

General

TUV COORDINATOR: Evan Wen	TUV INSPECTOR: Wei Deming
	APPROVAL #: Yes
WORK ORDER No. (TUV NORD) IND-CUC-C2507006	
TYPE OF VISIT: <input type="checkbox"/> PIM <input type="checkbox"/> INITIAL INSP. <input checked="" type="checkbox"/> 3.2 CERTIFICATE <input type="checkbox"/> FINAL INSP. <input type="checkbox"/> ORDER STATUS	

Client / Project Information

CLIENT: Hebei Abter Steel Pipe Co., Ltd.	
PROJECT: TPI for Seamless pipe	WORK ORDER No.: N/A

Equipment / Material Description

PURCHASE ORDER NO.: /	TAG / ID NO.: N/A
DESCRIPTION: Visual, marking, dimension inspection, ET, Witness sampling & physical and chemical test and document review.	
PRIMARY SUPPLIER: WUXI BEILAI TUBE CO.,LTD.	SUB-SUPPLIER: N/A
LOCATION: No. 88, Jinshan Road, Qianqiao Sub-district, Huishan District, Wuxi City, Jiangsu Province	LOCATION: N/A
CONTACT: Mr.Sun	CONTACT: N/A
SHOP ORDER NO.: N/A	SHOP ORDER NO.: N/A

Progress

ENGINEERING:	N/A (% COMPLETE)
MATERIAL:	N/A (% COMPLETE)
FABRICATION:	N/A (% COMPLETE)
PO DELIVERY DATE:	N/A
SCHEDULED COMPLETION DATE:	N/A

Format No. TNM/F-001 Rev01



Summary

DATE OF LAST VISIT: N/A	
DATE(S) OF THIS VISIT: JULY.7 & JULY 15, 2025	
NEXT SCHEDULED VISIT: N/A	
NON-CONFORMITY REPORT ISSUED DURING THIS VISIT: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES NCR NO.:	
OUTSTANDING NON-CONFORMITY REPORT: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES NCR NO.:	
INSPECTION RELEASE ISSUED DURING THIS VISIT: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES RELEASE NO.:	
ACTION POINTS : (NCR'S, CLARIFICATIONS, PENDING APPROVALS, ETC.)	
NONE	

INSPECTION ACTIVITIES

1. INSPECTION ACTIVITIES IDENTIFICATION: (PLACE AN X MARK IN EACH OF THE BOXES BELOW THAT CORRESPONDS WITH AN INSPECTION ACTIVITY VERIFIED OR PERFORMED. EACH ACTIVITY MARKED MUST BE FULLY EXPLAINED BELOW AT SECTION 3. "INSPECTION DETAILS". TUV NORD INSPECTOR PERFORMED THE BELOW INSPECTION ACTIVITIES ACCORDING TO THE REQUIREMENT OF THE INSPECTION SERVICE CONTRACT (THE INSPECTION RESULT WILL BE ACCEPTED IF THE INSPECTED PRODUCTS MEET THE REQUIREMENT OF THE SPECIFICATION AND RELATED REGULATIONS; OTHERWISE, THE INSPECTION RESULT WILL BE REJECTED).

<input checked="" type="checkbox"/> CHEMICAL TEST	<input checked="" type="checkbox"/> MECHANICAL TESTING (CHARPY-IMPACT, TENSILE, GUIDED BENDS)
<input type="checkbox"/> REVIEW OF WELDING PROCEDURE SPECIFICATION AND PROCEDURE	<input type="checkbox"/> PRESSURE / LEAK TEST (HYDRO-STATIC, AIR, HELIUM, ETC.)
<input type="checkbox"/> QUALIFICATION RECORD	<input type="checkbox"/> BALANCING OF ROTATING PARTS
<input type="checkbox"/> REVIEW OF WELDER/WELDING OPERATOR QUALIFICATION RECORDS	<input type="checkbox"/> SHAFT / ROTOR RUN OUT
<input type="checkbox"/> VISUAL INSPECTION OF WELD JOINT FIT-UP/BACK GOUGE PREPARATIONS	<input type="checkbox"/> CLEARANCE CHECKS
<input type="checkbox"/> CONTROL OF WELDING CONSUMABLES (FILLER METALS, RODS, WIRE, ETC.)	<input type="checkbox"/> VIBRATION / NOISE TEST
<input type="checkbox"/> IN-PROCESS WELDING INSPECTION (ADHERENCE TO WPS – ESSENTIAL VARIABLES)	<input checked="" type="checkbox"/> MECHANICAL RUNNING TESTS
<input type="checkbox"/> VISUAL INSPECTION OF COMPLETED WELDS FOR DETECTION OF DEFECTS /	<input type="checkbox"/> OVER-SPEED TRIP TEST
<input type="checkbox"/> DISCONTINUITIES	<input type="checkbox"/> CHECK OF TRIP SYSTEMS (LOW / HIGH OIL PRESSURE, VIBRATION, ETC)
<input type="checkbox"/> FULL DIMENSIONAL INSPECTION FOR COMPLIANCE WITH DESIGN DRAWING	<input type="checkbox"/> LOAD / No LOAD TEST
<input type="checkbox"/> REVIEW OF RADIOGRAPHS	<input type="checkbox"/> OPERATIONAL TEST
<input checked="" type="checkbox"/> MAGNETIC PARTICLE / LIQUID PENETRANT TESTS	<input type="checkbox"/> METALLOGRAPHIC / MACROSCOPIC STRUCTURE TEST
<input checked="" type="checkbox"/> ULTRASONIC TESTING	<input type="checkbox"/> CLEANING / SANDBLASTING / PAINTING
<input checked="" type="checkbox"/> NDE TEST REPORTS	<input checked="" type="checkbox"/> MARKING AND IDENTIFICATION (NAME PLATE DATA, TAGS, ETC.)

Format No. TNM/F-001 Rev01



<input type="checkbox"/> INTERNAL INSPECTION	<input checked="" type="checkbox"/> VENDOR DATA REVIEW (CMTR, TEST RECORDS, DATA SHEETS,
<input type="checkbox"/> VERIFICATION OF SPECIFIED POST WELD HEAT-TREATMENT	<input type="checkbox"/> QC RECORDS
<input type="checkbox"/> HARDNESS TEST: HV HB HRC	<input type="checkbox"/> MANUFACTURER AUDIT
NOTE: N/A	

2. REFERENCE DRAWINGS/SPECIFICATIONS: (INCLUDE REVISION NO.'S)

TITLE	DOCUMENT NUMBER	REVISION NO	APPROVAL STATUS
EN10216-2 TC2	Pressure-bearing seamless steel pipe - Delivery technical conditions	2025	Effective

3. INSPECTION ACTIVITIES:

3.1) Manufacturing progress status:

➤ When TUV NORD inspector arrives at site, all Seamless pipes to be inspected have been prepared and ready for inspection. Details are as follows:

SN	Description	PO QTY
1	Seamless pipe 10CrMo9-10 33.7*5.6*6mm	709 Pcs
2	Seamless pipe 10CrMo9-10 31.8*5.0*6mm	1353 Pcs
3	Seamless pipe 10CrMo9-10 31.8*6.3*6mm	502 Pcs
4	Seamless pipe 10CrMo9-10 44.5*3.6*6mm	1008 Pcs
5	Seamless pipe P265GH-10 57*5.0*6mm	287 Pcs

➤ Before the test, the inspector reviewed the calibration certificate of measure tools, and found that they were within the validity period, and the results were acceptable, all equipment calibration see the table below:

No	Equipment name	Identification No.	Calibration No.	Calibration valid to
1	Vernier caliper(0~200mm)	BL-YB03	CD1924087109-005	2025-10.11
2	Wall thickness micrometer gauge	BL-BH01	CD1924087107-001	2025-10.12
3	ET	BL-JCSB45	DX1924088536-001	2025-10.14
4	Sample tube for ET	ET-57*5.0-Ø1.2mm	34054731	2026-06-24
5	Sample tube for ET	ET-44.5*3.6-Ø1.0mm	34054732	2026-06-24
6	Sample tube for ET	ET-33.7*5.6-Ø1.0mm	34054733	2026-06-24
7	Sample tube for ET	ET-31.8*6.3-Ø1.0mm	34054734	2026-06-24
8	Sample tube for ET	ET-31.8*5.0-Ø1.0mm	34054735	2026-06-24
9	Universal tensile testing machine	BL-JCSB01	34421091	2025-10.17
10	Direct-reading spectrometer	BL-JCSB05	RH1924087104-001	2025-10.11
11	Wall thickness micrometer gauge	BL-BH04	CD1924087107-004	2025-10.12
12	Vernier caliper(0~200mm)	BL-YB04	CD1924087109-006	2025-10.11
13	Steel tape (10M)	BL-JC05	CD0824074174-003	2025-09-13
14	Outside micrometer	BL-WJ02	CD1924087108-020	2025-10.10

3.2) The Inspection Activities:

Format No. TNM/F-001 Rev01



- Witness sampling
- Witness ET test (check 5%)
- Witness the physical and chemical test
- Visual & dimensional inspection (check 5%)
- Check marking (check 5%)
- Document review

3.3) The details of inspection activities performed:

➤ **3.3.1 Witness sampling**

➤ TUV NORD inspector witnessed the sampling and marked it. The details are as follows:

No.	Description	Material	Sample size	Heat No.	Batch NO.	QTY	Test type
1	Seamless pipe 10CrMo9-10 33.7*5.6*6	10CrMo9-10	33.7*5.6*6	25201319	B2504391-01	1PCS	Tensile test, Chemical analysis test, Flattening test, Flaring test.
2	Seamless pipe 10CrMo9-10 31.8*5.0*6	10CrMo9-10	31.8*5.0*6	25201302	B2504392-01	1PCS	
3	Seamless pipe 10CrMo9-10 31.8*6.3*6	10CrMo9-10	31.8*6.3*6	25201302	B2504393-01	1PCS	
4	Seamless pipe 10CrMo9-10 44.5*3.6*6	10CrMo9-10	44.5*3.6*6	25201319	B2504394-01	1PCS	
5	Seamless pipe P265GH-10 57*5.0*6	P265GH-10	57*5.0*6	DL-2502741	B2505161-01	1PCS	

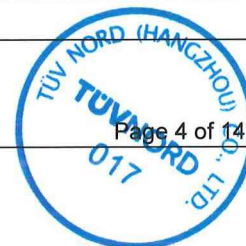
➤ **3.3.2 Witness ET test (Check 5%)**

Before the inspection, the inspector reviewed the Sample tube qualification certificate and found that it was within the validity period.

Before the inspection, the inspector reviewed the operator's PT qualification certificate and found that it was within the validity period.

TUV NORD inspector witnessed the ET test of the pipes as per GB/T7735-2016. No defects were found, and the results was acceptable.(See the form below)

SN	Description	Material	Sample size	Quantity of order	Check the quantity	Result
1	Seamless pipe 10CrMo9-10 33.7*5.6*6	10CrMo9-10	33.7*5.6*6	709pcs	39pcs	ACC
2	Seamless pipe 10CrMo9-10 31.8*5.0*6	10CrMo9-10	31.8*5.0*6	1353pcs	71pcs	ACC
3	Seamless pipe 10CrMo9-10 31.8*6.3*6	10CrMo9-10	31.8*6.3*6	502pcs	50pcs	ACC
4	Seamless pipe 10CrMo9-10 44.5*3.6*6	10CrMo9-10	44.5*3.6*6	1008pcs	85pcs	ACC
5	Seamless pipe P265GH-10 57*5.0*6	P265GH-10	57*5.0*6	287pcs	37pcs	ACC



➤ **3.3.3 Witness the physical and chemical test**

Before the inspection, the inspector reviewed the operator's qualification certificate and found that it was within the validity period.
 Before the inspection, the inspector reviewed the measuring tools and equipment certificates and found that it was within the validity period.
 TUV NORD inspector witnessed the test as per GB/T228.1&GB/T4336&GB/T242&GB/T246, the result was acceptable.
 Details are as follows:

Table1: Tensile test, Flattening test, Flaring test

SN	Material	Size	Heat No.	Batch NO.	Tensile test			Flattening test	Flaring test.	Result
					Rp0.2 ≥280Mpa	Rm 480~630Mpa	A ≥22%			
1	10CrMo9-10	33.7*5.6*6	25201319	B2504391-01	383/380	508/512	27.5/29	OK/OK	OK/OK	ACC
2	10CrMo9-10	31.8*5.0*6	25201302	B2504392-01	387/402	512/521	28/28.5	OK/OK	OK/OK	ACC
3	10CrMo9-10	31.8*6.3*6	25201302	B2504393-01	427/437	533/542	24/23	OK/OK	OK/OK	ACC
4	10CrMo9-10	44.5*3.6*6	25201319	B2504394-01	473/469	561/564	27.5/28.5	OK/OK	OK/OK	ACC
5	P265GH-10	57*5.0*6	DL-2502741	B2505161-01	354/356	506/506	30/29.5	OK/OK	OK/OK	ACC

Table2: Chemical analysis test

SN	Material	Size	Heat No.	Batch NO.	C	Si	Mn	P	S	Cr	Mo	Result
					0.08~0.14%	≤0.5%	0.4~0.8%	≤0.025%	≤0.010%	2.0~2.5%	0.9~1.1%	
1	10CrMo9-10	33.7*5.6*6	25201319	B2504391-01	0.09	0.25	0.47	0.018	0.004	2.07	0.94	ACC
2	10CrMo9-10	31.8*5.0*6	25201302	B2504392-01	0.09	0.25	0.44	0.018	0.004	2.06	0.91	ACC
3	10CrMo9-10	31.8*6.3*6	25201302	B2504393-01	0.09	0.26	0.45	0.017	0.004	2.05	0.91	ACC
4	10CrMo9-10	44.5*3.6*6	25201319	B2504394-01	0.09	0.25	0.47	0.018	0.004	2.07	0.92	ACC
5	P265GH-10	57*5.0*6	DL-2502741	B2505161-01	≤0.20%	≤0.4%	0.80~1.40%	0.025%	0.010%	≤0.30%	≤0.08%	/
					0.12	0.27	1.27	0.012	0.003	0.07	0.003	ACC

➤ **3.3.4 Visual & dimensional inspection (Check 5%)**

TUV NORD inspector checked the appearance of the pipes, found smooth surface, no pits. The result was acceptable.
 TUV NORD inspector checked dimensional for the pipes as per EN10216-2 TC2, the result was acceptable. Details are as follows:

SN	Size	Qty	OD (mm)		WT (mm)		L (mm)		Result
			Standard values	Measured value	Standard values	Measured value	Standard values	Measured value	
1	33.7*5.6*6	39pcs	33.4~34	33.78~33.93	5.04~6.05	5.41~5.55	6000~6050	6049~6052	ACC
2	31.8*5.0*6	71pcs	31.5~32.1	31.81~31.92	4.5~5.5	4.86~5.06	6000~6050	6052~6053	ACC
3	31.8*6.3*6	50pcs	31.5~32.1	31.82~31.97	5.67~6.93	6.11~6.26	6000~6050	6050~6052	ACC
4	44.5*3.6*6	85pcs	44.28~44.72	44.52~44.63	3.24~3.96	3.45~3.59	6000~6050	6049~6051	ACC
5	57*5.0*6	37pcs	56.7~57.3	56.98~57.07	4.5~5.5	4.94~5.05	6000~6050	6045~6050	ACC

➤ **3.3.5 Check marking (Check 5%)**

TUV NORD inspector checked the marking for the pipes. All the pipes are marked with a marker for specifications and



materials, the result was acceptable.

➤ **3.3.6 Document review**

The factory submitted the following documents for TUV NORD inspector review. All the reports have traceability information, the values are in line with the standard requirements shown in the documents, and the results are acceptable.

- MTC
- Physical and chemical report
- ET test report
- Dimension report
- Heat treatment report

3.4) Pictures taken during visit:



Witness sampling



Witness sampling



Witness sampling



Witness sampling





Visual check



Visual check



Marking check



Marking check



Dimension check



Dimension check



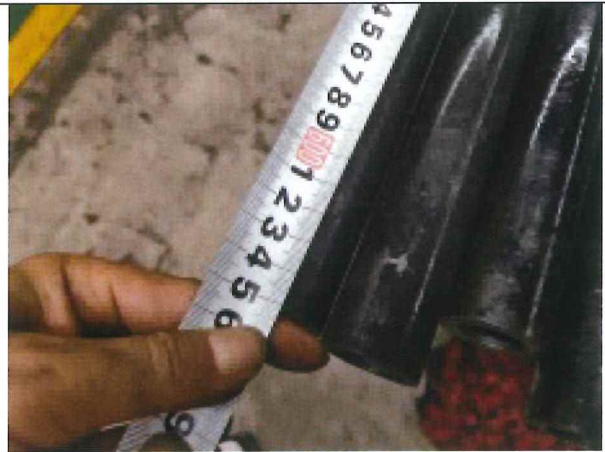
Dimension check



Dimension check



Dimension check



Dimension check



Dimension check

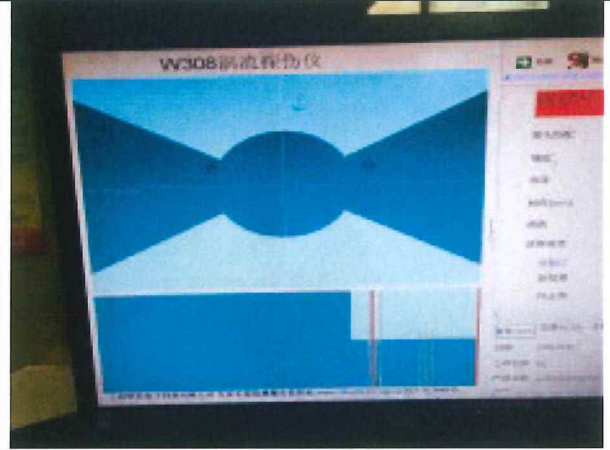


Dimension check





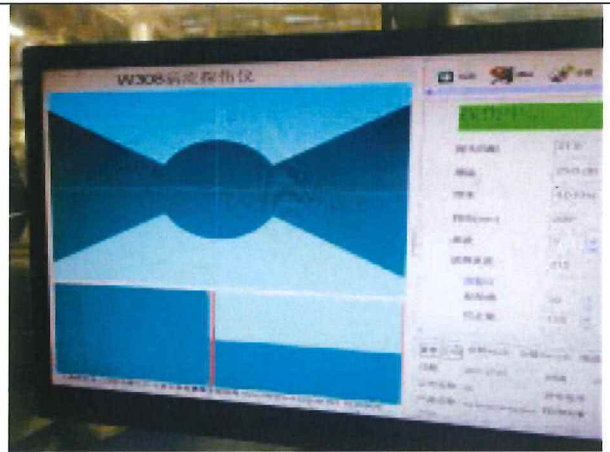
ET test



ET test



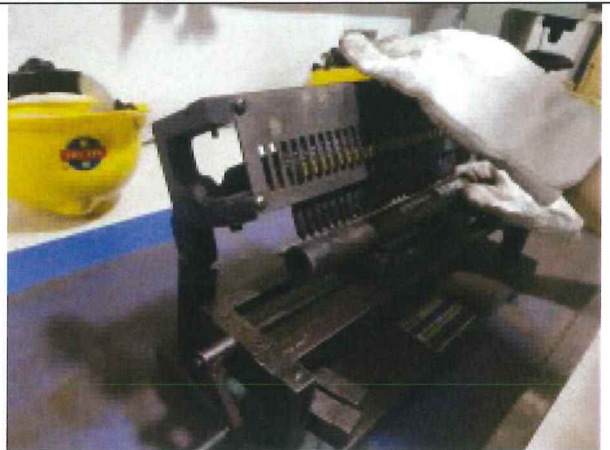
ET test



ET test



Sample inspection



Tensile test



Tensile test



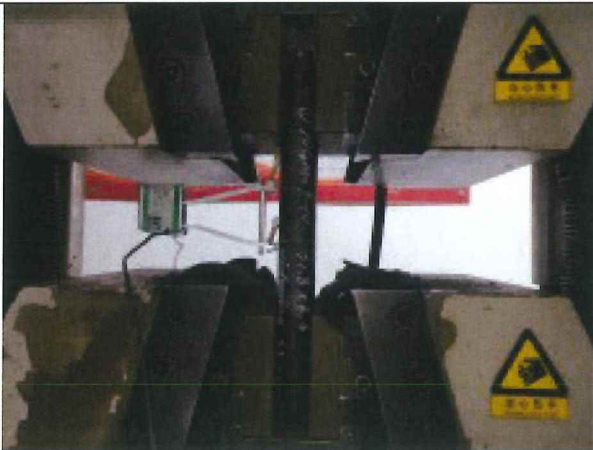
Tensile test



Tensile test



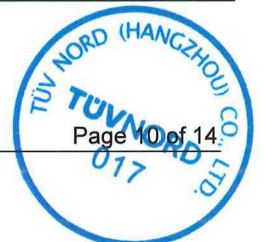
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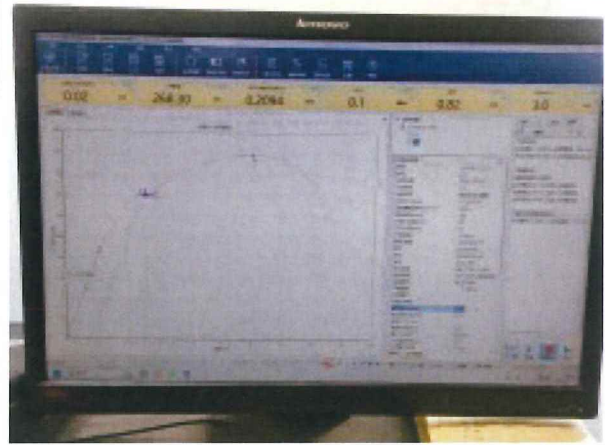


Tensile test





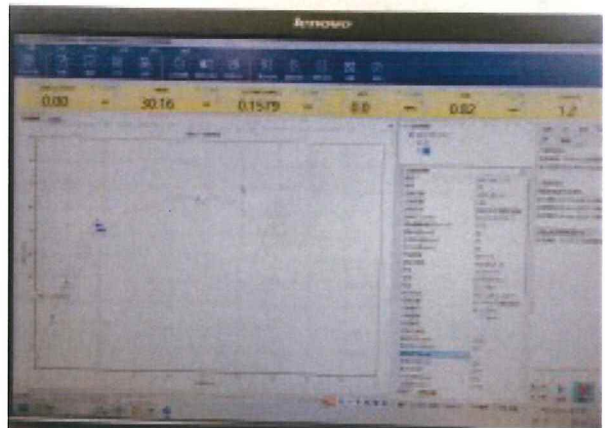
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Tensile test



Tensile test



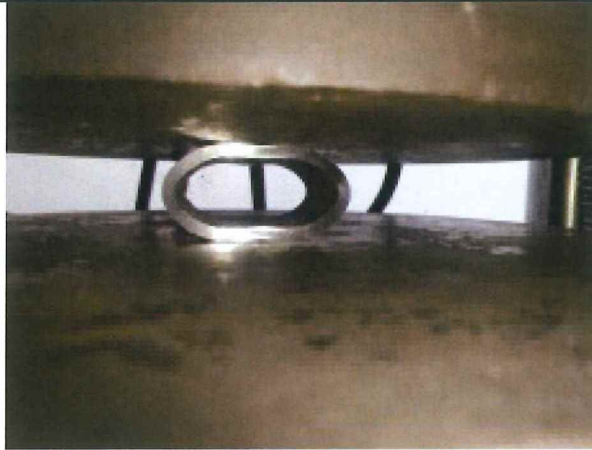
Tensile test



Flattening test



Flattening test



Flattening test



Flattening test



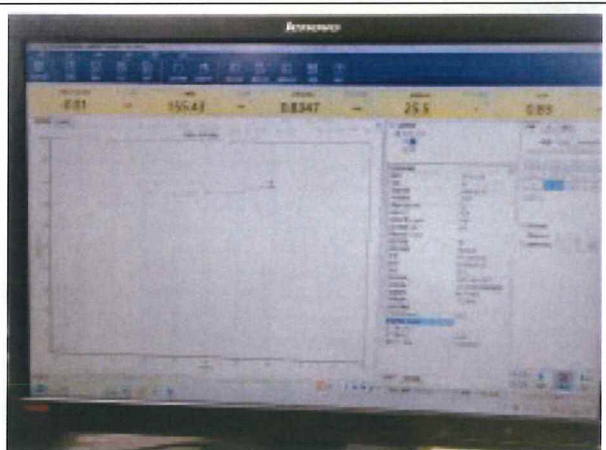
Expansion test



Expansion test



Expansion test



Expansion test



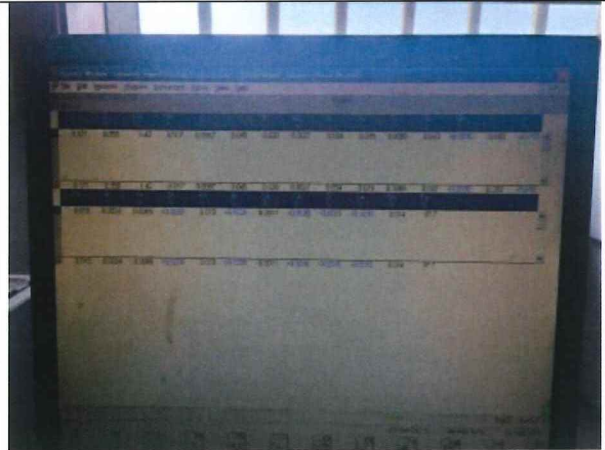
Expansion test



Expansion test



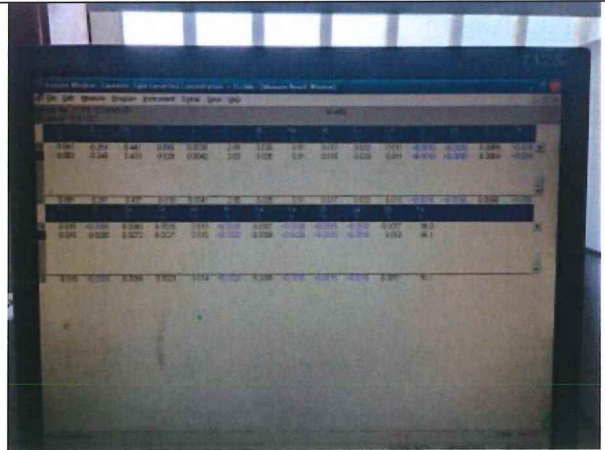
Chemical analysis



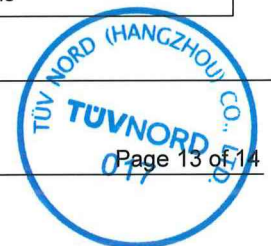
Chemical analysis



Chemical analysis



Chemical analysis



4. ATTACHMENTS: (EACH ATTACHMENT MUST REFERENCE THE CORRESPONDING ATTACHMENT NO., TUV ASSIGNMENT NO., AND CLIENT'S PO NO.)

1. MTC	2. Physical and chemical report	3. ET test report
4. Dimension report	5. Heat treatment report	

Inspected by: Wei Deming

Reviewed by: Evan Wen

Wei Deming



Date: Jul.15, 2025

Date: Jul.15, 2025

