GASTECH ENGINEERING

Manufacturer : GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED
Add: 2274/9/12 NGUYEN VAN TAO ST, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIETNAM

WELDING PROCEDURE SPECIFICATION

Carbon Steel

Code : ASME IX-2025

WELDING PROCEDURE SPECIFICATION No: WPS-GASTECH-04 Page 1/2

SUPPORTED BY PROCEDURE QUALIFICATION RECORD No: **PQR-GASTECH-04**

Welding process : GTAW +SMAW Type : Manual/Mechanized Joint design : BW/FW

QW-403 Base Metals

		NE	**Base material:**	**ASTM A516 Gr.70 or Equivalent**	to	**ASTM A516 Gr.70 or Equivalent**	
.11	E	P. Number	**1**	to	**1**	Min. Impact Test applications :	**N/A**
.5	SE	Group Number	**Any**	to	**Any**	SE Variable applicable :	**N/A**
.8/.6	E/SE	Thickness range	Groove **5 mm to 36 mm**			Fillet **All**	
		Pipe Ø range :	Groove **All**			Fillet **All**	
.9	E	Thickness range limitation (t weld > 13mm)	N/A				

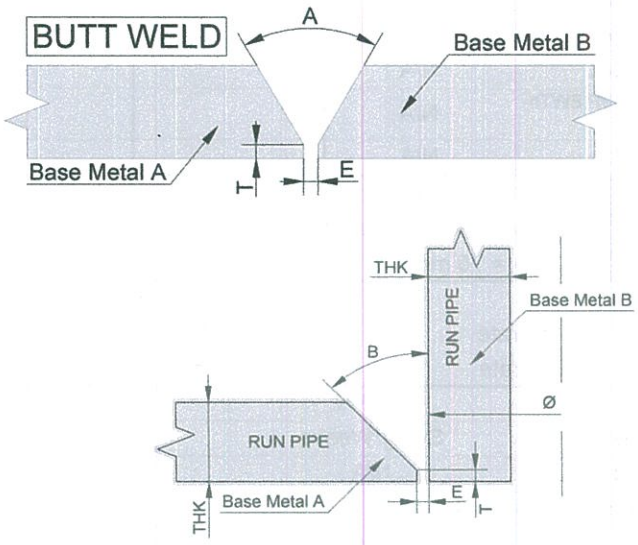
QW-402 Joints

.1	NE	**Groove design** A=60°±10° T=0 to 1.5 mm E=4 ±1mm	
.4	NE	Deletion of Backing	Not allowed
.5	NE	Addition of Backing	Allowed
.10	NE	Root spacing	N/A
.11	NE	Retainers	N/A

Preparation method : Machining / Thermal Cutting / Grinding

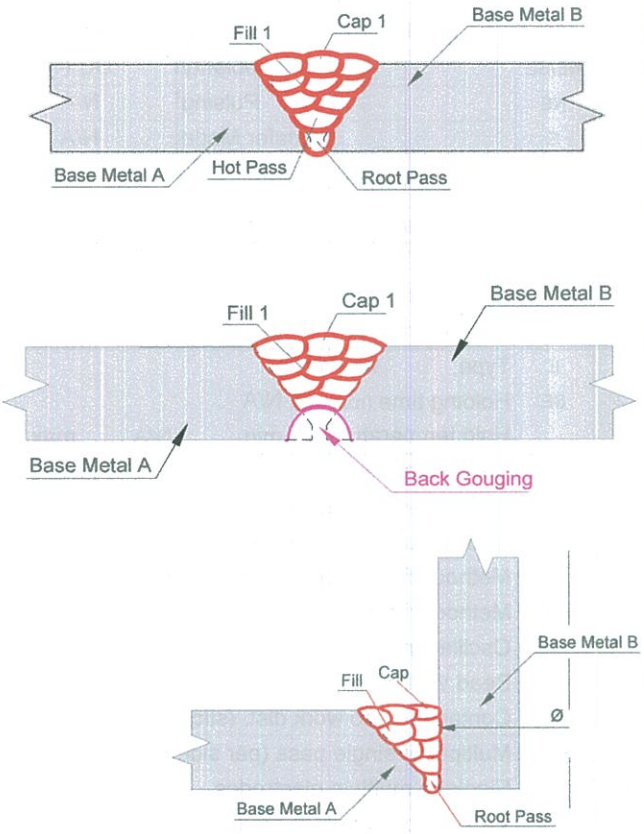
Tack welds : Process: GTAW; Location: In groove or bridge; Removal method: Grinding

WELD PREPARATION



Sketches, production drawings, weld symbols, or written description should show the general arrangement of the parts to be fused. Where applicable, the details of the joint groove may be specified.

WELDING SEQUENCES / PASS LOCATION



QW-404 Filler Metals

QW-404			.33/ NE	.12 SE	.4 E	.5 E	.23 E	.50
Process	**Trade name**	**Manufacturer**	**Classification**	**AWS**	**F-No**	**A-No**	**Product form**	**Flux**
GTAW	**KOVET-T50**	**KOVET**	**ER 70S-6**	**A5.18**	**6**	**1**	Wire	N/A
SMAW	**LB52-18**	**Kobelco**	**E7018**	**A5.1**	**4**	**1**	Flux-coated electrode	N/A

.14/.22	E	Welding without filler metal is not allowed	
.27	NE	Alloy Elements	N/A
.9/.35	NE	Flux/Wire class.	N/A

Other requirements

GASTECH ENGINEERING

Manufacturer : GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED
Add: 2274/9/12 NGUYEN VAN TAO ST, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIETNAM

WELDING PROCEDURE SPECIFICATION

Carbon Steel

Code : ASME IX-2025

WELDING PROCEDURE SPECIFICATION No: WPS-GASTECH-04

SUPPORTED BY PROCEDURE QUALIFICATION RECORD No: **PQR-GASTECH-04**

WELDING PARAMETERS

QW-405 Positions				Weld Layer	Root Pass	Hot Pass	Fill/Cap/Pass		
				Welding process	GTAW	GTAW	SMAW		
	.1	NE		Welding positions	All	All	All		
	.3	NE		Welding progress	Up hill for 3G	Up hill for 3G	Up hill for 3G		
QW-404				Trade name	0	0	E7018		
	.3/.6	NE	Filler Metal	Ø (mm)	2.4	2.4	3.2		
	.30	E		Max "t" deposited	10 mm		26 mm		
QW-408 Gas	.2	E	Shielding gas	Nature	Ar (min 99,99%)	Ar (min 99,99%)	N/A		
	.3	NE		Flow rate (l/min)	10 to 25	10 to 25	N/A		
	.9	E	Backing gas	Nature	N/A	N/A	N/A		
	.5	NE		Flow rate (l/min)	N/A	N/A	N/A		
	.10	E	Trailing	Nature	N/A	N/A	N/A		
	.1	NE		Flow rate (l/mn)	N/A	N/A	N/A		
QW-409 Electrical Characteristics	.8	NE		Amperes (A)	115 to 141	117 to 143	108 to 132		
		NE		Volts (V)	11.2 to 12.8	11.2 to 12.8	21.4 to 24.6		
				Welding speed (mm/min)	44 to 60	48 to 66	52 to 79		
	.1	SE		Energy U x I x 60 / V (kJ/mm)	1.29 to 2.45	1.20 to 2.27	1.75 to 3.76		
	.4/.30	NE/SE		Current or polarity	DC (-)	DC (-)	DC (+)		
	.3	NE		Pulsing	N/A	N/A	N/A		
	.32	E		Transfer Mode	N/A	N/A	N/A		
	.12	NE		Tungsten Electrod (type)	Tungsten Electrode SFA 5.12 (EWP;EWTh-2...)		N/A		
				Tungsten Electrod (Ø mm)	2.4	2.4	N/A		

QW-406 Preheat	.1	E	Preheat T°: Ambient (30°C)	ISO 13916 : temperature to be measured :
	.2	NE	Min interpass T°: Ambient	t ≤ 50 : A = 4 x t , 50 mm max.
	.3	SE	Maxi interpass T°: 250°C	t > 50 : A = 75 mm.

QW-407 PWHT	.1	E	Type: no PWHT						
	.2	SE	Holding time (min 1h) N/A				Heating rate N/A	After	N/A
			Hold temperature	min N/A	max N/A		Cooling rate N/A	Up to	N/A

QW-410 Technique			Welding process:	0	SMAW
	.1	NE	String/Weave method	String/Weave	String/Weave
	.3	NE	Orifice, cup or nozzle size	4,5,6,7,8	N/A
	.5	NE	Method of initial and interpass cleaning	Grinding / Brushing	Grinding / Brushing
	.6	NE	Method of back gouging	N/A	N/A
	.7	NE	Oscillation (Machine or automatic)	N/A	N/A
	.92	SE	Bead Width	max: 8 mm	max 22 mm
	.8	NE	Contact tube to work dist. (stick out)	N/A	N/A
	.9/.87	NE/SE	Multiple or single pass (per side)	Multiple	Multiple
	.10	SE	Single to multiple electrodes	Single	Single
	.11	E	Vacuum chamber welding	N/A	N/A
	.25	NE	Manual, Automatic, Semi automatic	Manual	Manual
	.26/.15	NE/NE	Peening/ Electrode spacing	N/A	N/A
	.64	E	Use of thermal processes	N/A	N/A

Notes :

1/ E = Essential variable : Can not be changed / SE = Supplementary Essential variable : Can not be change on impact tested welds
NE = Non Essential Variable : Guideline, could be changed with QAQC approval, if permitted by Client Specification

2/ Surfaces to be cleaned on both sides of weld preparation : 15mm

Rev	Date	Manufacturer	GTC TECHNICAL CONSULTANCY CO., LTD.	
		Prepared by:	Reviewed by: Inspector: BUI VAN THAO GTC CSWIP 3.2: 3487002 CWI: 17050871	Approved by: GTC Vo Van Truong DIRECTOR
0	8/Jan/2026			

GASTECH ENGINEERING

Manufacturer : GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED
Add: 2274/9/12 NGUYEN VAN TAO ST, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIETNAM

Carbon Steel
Code : ASME IX-2025

PROCEDURE QUALIFICATION RECORD (PQR)

PROCEDURE QUALIFICATION RECORD No: PQR-GASTECH-04 Page 1/2

SUPPORTED TO WELDING PROCEDURE SPECIFICATION No: **WPS-GASTECH-04**

Welding process : GTAW +SMAW **Type :** Manual/Mechanized **Joint design :** BW

QW-402 Joints

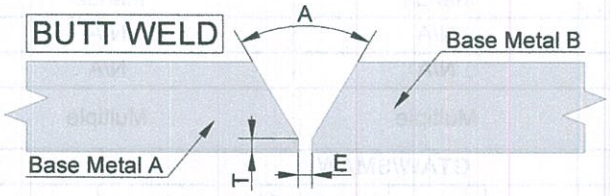
.1	NE	Groove design	A=60° T=0.5 mm E=3.5 mm
.5	NE	Addition of Backing	N/A
.10	NE	Root spacing	N/A
.11	NE	Retainers	N/A

Preparation method : Machining / Grinding

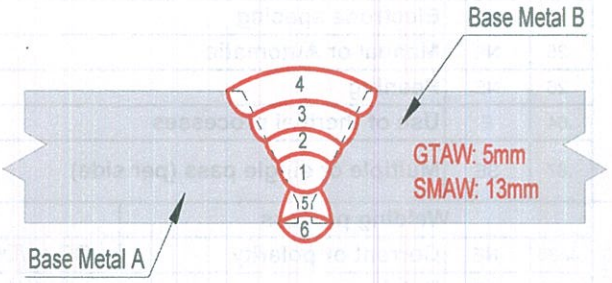
Tack welds : Process: GTAW; Location: bridge; Removal method : Grinding

Weld

WELD PREPARATION



WELDING SEQUENCES / PASS LOCATION



QW-403 Base Metals

	NE	Base material:	ASTM A516 Gr.70			to	ASTM A516 Gr.70
.5	SE	Group Number	2	to	2	Min. Impact Test applications :	N/A
.11	E	P-No. Qualified	1	to	1	SE Variable applicable :	N/A
.6	SE	T Limits	Groove		18	Fillet	N/A
.8	E	T Qualified	Groove		18	Fillet	N/A
		Pipe Ø range :	Groove	N/A			

QW-404				.33/ NE	.12 SE	.4 E	.5 E	.23 E	.50
Process	**Trade name**	**Manufacturer**		**Classification**	**AWS**	**F-No**	**A-No**	**Product form**	**Flux**
GTAW	**KOVET-T50**	**KOVET**		**ER 70S-6**	**A5.18**	**6**	**1**	Wire	N/A
SMAW	**LB52-18**	**Kobelco**		**E7018**	**A5.1**	**4**	**1**	Flux-coated electrode	N/A

QW-404 Filler Metals

			Welding process	GTAW	SMAW
		Filler Metal	Trade name	KOVET-T50	LB52-18
.3	NE		Ø (mm)	2.4	3.2
.30	E		Max "t" deposited	5	13

QW-404 Filler Metals

.14	E	Welding without filler metal is not allowed	
.22	E	No Consumable insert	

QW-405 Positions

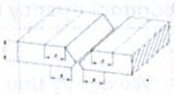
.1	NE	Welding positions	1G	1G
.3	NE	Welding progress	N/A	

Other requirements

QW-406 Preheat

.1	E	Preheat T°:	Ambient (30°C)
.2	NE	Min interpass T°:	Ambient (30°C)
.3	SE	Maxi interpass T°:	120°C

ISO 13916 : temperature to be measured :
t ≤ 50 : A = 4 x t , 50 mm max.
t > 50 : A = 75 mm.



QW-407 PWHT

.1	E	Type:	N/A				
.2	NE	Holding time (min 1h) :	N/A		Heating rate	N/A	After N/A
		Hold temperature	min N/A	max N/A	Cooling rate	N/A	Up to N/A

QW-408 Gas

.2	E	Shielding gas	Nature	Ar (99,99%)
.3	NE		Flow rate (l/min)	15 to 20
.9	E	Backing gas	Nature	N/A
.5	NE		Flow rate (l/min)	N/A
.10	E	Trailing	Nature	N/A
.1	NE		Flow rate (l/mn)	N/A

GASTECH ENGINEERING

Manufacturer : GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED
Add: 2274/9/12 NGUYEN VAN TAO ST, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIETNAM

Carbon Steel
Code : ASME IX-2025

PROCEDURE QUALIFICATION RECORD (PQR)

PROCEDURE QUALIFICATION RECORD No: PQR-GASTECH-04

SUPPORTED TO WELDING PROCEDURE SPECIFICATION No: **WPS-GASTECH-04**

			Welding process :	GTAW	SMAW
QW-410 Technique	.1	NE	String/weave method	String/Weave	String/Weave
	.3	NE	Orifice, cup or nozzle size	5	N/A
	.5	NE	Method of initial and interpass cleaning	Grinding / Brushing	Grinding / Brushing
	.6	NE	Method of back gouging	N/A	Grinding
	.7	NE	Oscillation / bead width	low / max 8 mm	low / max 22 mm
	.8	NE	Contact tube to work dist. (stick out)	N/A	N/A
	.9	NE	Multiple or single pass (per side)	Multiple	Multiple
	.10	SE	Single or multiple electrodes	Single	Single
	.11	E	Closed to out chamfer	N/A	N/A
	.15	NE	Electrode spacing	N/A	N/A
	.25	NE	Manual or Automatic	Manual	Manual
	.26	NE	Peening	N/A	N/A
	.64	E	Use of thermal processes	N/A	N/A
	.87	SE	Multiple or single pass (per side)	Multiple	Multiple

			Welding process	GTAW/SMAW					
QW-409 Electrical Characteristics	.4/.30	NE	Current or polarity	DC (-)/DC(+)	QW-409 Electrical Characteristics	.8	NE	Amperes (A)	See Welding monitoring report
	.3	NE	Pulsing	N/A				Volts (V)	
	.12	NE	Tungsten Electrod (type)	Lanthanated 2%				Welding speed (cm/min)	
			Tungsten Electrod (Ø mm)	2.4		.1	SE	Energy Uxlx60/V (kJ/cm)	

TENSILE TESTS (QW-150), Report No: 05/01/26-04./KQTN

Specimen No.	Width (mm)	Thickness (mm)	Area (mm2)	Ultimate Total Load (KN)	Stress (N/mm2)	Failure and Location
TS1	25.33	18	455.9	233.3	512	Ductile/Base Metal
TS2	25.21	18	453.8	231.5	510	

GUIDE BEND TESTS (QW-160), Report No: 05/01/26-04./KQTN

Type and Figure No.	Thickness x Width (mm)	Result
Side Bend 1	18x10.26	Acceptable (no crack)
Side Bend 2	18x10.11	Acceptable (no crack)
Side Bend 3	18x10.08	Acceptable (no crack)
Side Bend 4	18x10.18	Acceptable (no crack)

TOUGHNESS TESTS (QW-170) Report No.: N/A

FILLET WELD TEST (QW-180) Ref. Report No.: N/A

Visual Examination : Acceptable , Report: N/A

Radiographic or Ultrasonic Examination: : Acceptable , Report: GTC- GT/WPS - UT - 004

Deposit Analysis

Other:

CERTIFICATE OF COMPLIANCE

Laboratory Agency name:	HOA BINH LAB	Date Test:	5/Jan/2026

We certify that the statements in this record are correct and that the test joints were prepared, fused, and tested in accordance with the requirements of Section IX ofthe ASME Boiler and Pressure Vessel Code.

Notes :

1/ E = Essential variable : Can not be changed / SE = Supplementary Essential variable : Can not be change on impact tested welds
NE = Non Essential Variable : Guideline, could be changed with QAQC approval, if permitted by Client Specification

2/ Surfaces to be cleaned on both sides of weld preparation : Steels = 15mm

Rev	Date	Manufacturer	GTC TECHNICAL CONSULTANCY CO., LTD.	
0	8/Jan/2026	Prepared by:	Reviewed by: Inspector: BUI VAN THAO GTC CSWIP 3.2: 3487002/2 CWI: 17050871	Approved by: GTC Võ Văn Trường DIRECTOR

GASTECH ENGINEERING

WELDER, WELDING OPERATOR QUALIFICATION TEST CERTIFICATE

GTC Technical Consultancy

Applicable Code/Standard: **ASME Section IX, 2025 Edition**	WPQ Certificate number: **WE-GT-26-03**
Employer's name: **GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED**	Welder name: **DANG THANH TRUNG (GT-01)**
Address: 274/9/12 NGUYEN VAN TAO ST, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIETNAM	Identification number: **094096013935**
	Test date: **29-Dec-2025**

Test Description

Identification of PQR followed: **PQR-GASTECH-04** Revision No.: **0** ☒ Test coupon ☐ Production weld

Specification and type/grade or UNS Number of base material(s): **ASTM A516 Gr.70** Thickness: **18** mm

Testing Variables and Qualification Limits

Welding Variables (QW-403)	Actual Values	Range Qualified
Welding process (es)	GTAW+ SMAW	GTAW/SMAW
Type (i.e.; manual, semi-automatic) used	Manual	Manual
Backing (with/ without)	With	With (for CJP)
☒ Plate ☐ Pipe (enter diameter if pipe or tube)		Plate and Pipe
Base metal P-Number to P-Number	P-No.1 to P-No.1	P-No.1 through P-No.15F
Filler metal or electrode specification(s) (SFA) (info. only)	A5.18/A5.1	All
Filler metal or electrode classification(s) (info. only)	ER 70S-6/E7018	
Filler metal F-Number(s)	6/4	
Consumable insert (GTAW or PAW)	N/A	N/A
Filler Metal Product Form (solid/metal or flux-cored/powder)	-	-
Deposit thickness for each process	-	-
Process 1 **GTAW** 3 layers minimum ☐ Yes ☒ No	5 mm	Max: 10 mm
Process 2 **SMAW** 3 layers minimum ☒ Yes ☐ No	13 mm	Max: 26 mm
Position qualified (2G, 6G, 3F, etc.) (Table QW-461.9)	1G	Groove: F for Plate & Pipe (OD ≥73 mm). Fillet: F; H for Plate and Pipe
Vertical progression (uphill or downhill)	N/A	N/A
Type of fuel gas (OFW)	N/A	N/A
Inert gas backing (GTAW, PAW, GMAW)	N/A	N/A
Transfer mode (Spray/globular or pulse to short circuit-GMAW)	N/A	N/A
GTAW Welding current type/polarity (AC, DCEP, DCEN)	DCEN	DCEN

RESULTS

Visual examination of the completed weld (QW-302.4): **ACCEPTED**

☐ Transverse face and root bends [QW-462.3(a)] ☒ Side bends (QW-462.2) , Report: **05/01/26-04./KQTN**

☐ Pipe bend specimen, corrosion-resistant overlay [QW-462.5(c)] ☐ Plate bend specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Pipe specimen, macro test for fusion [QW-462.5(b)] ☐ Plate specimen, macro test for fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result	Type	Result
-	-	-	-	-	-	-	-

Alternative volumetric examination results (QW-191): **RT** ☐ **or UT** ☒ Report No.: **GTC- GT/WPS - UT - 004**

Fillet weld – fracture test (QW-181.2): **N/A** Length and percent of defects: **N/A**

☐ Fillet welds in plate [QW-462.4(b)] Report: ☐ Fillet welds in pipe [QW-462.4(c)]

Other tests: **N/A**

Film or specimens evaluated by: **N/A** Company: **N/A**

Mechanical tests conducted by: **Nguyen Trong Thai** Laboratory test no.: **HOA BINH LAB (LAS-XD 265)**

Welding supervised by: **Nguyen Dac**

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section IX of the ASME BOILER AND PRESSURE VESSEL CODE.

GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED	GTC TECHNICAL CONSULTANCY CO., LTD.	
	Verified by:	Approved by:
Full Name:	Inspector: BUI VAN THAO	
Signature:	GTC CSWIP 3.2: 348700/2 CWI: 17050871	
Date: 14- Jan- 2026	Date: 14- Jan- 2026	Date: 14- Jan- 2026

CÔNG TY TRÁCH NHIỆM HỮU HẠN TƯ VẤN KỸ THUẬT GTC

Vo Van Truong
DIRECTOR

SEE OVERLEAF FOR EXPIRATION AND RENEWAL OF QUALIFICATION

(Cont'd- 2nd sheet)

GASTECH ENGINEERING

WELDING MONITORING REPORT
ASME IX-2025

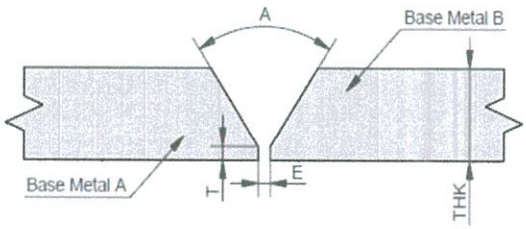
GAS TECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMITED

Add: 274/9/12 NGUYEN VAN TAO ST, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIETNAM

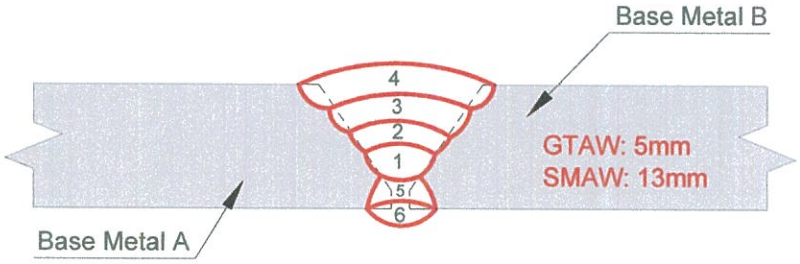
PQR no: **PQR-GASTECH-04** Support for WPS: **WPS-GASTECH-04**		Welding Process: **GTAW + SMAW**	Welder Name: DANG THANH TRUNG	Welder Stamp : 094096013935
Clampmeter No. (calibrated machine) **Kyoritsu KEW 2055**		Thermometer No. **FLUKE 62 MAX**	Oxygenmeter N° : N/A	Weld Machine S/N°. **WSE-400 (GTAW)** **ZX7-500 (SMAW)**
Shielding Gas: **Argon**	Backing Gas: **Argon**	Shield. Gas Flow Rate: **N/A**	Backing Gas Flow Rate: N/A	Welding Position: **1G**

Monitored by: **GTC TECHNICAL CONSULTANCY CO., LTD.**	Position : **TPI INSPECTOR**	Name : **NGUYEN DAC**	Signature :	Monitoring Date: **30/12/2025**

T= 0.5 E= 3.5 A= 60 Bevel: 30



Material: ASTM A516 Gr.70, Plate 18mm



Weld preparation

Travel Speed= Length(cm) / Time(min)

Welding Sequence

Arc Energy= 0,06xVolts(V)xAmps(A) / Travel Speed (mm/min)

Layer / Pass n°	Filler Metal		Interpass Temp. (°C)	Amps (A)	Volts (V)	Weld Length (mm)	Welding Arc Time (min)		Travel Speed (mm/min)	Heat Input (kJ/cm)	Bead Width (mm)	Remark
	AWS Class	Diameter (mm)					Minutes	Second				
Side 1:												
1	ER 70S-6	2.4		128	12.0	450	8	38	52	1.77	6	
2	ER 70S-6	2.4	58	130	12.0	450	7	52	57	1.64	8	
3	E7018	3.2	100	120	23.0	450	6	38	68	2.44	16	
4	E7018	3.2	120	120	23.0	450	7	24	61	2.72	22	
Side 2: after backgouging & grinding												
5	E7018	3.2	80	120	23.0	450	7	14	62	2.66	10	
6	E7018	3.2	110	120	23.0	450	6	32	69	2.40	14	

Comments: Consummable, GTAW : KOVET-T308

SAW ER308L (TIEN TAI) TW-308L/TFS300

ULTRASONIC EXAMINATION REPORT

Technical Consultancy

Report No.: GTC- GT/PQR - UT - 004	
Page 1 of 1	
Request No.: N/A	
Date of inspection: 31/12/2025	
Project name: WELDING PROCEDURE SPECIFICATION (WPS)	Client name:GASTECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMTED
Acceptance criteria: ASME IX_ 2025 Edition	Procedure No.: GTC - NDT - ASME - P02
Item: PLATE/1G	WPS.: PQR-GASTECH-04 / Drawing No.: N/A

Utrasonic Flaw Detector: USM 35 DAC		Serial No.: 17525			Working Area: **RED DEER WORKSHOP**	
Material information		**Probe angle beam**	**0°**	**45°**	**60°**	**70°**
Suface condition :	Brushing	Brand	PHOENIX	OLYMPUS	OLYMPUS	OLYMPUS
Joint preparation :	**BUTT JOINT**	Model	TC	A4MR	A4MR	A4MR
Material base :	**A516 Gr.70**	Serial	21302	567178	566428	567818
Welding process :	**GTAW+SMAW**	Frequency (MHz)	4	4	4	4
Calibration and reference blocks		Size (mmx mm)	Φ10	8x9	8x9	8x9
Calibration block :	V1	Range	100	100	100	140
Serial No.: :	A22468	PRL (dB)	30.5	40	48.5	49.5
Reference block :	V1- Φ3.0 mm	Transfer correction (dB)	-	4	4	4
Couplant :	Cellulose	Scanning level (dB)	+6	+6	+6	+6

EVALUATION

WELDING IDENTIFICATION	WELDER ID.	Length (mm)	Thk. (mm)	Amplitude	INTERPRETATION			Type of defect	Result	Remarks
					Location (mm)	Length (mm)	Depth (mm)			
DANG THANH TRUNG	094096013935	400x450	18	-	-	-	-	-	ACC	

ABBREVIATION: ACC-Accepted REJ-Rejected SP:Spherical

RW-To Cut Or Reweld CL:Cylindrical PL : Planar

GTC TECHNICAL CONSULTANCY CO.,LTD	REVIEWED BY GASTECH	REVIEWED BY OWNER
Evaluated by: NGUYEN DAC UT Level III	Reviewed by:	Reviewed by:
Signature:	Signature :	Signature:
Date: 31/12/2025	Date:	Date:

GTC TECHNICAL CONSULTANCY CO.,LTD NDT VISA

CÔNG TY CỔ PHẦN TƯ VẤN THIẾT KẾ KIỂM ĐỊNH XÂY DỰNG HÒA BÌNH

Địa chỉ: Số 964/1 Đường Lò Gốm, Phường Bình Tiên, Tp.Hồ Chí Minh

PHÒNG THÍ NGHIỆM VẬT LIỆU VÀ KIỂM ĐỊNH CÔNG TRÌNH XÂY DỰNG LAS-XD 265

Địa chỉ: 161B/81/2A Lạc Long Quân, Phường Bình Thới, Tp.Hồ Chí Minh

Email: Las265.hoabinh@gmail.com - Hotline: 0937836265 - 0962109262

Số: 05/01/26-03 ./KQTN	PHIẾU KẾT QUẢ THÍ NGHIỆM	Trang: 1/2
Số PYC: 050126-03		

PHIẾU KẾT QUẢ THÍ NGHIỆM / *TEST REPORT*

XÁC ĐỊNH CƠ LÝ VẬT LIỆU THÉP/ *DETERMINING MECHANICAL OF STEEL MATERIAL*

- **Đơn vị yêu cầu** / *Client* : **GASTECHNICAL AND MECHANICAL ENGINEERING COMPANY LIMTED**
- **Địa điểm** / *Location* : **274/9/12 NGUYEN VAN TAO, St, APT 18, HIEP PHUOC COMMUNE, HO CHI MINH CITY, VIET NAM**
- **P.Pháp thử**/ *Test method* : TCVN 197-2014, TCVN 198-2008, ASME IX_2025
- **Thiết bị TN** / *Test Equipment* : Máy kéo -nén- uốn thép WA-1000B, thước lá, cân kỹ thuật, một số dụng cụ khác…
- **Ngày nhận mẫu** / *Recrived* : 05/01/2026
- **Ngày thí nghiệm** / *Tested* : 05/01/2026
- **Tên mẫu**/*Name of sample* : MỐI HÀN THÉP TẤM / WELDING STEEL PLATE
  : MẪU QUY TRÌNH HÀN/ PQR NO : PQR-GASTECH-04
  : TÊN THỢ HÀN/ WELDER NAME : DANG THANH TRUNG
  : MÃ SỐ THỢ HÀN/ WELDER ID : 094096013935
  : PHƯƠNG PHÁP HÀN/ *WELDING PROCESS :GTAW+SMAW*
  : VẬT LIỆU/ MATERIAL : A516 Gr.70
  : VỊ TRÍ HÀN/ *WELDING POSITION : 1G*
  : CHIỀU DÀY/ *THICKNESS: 18* mm
- **Số lượng**/*Quantity (mẫu)* : 01 (Thép tấm : 450x400X18 mm)

Kết quả thí nghiệm xem trang sau / *experimental results see next page:*

TP.Hồ Chí Minh, ngày 05 tháng 01 năm 2026

CÔNG TY CP TV TK KIỂM ĐỊNH XÂY DỰNG HOÀ BÌNH

ĐD thí nghiệm	T. Phòng Thí Nghiệm	Tổng Giám Đốc
Tested by	*Laboratory*	*Director*
Nguyễn Trọng Thái	KS. Nguyễn Ngọc Linh	Nguyễn Việt Chánh

XD LAS 265

M.S.D.N: 0314265825 - C.T.C.P - CÔNG TY CỔ PHẦN TƯ VẤN THIẾT KẾ KIỂM ĐỊNH XÂY DỰNG HÒA BÌNH - QUẬN 6 - TP. HỒ CHÍ MINH

Ghi chú/ Notice : 1. Mẫu do khách hàng cung cấp,kết quả chỉ có giá trị trên mẫu thử /
Specimens were supplied by client,test result is valid namely submitted specimens only
2 Các thông tin về mẫu,tên công trình, tên khách hành,hạng mục do khách hàng cung cấp /
Information of specimens , project , client , item , were supplied by client

Số/Ref:...../KQTN	**PHIẾU KẾT QUẢ THÍ NGHIỆM** ***TEST REPORT***	Trang/Page:.....

II. KẾT QUẢ THÍ NGHIỆM/ *TEST RESULTS (tt):*

STT No	Mẫu thép *Test Specimen* *(Bề dày) Thick* x *(C. rộng Width)*	Mặt cắt ngang *Cross Section*	Lực kéo chảy *Force at yield point*	Giới hạn chảy *Yield Strength*	Lực kéo đứt *Maximum force*	Giới hạn bền *Tensile Strength*	Vị trí bị đứt *Notice*
	mm x mm	(mm^2)	(kN)	(N/mm^2)	(kN)	(N/mm^2)	
1	18.00 x 25.33	455.9	190.02	417	233.3	512	(3)
2	18.00 x 25.21	453.8	186.35	411	231.5	510	(3)

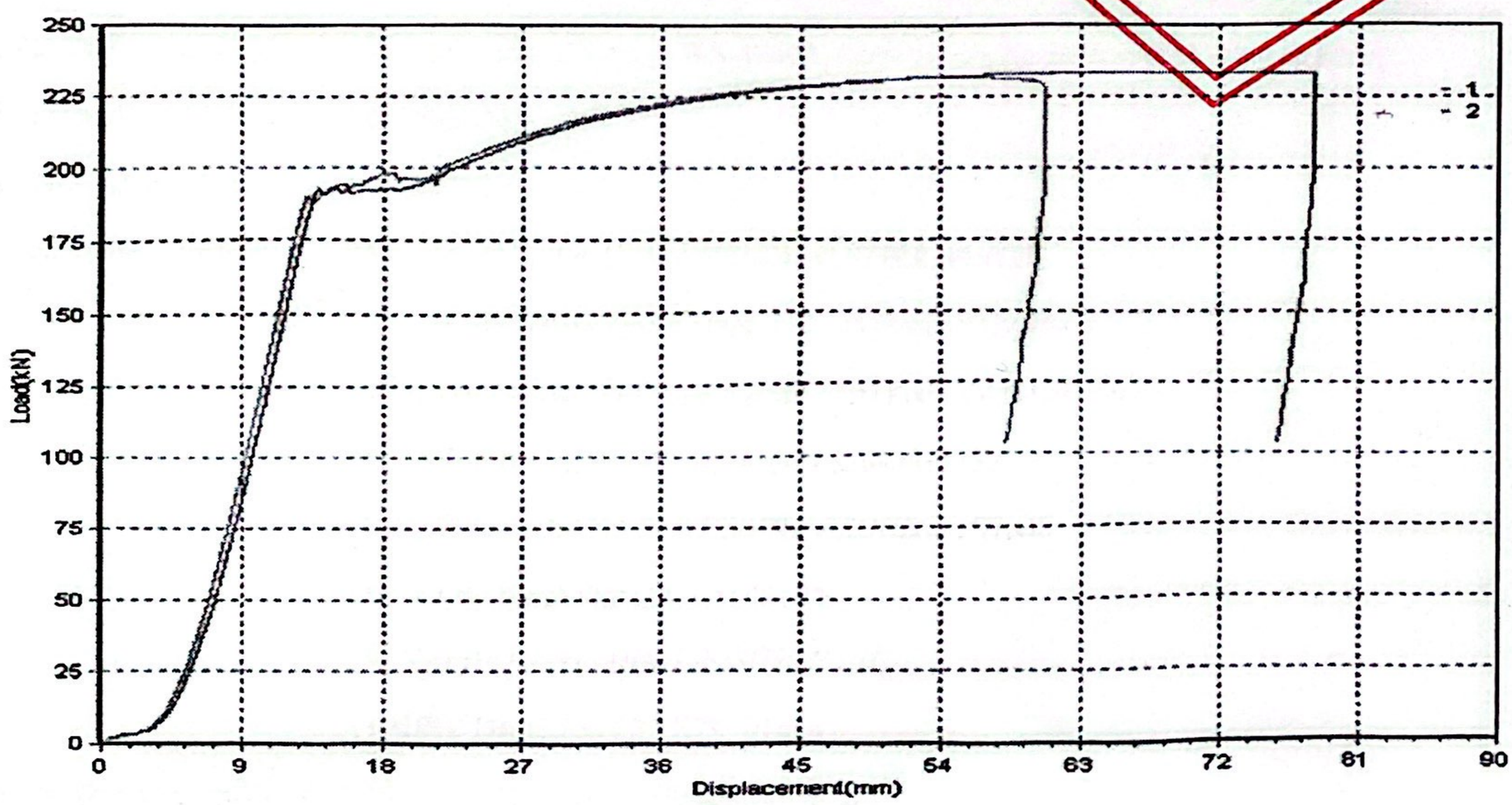
Ghi chú/ *Notice:* Mẫu được thử nghiệm với sự chứng kiến của các bên liên quan/ *Test was witnessed in the presence of Concerned Parties.*

(1) :Đứt tại mối hàn/ Weld Metal

(2) :Đứt ở vùng ảnh hưởng nhiệt/ *Fractured at heat affected zone*

(3) Đứt tại vật liệu cơ bản/ *Base Metal*

XD
LAS 265



II. KẾT QUẢ THỬ UỐN NGUỘI / TEST RESULT OF BEND :

Stt/ No	Mẫu thử/ *Specimens* Ký hiệu mẫu *Sample ID*	Dày *Thickness*	Rộng width	Số lượng Quantity Thanh/ *Bars*	Góc uốn *Bending angle* *(Độ/ Degree)*	Đường kính gối uốn *Diameter of angle* (mm)	**Kết quả thử uốn nguội** ***Test Result of bend***
1	Side bend	18.00	10.26	1	180°	40	Không Nứt / No Crack
2	Side bend	18.00	10.11	1	180°	40	Không Nứt / No Crack
3	Side bend	18.00	10.08	1	180°	40	Không Nứt / No Crack
4	Side bend	18.00	10.18	1	180°	40	Không Nứt / No Crack

Scanned with CamScanner