



Inspection Order No. : IN-SH-PSI-09351
Page No. : 1 OF 10
Date of issue: Dec.03, 2009

INSPECTION REPORT
(non-negotiable)

- Description and Quantity of Commodity: OCTG SEAMLESS API 5-CT N80 R3 BTC
13 3/8" x 61ppf 2000m/181.536MT

- Name & Address Of Buyer: Hebei Abter Steel Pipe Co.,Ltd

- Name & Address Of Seller:

- Inspection Date & Place:

- L/C No.:

- P/I No.: BC09102006

- Nature Of Inspection:	Item	Result
	Quantity check	Acceptable
	Packing and marking check	Acceptable
	Visual quality check	Acceptable
	Dimension check	Acceptable
	Witness test	Confirmed by buyer on Dec.3, 2009
	Document review	Acceptable

- Inspector: Weihua Yuan

This is to report that we, SGS-CSTC Shanghai Branch at the request of METALS INTERNATIONAL LIMITED conducted the following inspection:

Instrument checklist

During the inspection, the following instrument calibration status has been checked for inspection:

No.	MEASURING INSTRUMENT DESCRIPTION	CALIBRATION STATUS	CERTIFICATE NO. (OPTIONAL)
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1	Thread depth gauge 0-250mm	Valid	LS2-41
2	Tooth depth gauge 0-5mm	Valid	MGW-071881
3	Lead gauge	Valid	N/A
4	Taper gauge	Valid	JZW-081687
5	Pitch gauge 0-50mm	Valid	WRW-5651
6	External thread ring gauge	Valid	N/A
7	Internal thread ring gauge	Valid	N/A
8	Vernier caliper, 0-500mm	Valid	N/A
9	Ultrasonic thickness gauge	Valid	LG-96(48801310)
10	Tape measure, GW-1508, 0-15m	Valid	N/A

Inspection Finding:

1. Quantity Check:

- Reference documents:
 - Contract No. BC09102006 data on Nov.04, 2009
- Method of quantity check
 - Total pipes counting

NO.	DESCRIPTION	REQ. QUANTITY	ACT. QUANTITY
1	OCTG SEAMLESS API 5-CT N80 R3 BTC 13 3/8" x 61ppf	2000m 181.536MT	172PCS 2036.55m 184.873MT

Note: 1. SGS inspector was just counted pipes total 172pcs, and the data of the total length and weight was in accordance with the mill test certificate.

2. The quantity checked was in the tolerance of -0/+3%, and the result was acceptable.

2. Packing and marking check

- Sample size: randomly

Packing check

All the 172pcs pipes were found in the mill indoor warehouse, no packing was found. Each pipe had two end thread protectors.

Marking check

Mark on pipe as follow:

API 2009/11/23 13-3/8 61 N1 S P4100 BC D 38.62FT 2355.6LB
1096231/911-11L11 21 MADE IN CHINA 3B

Purple blue mark on the label of pipe end as follow:

SPEC API 5CT 5B
SIZE/ GRADE 13-3/8 61 N80
HEAT NO 1098847
LOT NO 911-11L31
LEN/WEI 38.19FT/2330LB





BUN NO 1330915
 PIC/BUN 1
 MANUFACTURE DATE 11/23/2009

Remark:

- The result of packing and marking check is in accordance with the Contract No. BC09102006.

3. Visual Quality Check:

- Sample size: according to ANSI/ASQ Z1.4 - 2008-L2, 32pcs pipes were randomly selected.

The pipes were straight and coated with black anti-rust paint.
 Red color rings were marked on the pipe end.
 Couplings were coated with red paint.
 Both ends of pipes were protected with thread protector and free from burr.
 No crack or concave was found on the pipes.
 No other obvious defeat was found on the pipes.

Remark:

- The result of visual quality check was acceptable.

4. Dimension Check:

- Sample size: according to ANSI/ASQ Z1.4 - 2008-L2, 32pcs pipes were randomly selected.
- Reference document: API 5-CT, 5L, 5B.

4.1 The dimension check

(Unit: mm)

O.D of pipe body		W.T of pipe body		Length(m) of pipe body	
Req.	Act.	Req.	Act.	Req.	Act.
339.72 +/-1%	340.80-341.70	10.92 +/-12.5%	10.42-10.91	10.36-11.80	11.26-11.77
O.D of coupling		Length of coupling		Straightness	
Req.	Act.	Req.	Act.	Req.	Act.
365.13+/-3.18	365.00-365.80	269.88 0/+3.2	271.0-272.5	<20.6	0.6-1.2
External thread ring gauge				Pass	
Internal thread ring gauge				Pass	

4.2 The thread check

(Unit: mm)

Tooth depth of male thread		Pitch of male thread		Taper of male thread		Tightness of male thread	
Req.	Act.	Req.	Act.	Req.	Act.	Req.	Act.
1.575+/-0.04	1.575-1.576	25.4+/-0.05	25.39-25.40	60-67/M	62-64	0-2.54	2.2-2.5
Tooth depth of female thread		Pitch of female thread		Taper of female thread		Tightness of female thread	
Req.	Act.	Req.	Act.	Req.	Act.	Req.	Act.
1.575+/-0.05	1.574-1.575	25.4+/-0.05	25.40-25.42	60-67/M	63-64	2.54-5.08	4.0-4.3



4.3 Drift test

The mill just provided the drift test records at the beginning of the production process and SGS inspector reviewed these documents.

Drift O.D	Drift length	Result
313.9mm	305mm	passed

Remark:

- The result of dimension check was acceptable.

5. Witness testing:

- Sample size: according to the heat No.
- Reference document: API 5-CT N80 R3 BTC

5.1 Chemical composition analysis.

Chemical elements		C	Si	Mn	P	S
REQ.		-	-	-	≤0.030	≤0.030
Heat No.	Lot No.					
1098847	911-11L31	0.35	0.26	1.36	0.012	0.002
		0.36	0.25	1.33	0.014	0.003
1096266	911-11L32	0.38	0.27	1.42	0.018	0.003
		0.38	0.28	1.43	0.016	0.004
1096231	911-11L11	0.36	0.23	1.45	0.013	0.003
		0.36	0.24	1.47	0.011	0.002

5.2 Mechanical property test

Sampling position: Lon of pipe end Gauge length: 50mm

Item	Tensile strength			Impact test 0°C	
	Yield strength (MPa)	Tensile strength(MPa)	Elongation (%)	Size (mm)	AKV,J
REQ.	552-758	≥689	≥18	-	-
1098847	725	820	32	7.5x10x55	71,76,75
1096266	680	805	29	7.5x10x55	83,86,80
1096231	695	765	32	7.5x10x55	74,70,74

5.3 Hardness test

Heat No.	Req.	Act.1	Act.2	Act.3
1098847	-	25.0HRC	25.2HRC	25.0HRC

In the standard API 5-CT, hardness test was not necessary. The mill just prepared one Heat No. sample.

5.4 Hydrostatic test:

Test pressure	Holding time	Result
28.0MPa	5s	No leaky was found

The mill had finished the hydrostatic test, when SGS inspected, so just provided the original records, SGS inspector reviewed these documents.

Remark:





- The results of tests were acceptable, which is confirmed by buyer on Dec.3, 2009.

In accordance with Client's instructions, the Company's involvement has been limited to witnessing/observing a third party's intervention(s) at the third party's laboratory/test house or other facilities and installations used for the intervention(s). The Company's sole responsibility was to be present at the time of the third party's intervention(s) to forward the results, or confirm the occurrence, of the intervention(s). The Company is not responsible for the condition or calibration of apparatus, instruments and measuring devices used, the analysis methods applied the qualifications, actions or omissions of the third party's personnel or the analysis results.

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6. Document Review:

Following documents had been submitted for SGS inspector's review:

- MTC review and endorsement.
- Original record of hydrostatic test
- Original record of Drift test

Remark:

- The document review result was acceptable.

THIS REPORT ONLY REFLECTED OUR ACTUAL FINDINGS. THE INSPECTION WAS DONE TO THE BEST OF OUR KNOWLEDGE AND ABILITY AND WITH DUE CARE. THE FINDINGS ARE VALID AS FOR TIME AND PLACE OF INSPECTION.

Attachment: photos during inspection





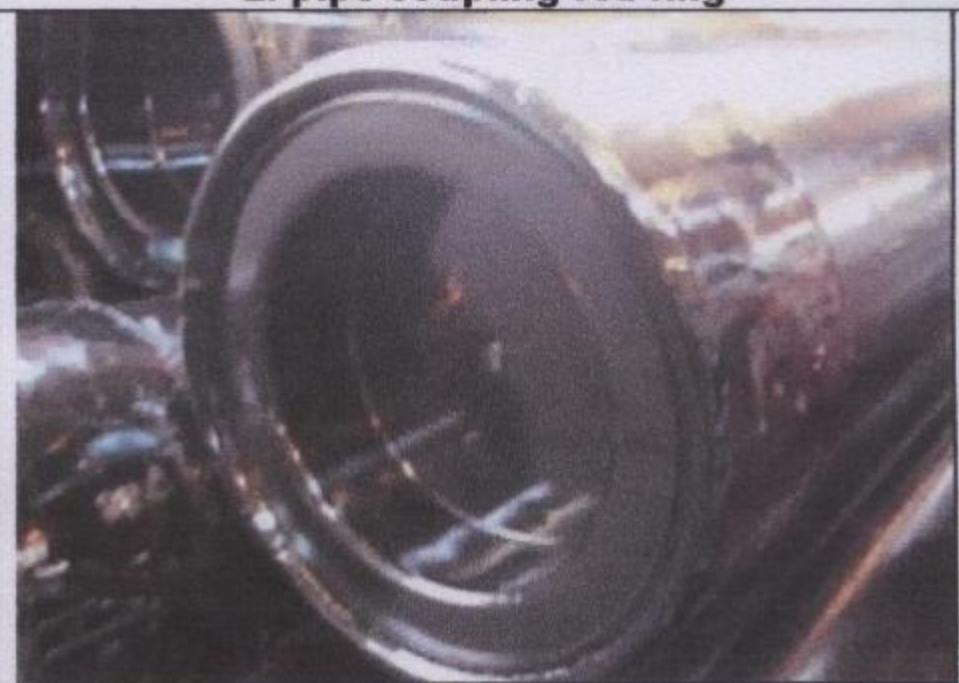
1. pipes in the mill warehouse



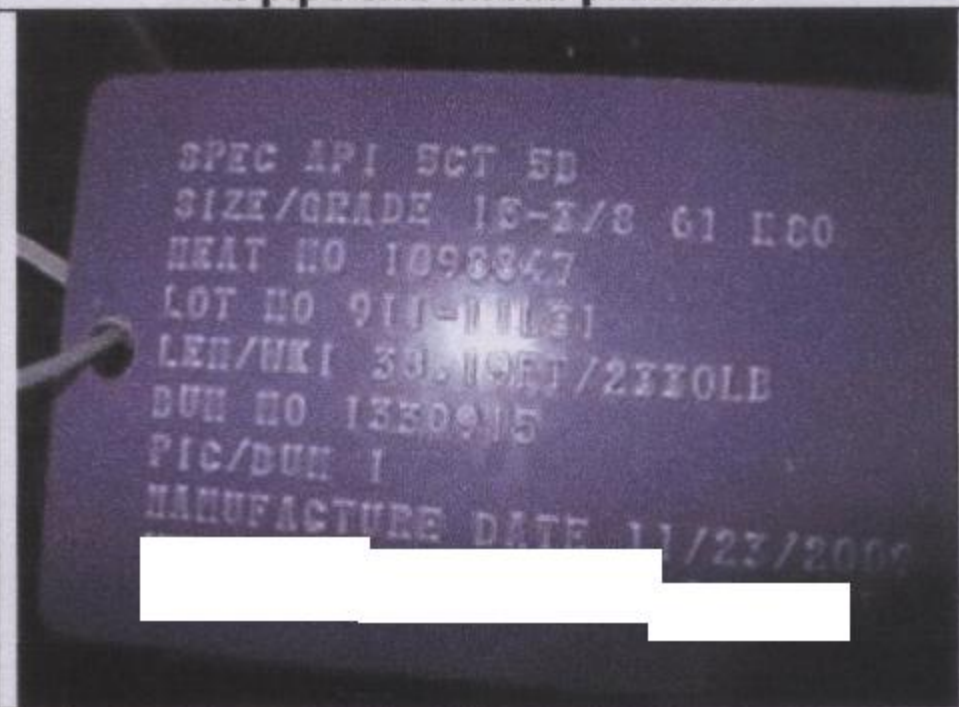
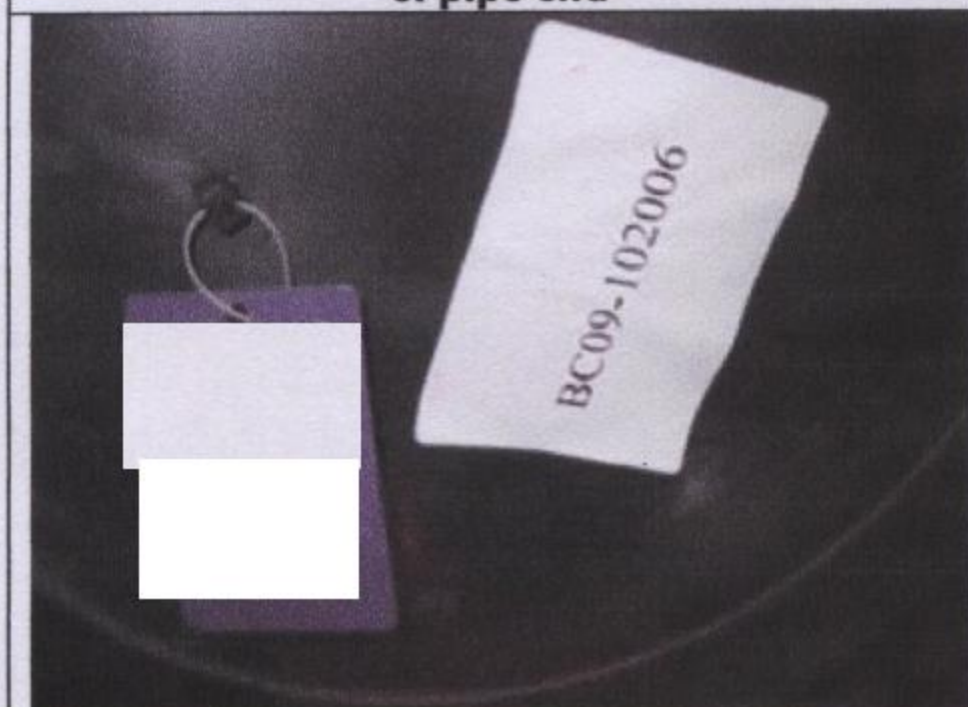
2. pipe coupling red ring

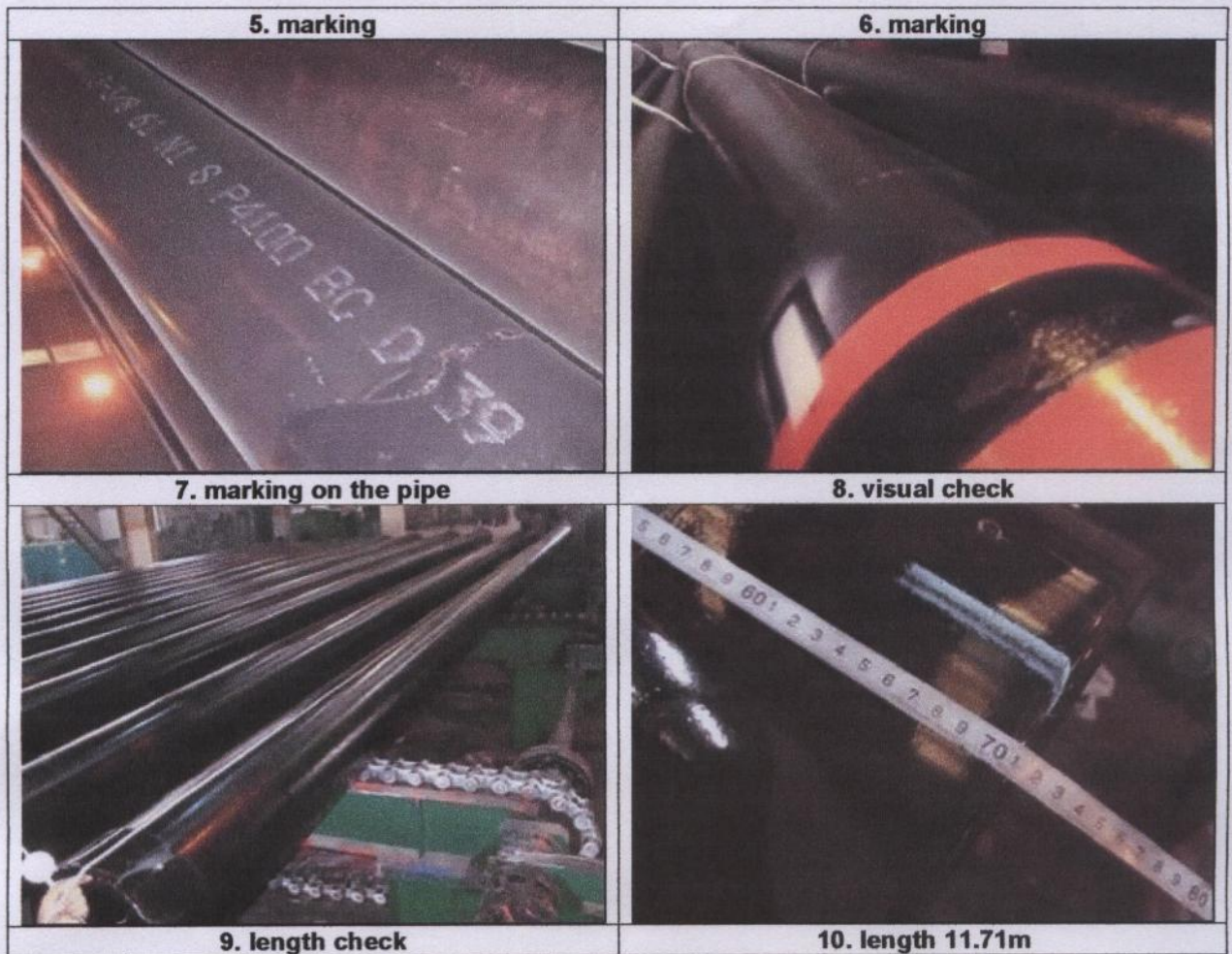


3. pipe end



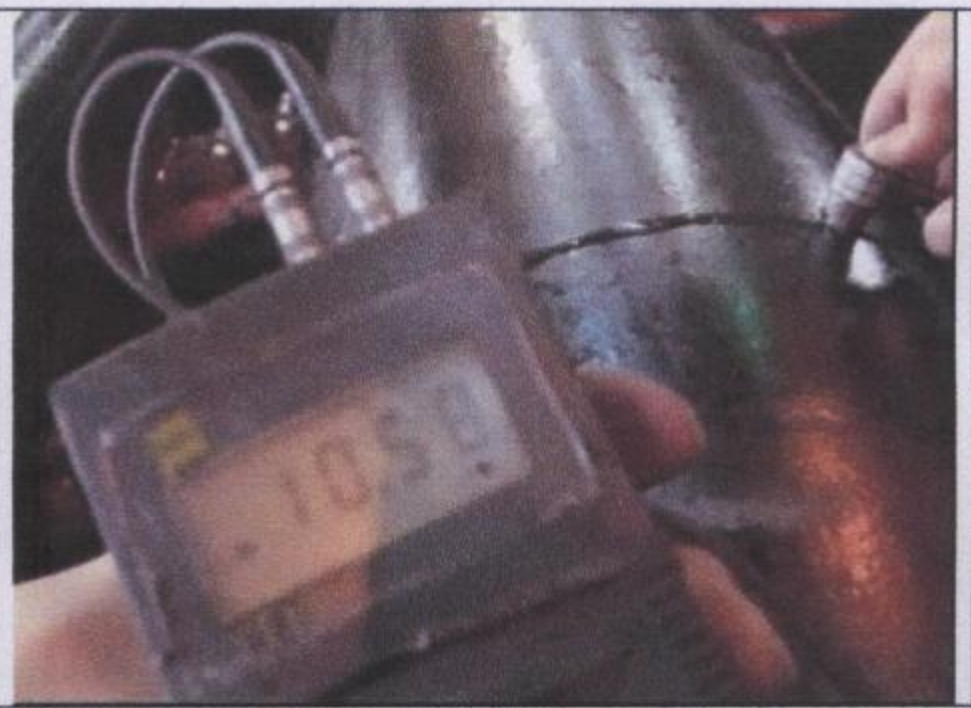
4. pipe end thread protector







11. pipe body O.D check



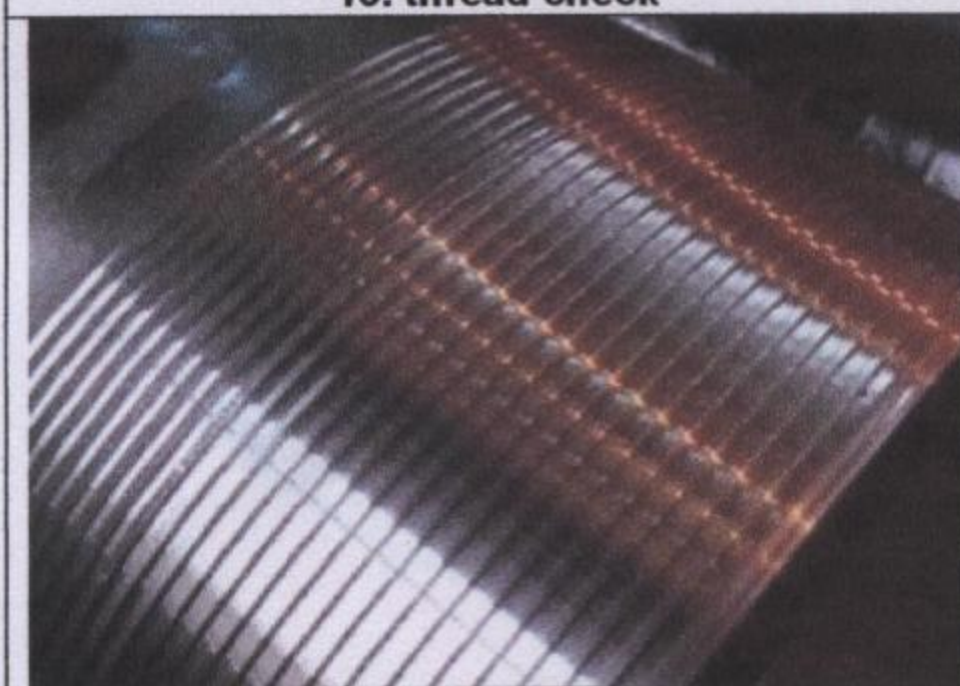
12. pipe W.T check

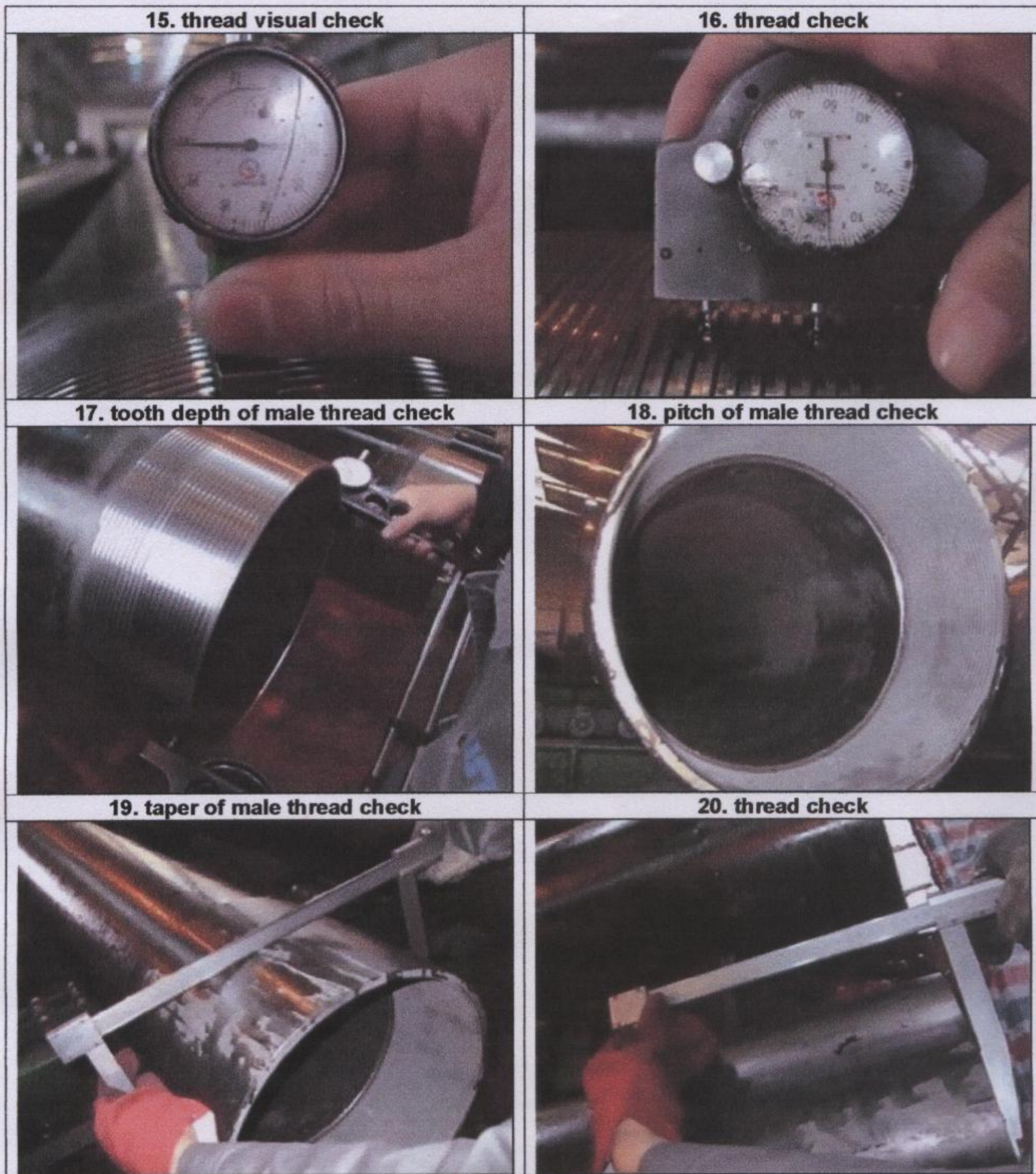



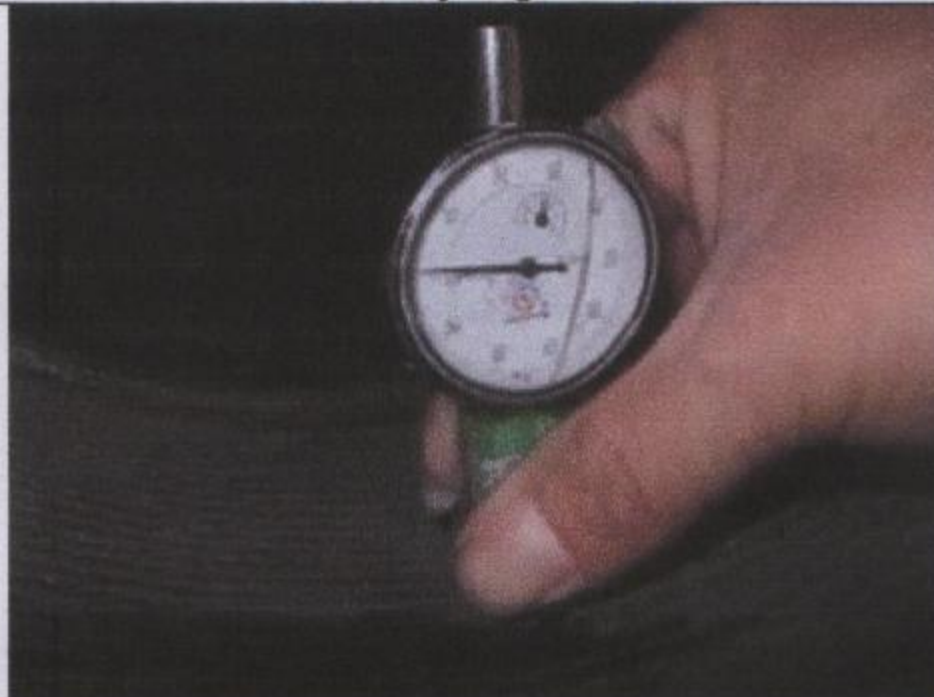


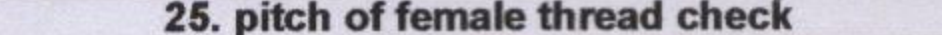
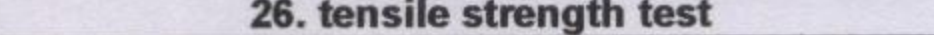
13. thread check



14. thread protector





<p>21. coupling check</p> 	<p>22. coupling check</p> 
<p>23. pitch of female thread check</p> 	<p>24. tooth depth of female thread check</p> 
<p>25. pitch of female thread check</p> 	<p>26. tensile strength test</p> 



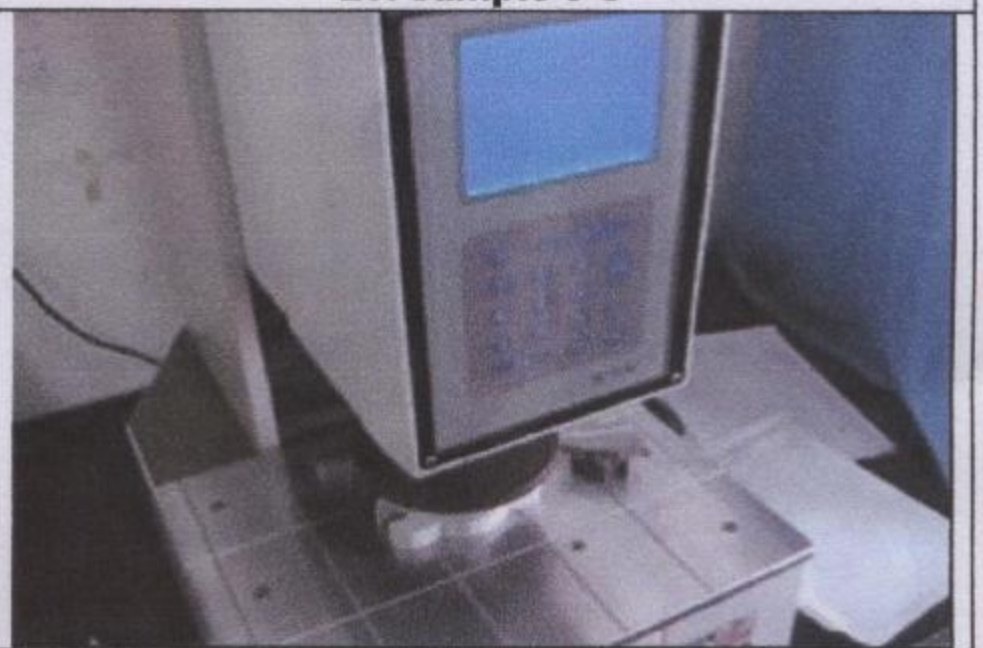
27. tensile strength test



28. sample 0°C



29. impact test 0°C



30. hardness test



31. HRC 25.2



32. chemical composition analysis

