


 Interim
 Final



INSPECTION REPORT N° INS/SH-16/0074-03

BV Job nr: INS/SH-15/0074

PROJECT: TPI for Stud, bolt, nut and washer	Ref: INS/SH-16/0074
BV Client: Simgetek Manufacturing and Engineering Co. Lnc	P/o nr: N/A (client to BV)
Supplier: Jiaxing Haina Fastener Co., Ltd	P/o nr: N/A (client to Manufacturer)
Inspection requested by: Simgetek Manufacturing and Engineering Co. Lnc	

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
See the information in report.		

DOCUMENTS OF REFERENCE : See continuation sheet for additional documents: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Title	Reference n°	Rev.	Approved by	Date
Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service	ASTM A193/A193M	2010	ASTM	2010
Standard Specification for Carbon and Alloy Steel Nuts for Studs for High Pressure or High Temperature Service, Or Both	ASTM A194/A194M	2010	ASTM	2010
Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for Low-Temperature Service	ASTM A320/A320M	2010	ASTM	2010

INSPECTIONS :	Results of inspection : <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory
<p>Inspection place & Date or Period: Dongtai, Taizhou City, Jiangsu, China.</p> <p>Date: Sep. 08th-09th, 2016</p> <p>Stage of inspection :</p> <p><input type="checkbox"/> Before manufacturing <input type="checkbox"/> During manufacturing <input checked="" type="checkbox"/> Final <input type="checkbox"/> Packing</p> <p>Type of inspection:</p> <p><input type="checkbox"/> Pre-inspection meeting <input type="checkbox"/> Document and QC record review <input checked="" type="checkbox"/> Visual examination, checks <input checked="" type="checkbox"/> Witnessing tests <input type="checkbox"/> Manufacturing progress status <input type="checkbox"/> Vendor assessment <input checked="" type="checkbox"/> Final inspection <input type="checkbox"/> Packing (for details see continuation sheet)</p> <p>Stamping :</p> <p><input checked="" type="checkbox"/> No <input type="checkbox"/>  <input type="checkbox"/> </p>	<p>Non Conformities Reports (NCR):</p> <p>o NCR's issued during reported period : N/A</p> <p>o List of outstanding NCR's : N/A</p> <p>Main Conclusions & Remarks: BV inspector inspected <u>Studs and nuts</u>, witnessed the <u>mechanical test and chemical test</u> and reviewed submitted documents. . Final inspection result is <u>Satisfactory according to relevant technical specification</u> . (for more details, please refer to the inspection details hereinafter)</p> <p>Next visit scheduled: N/A</p>


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Description of the inspections carried out:

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

Third Party Inspection for Studs, bolts and nuts, witnessed related mechanical test and chemical test and visual and dimension inspection. was carried out by Qinglin Zhou, the inspector from Bureau Veritas Quality Service (Shanghai) Co., Ltd on Dongtai Huawei Standard Component Co., Ltd in Sep. 06th-07th, 2016.

BV scope of work:

- 1) Visual and dimensional inspection
- 2) Witnessed mechanical test
- 3) Witnessed chemical analysis test
- 4) Check and advise the suitability of the material test certificate

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

DOCUMENTS OF REFERENCE : See continuation sheet for additional documents: Yes No

Title	Reference n°	Rev.	Approved by	Date
Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service	ASTM A193/A193M	2010	ASTM	2011
Standard Specification for Carbon and Alloy Steel Nuts for Studs for High Pressure or High Temperature Service, Or Both	ASTM A194/A194M	2010	ASTM	2011
Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for Low-Temperature Service	ASTM A320/A320M	2010	ASTM	2011

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

The products (studs, bolts, nuts and washers) were ready for inspection when BV inspector arrived at the factory.

Product	Description	Qty(pcs)
Hex BOLT DIN933 HS CODE:7318151001	M6x25 SS304	110
Hex NUT DIN934 HS CODE:7318160000	M6 SS304	110
Flat Washer DIN125A HS CODE 7318210090	Ø6.4 SS304	110
Hex BOLT DIN933 HS CODE:7318151001	M12x50 SS316	62
	M16x40 SS316	58
	M16x45 SS316	4


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	M16x50 SS316	35
	M16x55 SS316	54
	M16x70 SS316	12
	M16x75 SS316	24
	M16x80 SS316	64
	M16x85 SS316	80
	M16x90 SS316	8
	M20x140 SS316	16
	M20x70 SS316	2
	M20x75 SS316	16
	M20x80 SS316	24
	M20x90 SS316	16
	M24x100 SS316	36
	M24x110 SS316	56
	M24x90 SS316	48
	M27x100 SS316	24
	M27x120 SS316	88
	M30x100 SS316	40
	M36x100 SS316	8
	M36x180 SS316	48
Stud bolt Full thread HS CODE 7318159090	M33x200 SS316 double head thread AS PER DWG.16.149.S-DT-005	40
	M36x210 SS316 Full thread	168
	M36x230 SS316 Full thread	112
	M36x240 SS316 Full thread	56
	M45x280 SS316 Full thread	324
	M45x290 SS316 Full thread	108
	M45x300 SS316 Full thread	44
	M45x300 SS316 double head thread AS PER DWG. 16.149.S-DT-005	44
	M45x310 SS316 double head thread AS PER DWG. 16.149.S-DT-005	320
	M45x320 SS316 Full thread	720
	M45x360 SS316 Full thread	36
	M52x250 SS316 Full thread	72
	M52x260 SS316 double head thread AS PER DWG. 16.149.S-DT-005	36
Hex NUT DIN934 HS CODE:7318160000	M12 SS316	62
	M16 SS316	340


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	M20 SS316	80
	M24 SS316	140
	M27 SS316	112
	M30 SS316	40
	M33 SS316	80
	M36 SS316	728
	M45 SS316	3192
	M52 SS316	216
Flat Washer DIN125A HS CODE 7318210090	Ø13 SS316	65
	Ø17 SS316	345
	Ø21 SS316	78
	Ø25 SS316	145
	Ø28 SS316	115
	Ø31 SS316	40
	Ø37 SS316	56
Stud bolt Full thread HS CODE 7318159090	M16x90 SS 904L	8
	M24x120 SS 904L	12
Hex BOLT DIN933 HS CODE:7318151001	M20x80 SS 904L	8
Hex NUT DIN934 HS CODE:7318160000	M10 SS 904L	50
	M16 SS 904L	25
	M20 SS 904L	8
	M24 SS 904L	12
	M30 SS 904L	36
Flat Washer DIN125A HS CODE 7318210090	Ø6.4 SS 904L	6
	Ø10.5 SS 904L	26
	Ø21 SS 904L	9
	Ø31 SS 904L	19

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

1. Visual and dimensional inspection

BV inspector performed the visual inspection and dimensional inspection randomly for the above finished studs and nuts. Found studs and nuts meet order's requirement for quantity and product type. The visual inspection was satisfactory according to technical specification.


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BV inspector also checked the dimensional for studs and nuts randomly samples as per product specification. The dimensional were checked and found the dimensionals were satisfactory in accordance with product specification.

2. Witness mechanical property test by the supplier.

BV inspector witnessed the tensile test. The test result was satisfactory as per product technical specification and the detailed information shown as bellow table:

Item	Grade	Heat No.	Lot .No	Tensile strength (Mpa)	Result
Bolt M12*50	316	160727V07	02	860	Acc
Bolt M16*40	316	160315X11	03	717	Acc
Bolt M6*25	304	160512T11	01	835	Acc

3. Witness chemical analysis test by the supplier.

BV inspector also witnessed the chemical analysis for finished bolts and nuts per the supplier. The chemical analysis is tested and the result was acceptable. The detail test results refer to below table.

Element/ Item	Heat No.	C	Si	S	P	Mn	Ni	Cr	Mo
316 Requirement		≤0.08	≤1.00	≤0.03	≤0.045	≤2.00	10.0~14.0	16~18	2.0~3.0
Bolt M12*50	160727V07	0.017	0.436	0.002	0.03	0.944	10.043	16.668	2.03
Bolt M16*40	160315X11	0.021	0.477	0.002	0.03	0.956	10.147	16.65	2.018
304 Requirement		≤0.08	≤1.00	≤0.03	≤0.045	≤2.00	8.0~12.0	18.0~20.0	/
Bolt M6*25	160512T11	0.038	0.613	0.003	0.027	1.197	8.085	18.107	/

4. Reviewed relevant documents

BV inspector reviewed the material test certificates which was complied with the test result.

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

N/A

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



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The calibration of the instruments used for the inspection was checked the calibration certificates and found the data indicated available .

The inspection result was Satisfactory according to standard and drawing. .

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

N/A

➤ **Photos at site**



Product at storage



Product at storage



Product at storage



Product at storage

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Tension test



Tension test



Tension test



Tension test



Tension test



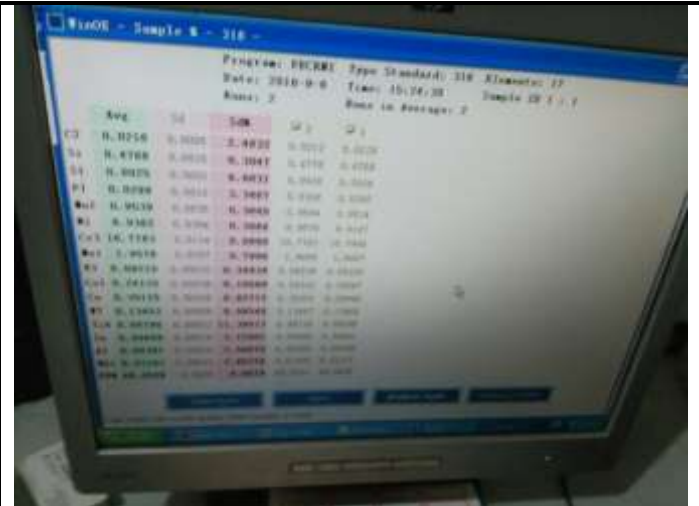
Tension test

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Chemical analysis



Chemical analysis



Dimension check



Dimension check



Dimension check



Dimension check



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Dimension check

Dimension check

ANNEXES Yes (Total number of pages: _) No

Inspected by:

Name: Qinglin Zhou

Signature:

Date of issue: Sep. 7th, 2016

Inspection centre: BV Quality Service

Checked by:

Name: Fanwang Meng

Signature:

Distribution: CLIENT MANUFACTURER

Annex 1 Product List

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Hex NUT DIN934 HS CODE:7318160000	M6 SS304	110
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	M20 SS 904L	8
	M24 SS 904L	12
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Flat Washer DIN125A HS CODE 7318210090	Ø6.4 SS 904L	6
	Ø10.5 SS 904L	26
	Ø21 SS 904L	9
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