbox"/> No, <input type="checkbox"/>	Punch No.: XXX
IRN attached : Yes <input type="checkbox"/> No, <input checked="" type="checkbox"/>	IRN No.: NA

10. Photo Report

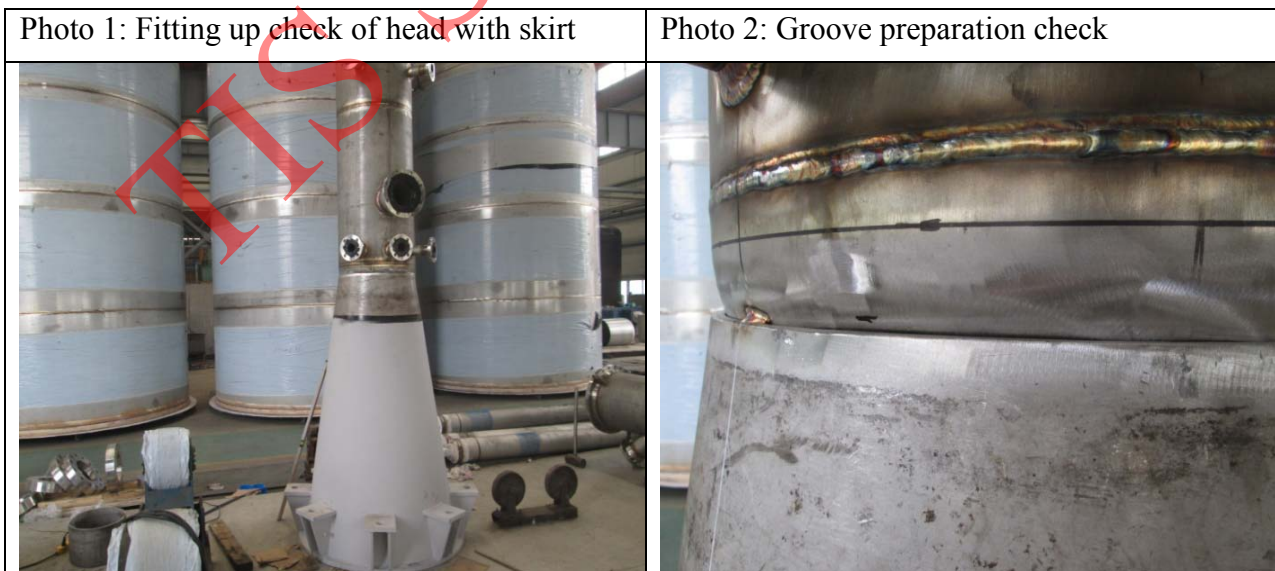




Photo 3: GTAW of flange with pipe (weld joint: B38)



Photo 4: Welding parameter check



Photo 5: Welding materials traceability check for ER308L



Photo 6: Welding materials check for ER308L



Photo 7: Visual check



Photo 8: Interior check of vessel



<p>Photo 9: Interior check of vessel</p>	<p>Photo 10: Interior check and flange face check of vessel</p>																				
																					
<p>Photo 11: Flange seal face check of nozzle</p>	<p>Photo 12: Flange seal face check of nozzle</p>																				
																					
<p>Photo 13: Nameplate check of nozzle</p>	<p>Photo 14: Location marking check</p>																				
 <table border="1"> <tr> <td>产品编号 PRODUCT NO.</td> <td>FB16-567</td> <td>设计压力 DESIGN PRESS.</td> <td>FN0.1 MPa</td> </tr> <tr> <td>产品标准 CODE</td> <td>JB/T 4730.3-2014</td> <td>设计温度 DESIGN TEMP.</td> <td>-102.22 °C</td> </tr> <tr> <td>空重 EMPTY WEIGHT</td> <td>2100 kg</td> <td>耐压试验压力 PROOF TEST PRESS.</td> <td>1.10 MPa</td> </tr> <tr> <td>容积 CAPACITY</td> <td>1.83 m<sup>3</sup></td> <td>主体材料 MAIN BODY MATERIAL</td> <td>S30403</td> </tr> <tr> <td>制造日期 FAB. DATE</td> <td>2017.1</td> <td>工作压力 WORKING PRESSURE</td> <td>0.1 MPa</td> </tr> </table>	产品编号 PRODUCT NO.	FB16-567	设计压力 DESIGN PRESS.	FN0.1 MPa	产品标准 CODE	JB/T 4730.3-2014	设计温度 DESIGN TEMP.	-102.22 °C	空重 EMPTY WEIGHT	2100 kg	耐压试验压力 PROOF TEST PRESS.	1.10 MPa	容积 CAPACITY	1.83 m <sup>3</sup>	主体材料 MAIN BODY MATERIAL	S30403	制造日期 FAB. DATE	2017.1	工作压力 WORKING PRESSURE	0.1 MPa	
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Photo 15: Main dimension check of item 445-01-204



Photo 16: Vertical alignment check



Photo 17: Vertical alignment check



Photo 18: Vertical alignment check



Photo 19: Location check of nozzle B1



Photo 20: Location check of nozzle H5

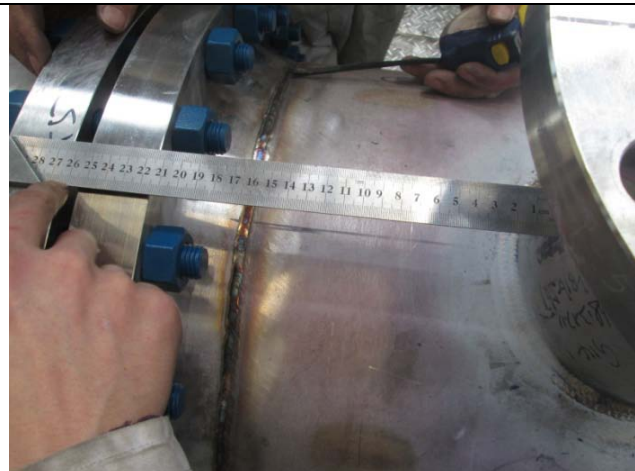




Photo 21: Location check of nozzle T3 (Out of the tolerance )



Photo 22: Location check of nozzle T3 Out of the tolerance )



Photo 23: Location check of nozzle L2 (Out of the tolerance )



Photo 24: Location check of nozzle L2 (Out of the tolerance )



Photo 25: Location check of nozzle B3 (Out of the tolerance )



Photo 26: Location check of nozzle B3 (Out of the tolerance )





Photo 27: Nozzle H1 with Nozzle B1 (Top head) has interference after blind installation completed.



Photo 28: SHTH through the removal of part of the hand hole flange, to ensure the normal installation.



Photo 29: LPT of seam of skirt with head of item 445-01-204 (weld joint: E36 and FB1)



Photo30: Test panel



Photo 31: LPT of test panel



Photo 32: LPT of seam of skirt with head of item 445-01-204 (weld joint: E36 and FB1)





Photo 33: Leakage test of reinforcement of nozzle A3



Photo 34: The solution of SNOOP



Photo 35: The calibration label of pressure gauge



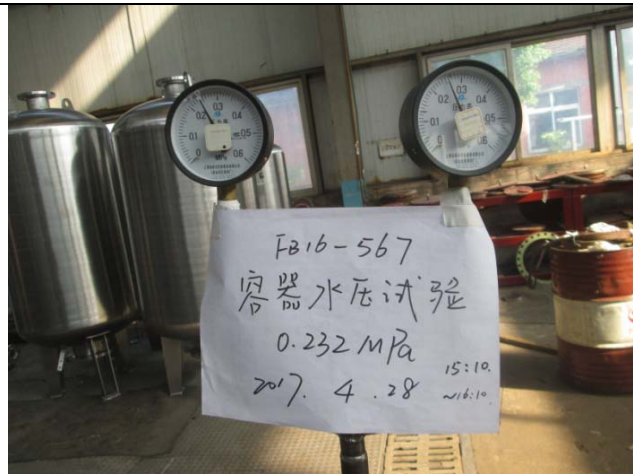
Photo 36: The calibration label of pressure gauge



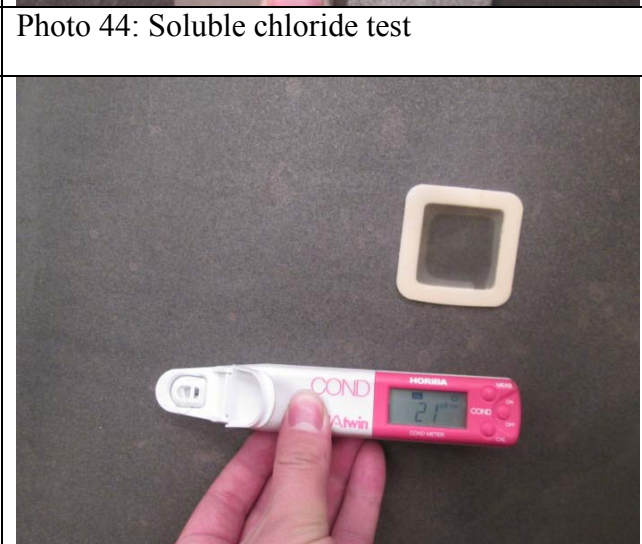
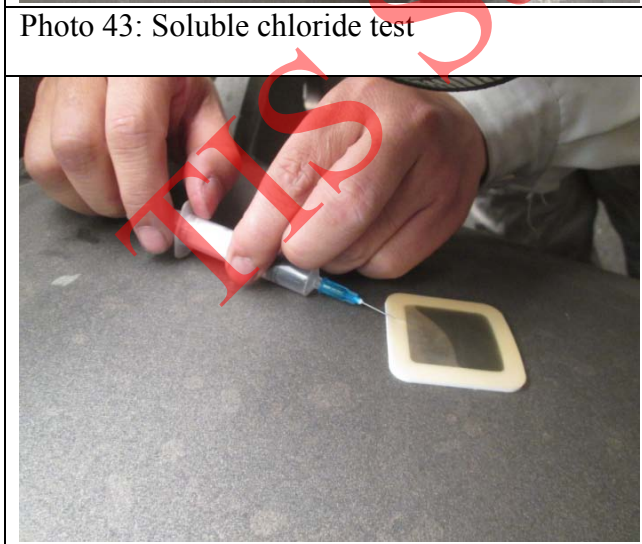
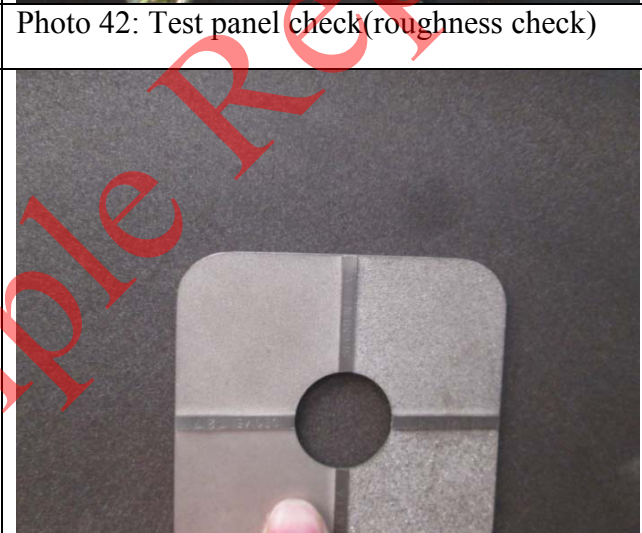
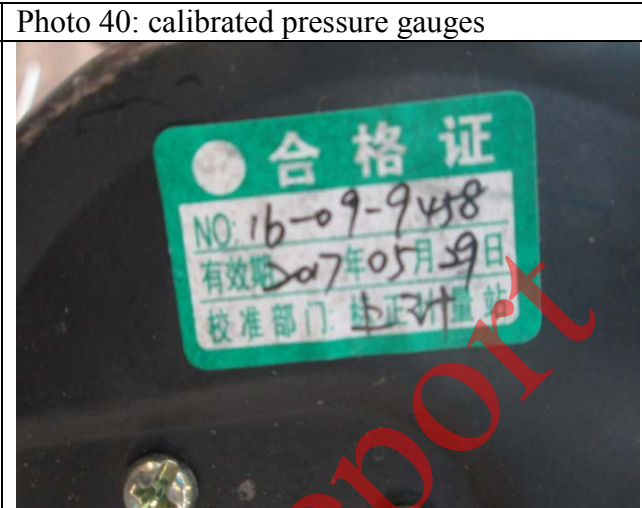
Photo 37: The hydro test



Photo 38: Test pressure









<p>Prepared by : xxxxx</p> <p>Signed: xxxxxx</p> <p>Date: xxxxx</p>	<p>Reviewed by : xxxxxxx</p>
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TIS Sample Report