

Industry & Facilities Division



## INSPECTION CERTIFICATE Nr INS-S-GZ-16-015

BV Job Nr: INS-S-GZ-16-015

**PROJECT:** Witness of Testing Process of Tube Fittings

**Ref:** INS-S-GZ-16-015

**BV Client:** FITOK GmbH

**P/o nr:**  
(client to BV)

**Manufacturer:** FITOK Incorporated

**P/o nr:**  
(client to Manufacturer)

**Inspection requested by:** FITOK GmbH

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
Tube fittings	1/4"	6pcs
	1/2"	6pcs
	3/4"	6pcs
	1"	6pcs

### Scope of inspection:

➤ Particulars: (variations to the PO, items not inspected, sampling, instruments...):

(1) BV work scope:

- ① Witness the testing process S8(Vibration test) listed in the contract and relative standards.
- ② Witness the testing process A4(Hydrostatic proof test) listed in relative standard.

(2) When BV inspector arrived at the site, the samples of testing fittings had been prepared and ready for test. Details mentioned above.

- ① BV inspector witnessed the test S8(Vibration test), and test result was found acceptable according to relevant standards. The Details refer to the ANNEX of Vibration Test Report(QSZ-16JA0080MTGC, Total 12 pages).
- ② BV inspector witnessed the test A4(Hydrostatic Proof test), and test result was found acceptable according to relevant standards. The Details refer to the ANNEX of ASTM F 1387 Test Report (FITOK-F1387TR-001, Total 55 pages)-Part of A4 Hydrostatic Proof Test.

➤ Reference documents used for inspection: (list with revision numbers):

Title	Reference n°	Rev.	Approved by	Date
Test Request Form	-	-	Manufacturer	2016-1-25
Standard Specification for Performance of Piping and Tubing Mechanically Attached Fittings	ASTM F 1387	-	ASTM	2005

➤ Place of inspection & date or period:

Inspection place: Guangzhou City, Guangdong Province, P. R. China.

Inspection date: Jan 26-Feb 25, 2016.

➤ Marking and stamping: (type and location):

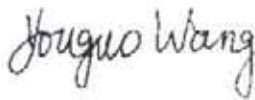
N/A

ASTM F 1387 Test Report (FITOK-F1387TR-001, Total 55 pages)  
Vibration Test Report (QSZ-16JA0080MTGC, Total 12 pages)

*The undersigned, inspector to Bureau Veritas, certifies that the hereabove mentioned supply was inspected in conformity with the applicable requirements of the purchase order and the contractual requirements governing the mission entrusted to Bureau Veritas without any remarks.*

**Inspected by:** Youguo Wang

**Checked by:** Qi Wang

Name: ... Signature:  ...



Name: ... Signature:  ...

Date of issue: 2016-02-29

**Inspection centre:** BVQS Guangzhou

Distribution:  CLIENT  MANUFACTURER


 Interim  
 Final

## INSPECTION REPORT N° INS/S-GZ-16/015

**BV Job nr:** INS/S-GZ-16/015

<b>PROJECT:</b> <i>Witness of Testing Process of Tube Fittings</i>	<b>Ref:</b> INS/S-GZ-16/015
<b>BV Client:</b> FITOK GmbH	<b>P/o nr:</b> NA <i>(client to BV)</i>
<b>Manufacturer:</b> FITOK Incorporated	<b>P/o nr:</b> NA <i>(client to Manufacturer)</i>
<b>Inspection requested by:</b> FITOK GmbH	

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
Tube fittings	1"	6 pcs
	3/4"	6 pcs
	1/2"	6 pcs
	1/4"	6 pcs

<b>DOCUMENTS OF REFERENCE</b> : See continuation sheet for additional documents: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Title	Reference n°	Rev.	Approved by	Date
Test Request Form	-	-	Manufacturer	2016-1-25
Standard Specification for Performance of Piping and Tubing Mechanically Attached Fittings	ASTM F 1387	-	ASTM	2005

<p><b>INSPECTIONS :</b></p> <p><b><u>Inspection place &amp; Date or Period:</u></b> Guangzhou Lab, Guangdong P.R.C; Jan. 26<sup>th</sup>-Feb 25, 2016</p> <p><b><u>Stage of inspection :</u></b></p> <p><input type="checkbox"/> Before manufacturing  <input type="checkbox"/> During manufacturing  <input checked="" type="checkbox"/> Final  <input type="checkbox"/> Packing</p> <p><b><u>Type of inspection:</u></b></p> <p><input type="checkbox"/> Pre-inspection meeting  <input type="checkbox"/> Document and QC record review  <input type="checkbox"/> Visual examination, checks  <input checked="" type="checkbox"/> Witnessing tests  <input type="checkbox"/> Manufacturing progress status  <input type="checkbox"/> Vendor assessment  <input type="checkbox"/> Final inspection  <input type="checkbox"/> Packing  <i>(for details see continuation sheet)</i></p> <p><b><u>Stamping :</u></b></p> <p><input checked="" type="checkbox"/> No    <input type="checkbox"/>     <input type="checkbox"/> </p>	<p><b><u>Results of inspection :</u></b> <input checked="" type="checkbox"/> Satisfactory    <input type="checkbox"/> Unsatisfactory</p> <p><b><u>Non Conformities Reports (NCR):</u></b> NCR's issued during reported period : None</p> <p>List of outstanding NCR's :</p> <p><b><u>Main Conclusions &amp; Remarks:</u></b> BV inspector inspected <u>above subjected Fittings</u> . Final inspection result is <u>acceptable</u> . - (for more details, please refer to the inspection details hereinafter)</p> <p><b><u>Next visit scheduled:</u></b> NA</p>
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## INSPECTION REPORT N° INS/S-GZ-16/015

**BV Job nr:** INS/S-GZ-16/015

### Description of the inspections carried out:

➤ Introduction (*Attendees, BV scope of work*)

Third Party Inspection for Fittings was carried out by Youguo Wang & Shouchun Tang, the inspector from Bureau Veritas Quality Service (Shanghai) Co., Ltd on Jan 26-Feb 25, 2016 in Guangzhou Lab.

**BV scope of work:**

1. Witness the test S8 (Vibration Test)
2. Witness the test A4 (Hydrostatic Proof Test)

➤ **Applicable Documents & Status of Approval** (*Type of documents reviewed & endorsed*)

as listed in "documents of reference"

➤ **Manufacturing Progress Status** (*Quantities*)

When BV inspector arrived at factory, Fittings were ready for inspection.

➤ **Details of inspection activities carried out with respect to scope of work** (*Visual examination, witnessing NDT, dimensional checks, material identification...*)

No.	BV Scope of Work	Satisfactory	Unsatisfactory	Findings
1	Vibration test witness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	/
2	Hydrostatic Proof test witness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	/

➤ **Surveillance with reference to ITP** (*Each activity elaborated in detail*)

#### 1. Vibration test witness

BV inspector witnessed the vibration test (with pressure) for the fittings of 1"/3/4"/1/2"/1/4", the test had been done according to ASTM F1387-99(2005) and relative standards, the test result was found acceptable.

Details please see the ANNEX of Vibration Test Report (QSZ-16JA0080MTGC, Total 12 pages).

#### 2. Hydrostatic Proof test witness

BV inspector witnessed the hydrostatic proof test for the fittings, the hydrostatic proof tests were performed using water at room temperature(17 degree C),by initial pressurizing the fittings at 0.690MPa, no leaks were found at MAF joints for 5 min. ; Then pressurized to required test pressure correspondingly and held for 5min, all test results are acceptable.

s/n	Description	Piping/Tubing Pressure	Req'd Test Pressure	Actual Test Pressure	Held time
1	1" Fitting 6pcs	21.1MPa(6359Psi)	31.6MPa(9539Psi)	32-33MPa	5



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## INSPECTION REPORT N° INS/S-GZ-16/015

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2	3/4" Fitting 6pcs	24.6MPa(3990Psig)	36.8 MPa(5985Psig)	37-38MPa	5
3	1/2" Fitting 6pcs	27.5MPa (3562Psig)	41.3 MPa(5343Psig)	42-43MPa	5
4	1/4" Fitting 6pcs	43.9MPa (3058Psig)	65.8 MPa(4587Psig)	66-69MPa	5

BV inspector checked used pressure gauges#L151229030/FK-T-611;#L151229028/FK-T-610;#L151229029/FK-T-613#;L151229024/FK-T-065;#L151229026/FK-T-612;#L151229025/FK-T-614,DUE DATE AT 7/12/2016.

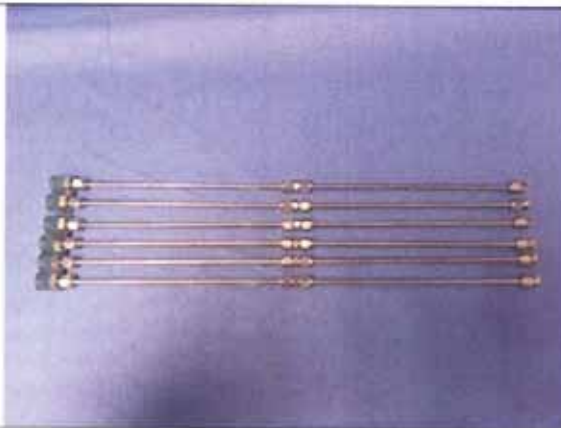
➤ **Results of Inspection** (*incl. calibration status of equipment / instruments used for the inspection / testing*)

The equipment and instruments used for the inspection was calibrated and in valid .  
 The inspection result was acceptable .

➤ **Problems pending** (*Areas of Concern, punch list...*)

None

➤ **Photos at site**



**1/4" Vibration Test (before)**



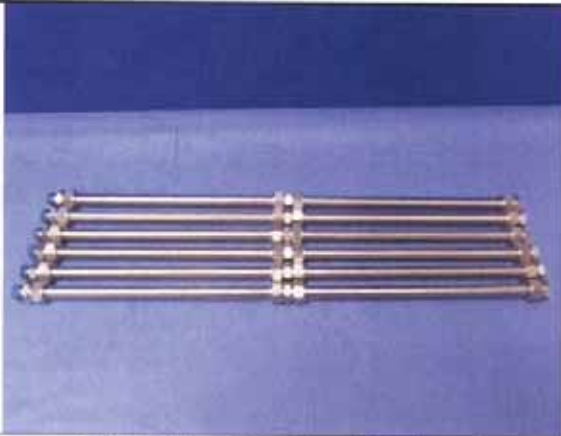
**1/2" Vibration Test (before)**



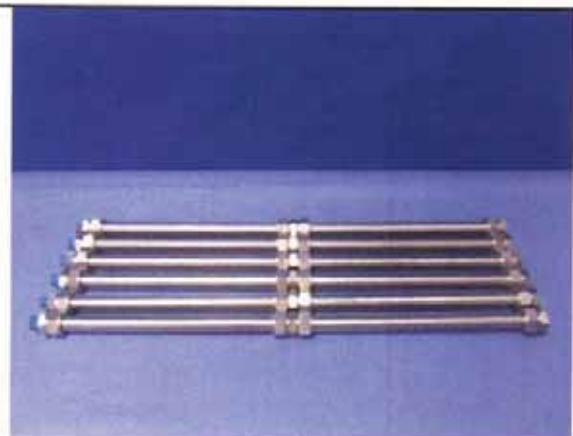
Interim  
 Final

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**3/4" Vibration Test (before)**



**1" Vibration Test (before)**



**1/4" Vibration Test (X)**



**1/2" Vibration Test (X)**



**3/4" Vibration Test (Y)**



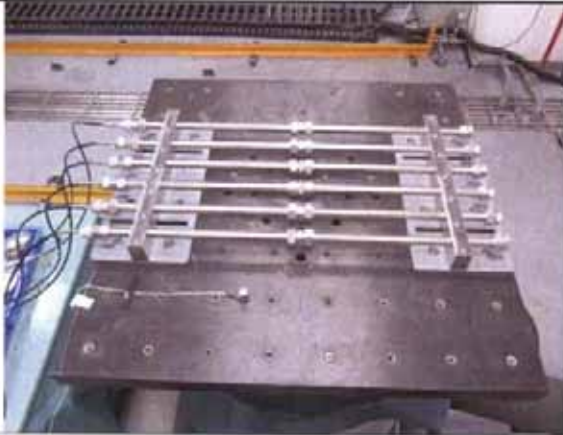
**1" Vibration Test (Z)**



Interim  
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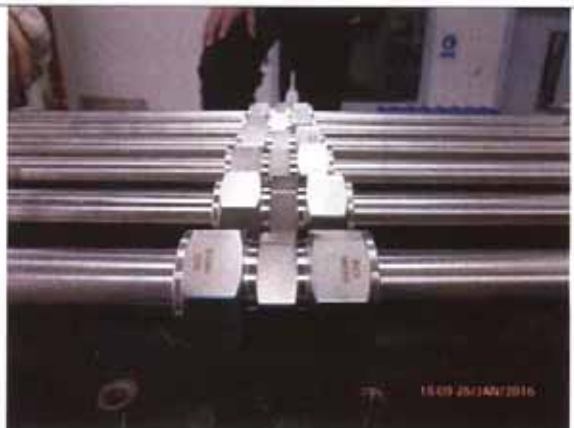
Vibration Test



Vibration Test



Vibration Test



Vibration Test



Vibration Test



Vibration Test



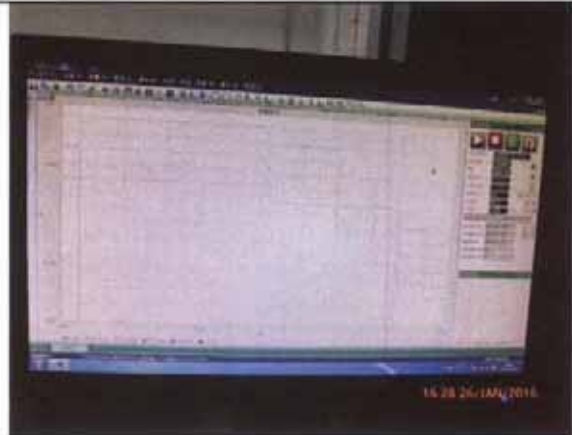
Interim  
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Vibration Test



Vibration Test

**ANNEXES**  Yes (Total number of pages:

ASTM F 1387 Test Report (FITOK-F1387TR-001, Total 55 pages)

Vibration Test Report (QSZ-16JA0080MTGC, Total 12 pages)

No

**Inspected by:**

Name: Shouchun TAng

Signature:

Date of issue: Feb 26 2016

**Inspection centre:** BV Quality Service



**Checked by:**

Name: Qi Wang

Signature:

Distribution:  CLIENT

MANUFACTURER