

Industry & Facilities Division		Page: 1/23 <input type="checkbox"/> Interim <input checked="" type="checkbox"/> Final
INSPECTION REPORT N° INS/SH-16/0093		
BV Job nr: INS/SH-16/0093		

PROJECT: Third Party Inspection for Crane Wheels	Ref: INS/P16-CHEZ/0028. Rev. 3
BV Client: <u>Changnao Industrial District, Xinxiang City, Henan Province, China</u>	P/o nr: INS/SH-16/0093 <small>(client to BV)</small>
Manufacturer: Xinxiang Degong Machinery Co., Ltd.	P/o nr: 1 <small>(client to Manufacturer)</small>
Inspection requested by: <u>Changnao Industrial District, Xinxiang City, Henan Province, China</u>	

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
Crane Wheels	1	4
Crane Wheels	4	4
Crane Wheels	5	8
Bearings	2	32
Rings	3	32

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
Inspection emails	/	/	<u>Changnao</u>	/
Third Party Inspection Services for <u>Changnao Industrial District, Xinxiang City, Henan Province, China</u>	INS/P16-CHEZ/0028	3	<u>Changnao</u>	26.05.2016
Drawing	1107910	A	<u>Changnao</u>	25.04.2016
Letter of invitation to tender	V0	/	<u>Changnao</u>	Apr. 19, 2016

INSPECTIONS : Inspection place & Date or Period: Place: Changnao Industrial District, Xinxiang City, Henan Province, China Date: Aug. 2~3, Sep. 6~7, 2016 Stage of inspection : <input type="checkbox"/> Before manufacturing <input type="checkbox"/> During manufacturing <input checked="" type="checkbox"/> Final <input type="checkbox"/> Packing Type of inspection: <input type="checkbox"/> Pre-inspection meeting <input checked="" type="checkbox"/> Document and QC record review <input checked="" type="checkbox"/> Dimensional examination, checks <input checked="" type="checkbox"/> Performing tests <input type="checkbox"/> Manufacturing progress status <input type="checkbox"/> Vendor assessment <input checked="" type="checkbox"/> Final inspection <input type="checkbox"/> Packing <small>(for details see continuation sheet)</small> Stamping : <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Other	Results of inspection : <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory Non Conformities Reports (NCR): ◦ NCR's issued during reported period : N.A. ◦ List of outstanding NCR's : N.A. Main Conclusions & Remarks: BV inspector inspected <u>Crane Wheels as per client requirement</u> . Final inspection result is <u>acceptable</u> . (for more details, please refer to the inspection details hereinafter) Next visit scheduled: N.A.
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Description of the inspections carried out:

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

Third Party Inspection for [Crane Wheels] was carried out by [Guohui Meng], the inspector from Bureau Veritas Quality Service (Shanghai) Co., Ltd on [Aug. 2~3, Sep. 6~7, 2016] in [Xinxiang Degong Machinery Co., Ltd].

BV scope of work:

- 1) [Visual & dimensional inspection
- 2) Witness NDT (UT and MT)
- 3) Review documents

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

[As the DOCUMENTS OF REFERENCE of first page of this report.]

➤ Manufacturing Progress Status (*Quantities*)

[When BV inspector arrived at workshop, 16 pcs of crane wheels had been finished from machining. But the final coating had not been finished. 32 pcs of bearings and 32 pcs of rings 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	Visual & dimensional inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A.
2	Witness NDT (UT and MT)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A.
3	Review documents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A.

1. Visual & dimensional inspection

Casting visual defects such as slag, bur, and corner were found in first visit. After grinding, the result of final visual inspection was acceptable.

The visual inspection of bearings and rings was acceptable.

Refer to following photos:

Crane wheels

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Visual inspection



Visual inspection



Visual inspection



Visual inspection

Bearings



Visual inspection



Visual inspection

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Visual inspection



Visual inspection

Rings



Visual inspection



Visual inspection

The dimensions including roughness were acceptable as per client requirement. The details refer to **Dimensional inspection records for crane wheels** and **Dimensional inspection record for bearings and rings**.

Refer to following photos:

Crane wheels

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Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection

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Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection

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Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection

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Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Calibration of outside micrometer



Calibration of inside micrometer with rod

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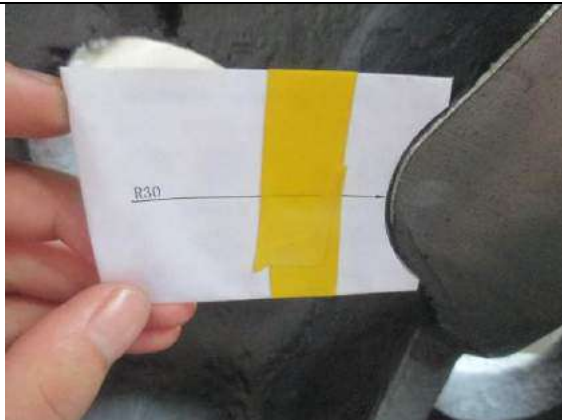
BV Job nr: INS/SH-16/0093



Calibration of inside micrometer with rod



Dimensional inspection



Dimensional inspection



Serial number



The holes on web was HXBZ



The holes on web was HXBZ

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Calibration of outside micrometer



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection

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Calibration of outside micrometer



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection



Dimensional inspection

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Dimensional inspection



Dimensional inspection



Calibration of outside micrometer



Dimensional inspection



Dimensional inspection



Dimensional inspection

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INSPECTION REPORT N° [INS/SH-16/0093]

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Calibration of outside micrometer



Dimensional inspection



The holes on web was HXBZ



Roughness check

Bearing



Calibration of outside micrometer



Dimensional inspection

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Dimensional inspection



Dimensional inspection



Calibration of outside micrometer



Dimensional inspection



Dimensional inspection



Dimensional inspection

Ring

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Dimensional inspection



Dimensional inspection

2. Witness NDT (UT and MT)

The validity of UT instrument and MT instrument used for the inspection was acceptable.

UT and MT were witnessed by BV and no unacceptable defects were found.

Refer to following photos:

Crane wheels



Certificate of UT personnel, valid



UT probe

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UT



UT



UT



UT



UT



UT

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MT equipment



Certificate of MT personnel, valid



Magnetic suspension



Calibration of MT system on standard block



Calibration of MT system on standard block



Calibration of MT system on standard block

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MT



MT



MT



MT

3. Review documents

The documents as attachments were reviewed and acceptable as per client requirement.

- 1) **Raw material chemical analysis reports**
- 2) **Heat treatment reports**
- 3) **Hardness test reports**
- 4) **Tensile test report**
- 5) **Impact test report**
- 6) **UT & MT reports**]

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

[N/A.

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➤ 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 [yes]



MT equipment valid



UT equipment valid

The measuring tools for dimension inspection were valid and refer to following photos:



Inside micrometer with rod



Inside micrometer with rod

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Certificate of inside micrometer with rod



Depth gauge



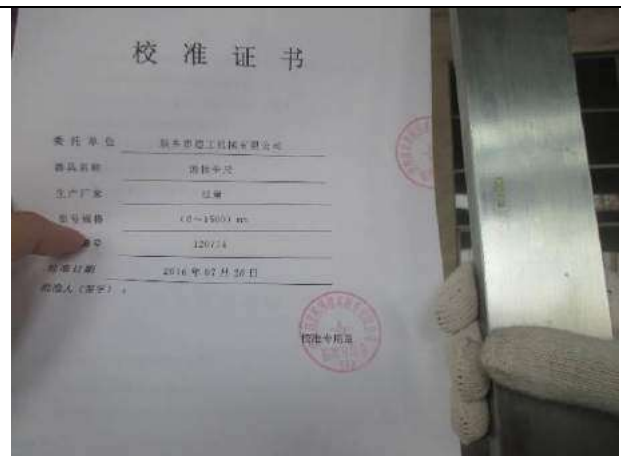
Certificate of depth gauge



Certificate of vernier caliper



Vernier caliper



Certificate of vernier caliper


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Certificate of outside micrometer

/

/

The inspection result was [acceptable].

[]

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

[N/A.

]

ANNEXES ☒ Yes (Total number of pages: [46 pages]) ☐ No

Dimensional inspection record for bearings and rings	1 page
Dimensional inspection records for crane wheels	16 pages
Hardness test reports	4 pages
Heat treatment reports	4 pages
Impact test report	3 pages
Raw material chemical analysis reports	5 pages
Tensile test report	3 pages
UT & MT reports	10 pages



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Inspected by:

Name: [Guohui Meng]

Signature: [Guohui Meng]



Date of issue: [Sep. 7th, 2016]

Inspection centre: BV Quality Service

Checked by:

Name: [Fanwang Meng]

Signature: [Fanwang Meng]

Distribution: ☒ CLIENT ☐ MANUFACTURER ☐ [] ☐ []