HIGHER TECH ENGINEERING SDN BHD
202401018807 (156465-D)

HIGHER TECH ENGINEERING SDN BHD

2024

Together towards successful

COMPANY PROFILE

CONTENT

Our company

HIGHER TECH ENGINEERING SDN BHD
202401018807 (156465-D)

Higher Tech Engineering Sdn Bhd (HTESB) was formed in 2024 by the director, Muhamad Naufal Husaini. This company is operating under Higher Tech Fabricator Sdn Bhd. HTESB offered several of services in all business sectors including onshore/offshore of steel fabrication, installation of structural, mechanical works, turnaround plant project and heavy lifting works. We ensure that your journey with us will be filled with endless possibilities.

HTESB has highly skilled and qualified staff in our employ. We are able to focus a wide range of expertise onto producing a quality standard for steel fabricating, which has the hallmark of accuracy and uncompromising attention to detail. Our commitment is to deliver the best product in the services we offer. Together with a strong and committed team which is the key driver of the success of Higher Tech Engineering.

- Gas and Piping/ Pipe Line
- Steel Structure and Installation
- Steel Repair & Maintenance
- Ship and Rig Repair & Maintenance
- Blasting and Painting
- Sea Fastening Services
- Tank and Bundle Cleaning Services
- Barge Hand Drilling Works

The Best Engineer solution for your needs

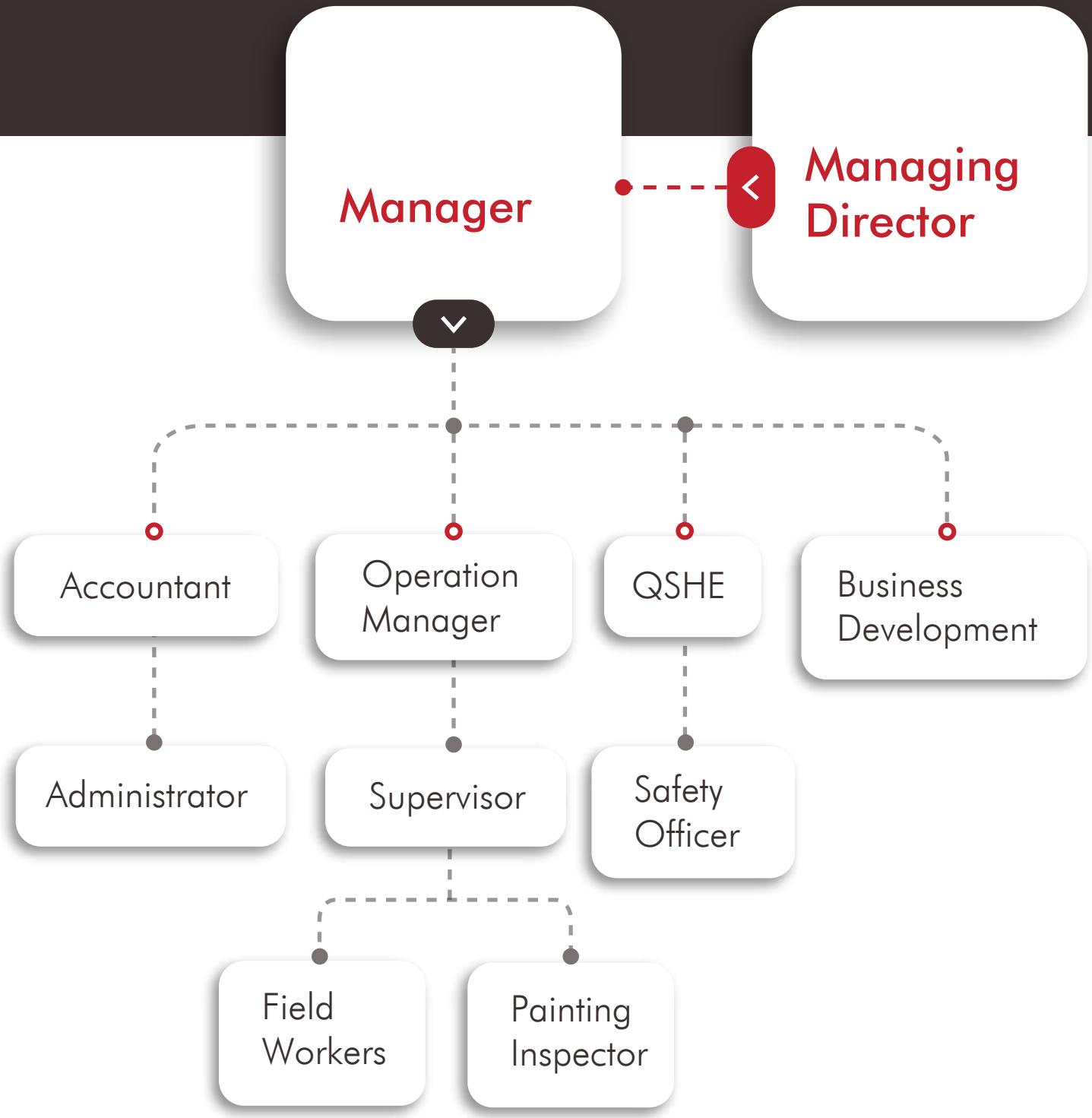
VISION

In our quest for continued success and growth, Higher Tech Engineering's vision is to be recognized as the Contractor and Employee choice. Our goal is to deliver every project to the highest standard through excellent communication and professionalism.

MISSION

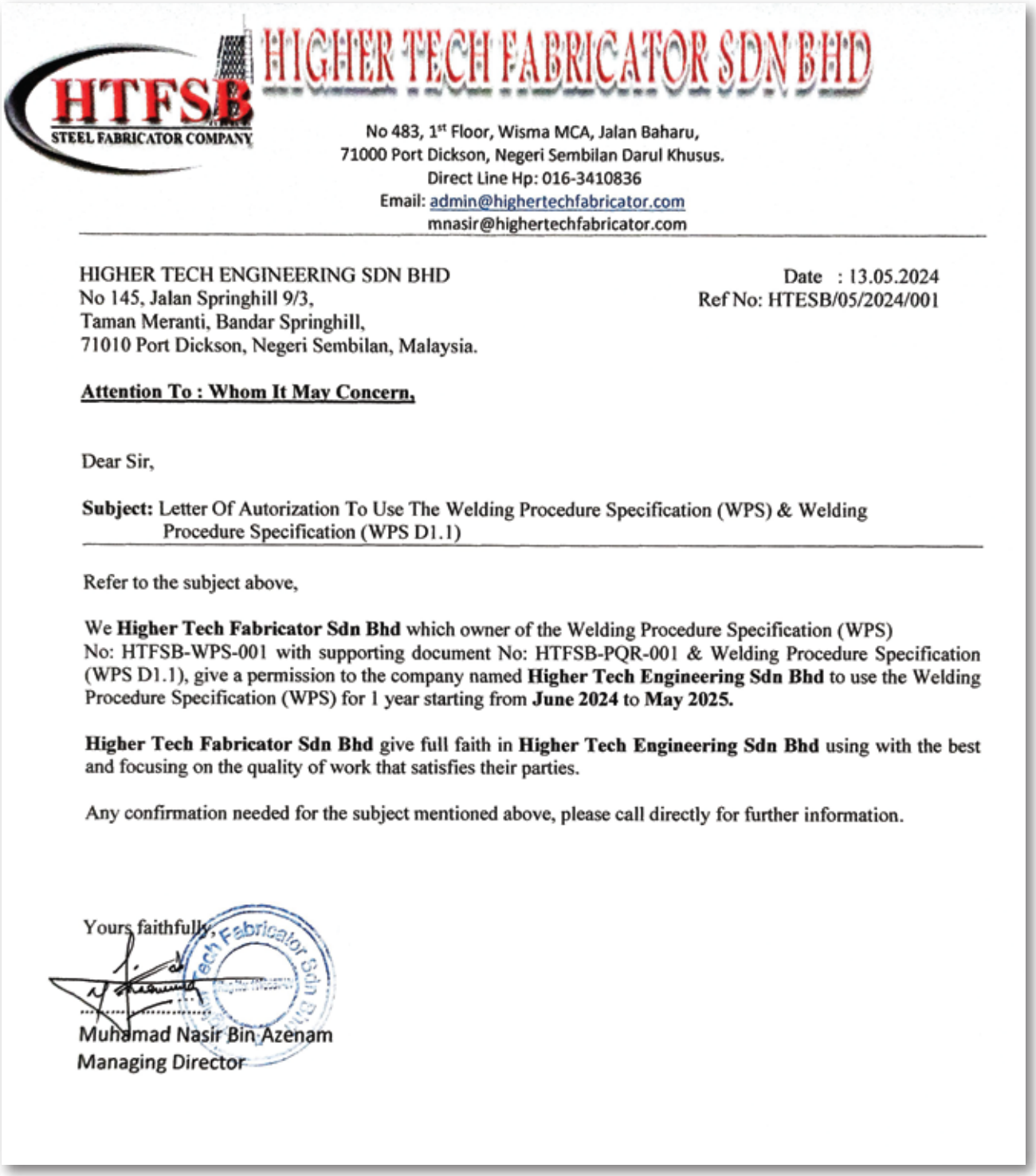
Our mission is to be the preferred provider or family first, incident free and reliable service in all industry with quality solutions and delivered the best services that meet client requirements.

ORGANIZATION CHART



WELDING PROCEDURE SPECIFICATION (WPS)

Permission Letter



HIGHER TECH FABRICATOR SDN BHD

HTFSB
STEEL FABRICATOR COMPANY

No 483, 1st Floor, Wisma MCA, Jalan Baharu,
71000 Port Dickson, Negeri Sembilan Darul Khusus.
Direct Line Hp: 016-3410836
Email: admin@highertechfabricator.com
mnasir@highertechfabricator.com

HIGHER TECH ENGINEERING SDN BHD
No 145, Jalan Springhill 9/3,
Taman Meranti, Bandar Springhill,
71010 Port Dickson, Negeri Sembilan, Malaysia.

Date : 13.05.2024
Ref No: HTESB/05/2024/001

Attention To : Whom It May Concern,

Dear Sir,

Subject: Letter Of Autorization To Use The Welding Procedure Specification (WPS) & Welding Procedure Specification (WPS D1.1)

Refer to the subject above,

We **Higher Tech Fabricator Sdn Bhd** which owner of the Welding Procedure Specification (WPS) No: HTFSB-WPS-001 with supporting document No: HTFSB-PQR-001 & Welding Procedure Specification (WPS D1.1), give a permission to the company named **Higher Tech Engineering Sdn Bhd** to use the Welding Procedure Specification (WPS) for 1 year starting from **June 2024** to **May 2025.**

Higher Tech Fabricator Sdn Bhd give full faith in **Higher Tech Engineering Sdn Bhd** using with the best and focusing on the quality of work that satisfies their parties.

Any confirmation needed for the subject mentioned above, please call directly for further information.

Yours faithfully,

Muhamad Nasir Bin Azenam
Managing Director

Permission letter for using Welding procedure specification (WPS) certificate from Higher Tech Fabricator Sdn Bhd

HIGHER TECH FABRICATOR SDN BHD
WELDING PROCEDURE SPECIFICATION (WPS)

Company Name: HIGHER TECH FABRICATOR SDN BHD By : QA/QC
Welding Procedure Specification No : HTFSB-WPS-001 Date : 11-Feb-19 Supporting PQR No.(s) : HTFSB-PQR-001
Revision No : 0 Date : 11-Feb-19 Reference Code & Standard : ASME IX : 2017

Welding Process (es) : GTAW + SMAW Type : MANUAL
(Automatic, Manual, Machine & Semi-Auto)

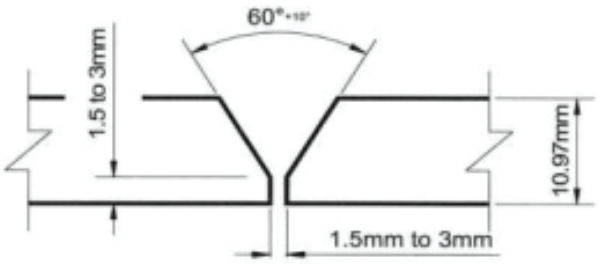
JOINTS (QW-402)

Joint Design : SINGLE 'V'
Backing (Yes) : SMAW (No) : GTAW
Backing Material (Type) : Weld Metal
(Refer to both backing and retainers)

☐ Metal ☐ Nonfusing Metal
☐ Nonmetalic ☐ Other

Sketches, Production Drawings, Weld Symbols or Written Description should show the general arrangement of the parts to be welded. Where applicable, the root spacing and the details of weld groove may be specified.

(At the option of the Mfrg., sketches may be attached to illustrate joint design, weld layers and bead sequence, e.g., for notch toughness procedures, for mutiple process procedures, etc.)



BASE METAL (QW-403)

P-No. 1 Group No. 1 to P-No. 1 Group No. 1
OR
Specification type and grade : Type SA 106 Grade B
to Specification type and grade : Type SA 106 Grade B
OR
Chem. Analysis and Mech. Prop : C-Mn-SI
to Chem. Analysis and Mech. Prop : C-Mn-SI
Thickness Range :
Base Metal :- Groove : 5mm - 21.94mm Fillet : ALL
Other : N/A

FILLER METAL (QW-404)

Process	GTAW	SMAW	
Spec. No. (SFA) :	A5.18	A5.1	
AWS No. (Class) :	ER70S-G	E 7016	
F. No :	6	4	
A. No :	1	1	
Size of Filler Metal (mm) :	ø 2.4	ø 2.6 & ø 3.2	
Weld Metal Thickness Range Groove :	Max 6mm	Max 15.94mm	
Fillet :	ALL	ALL	
Electrode-Flux (Class) :	N/A	N/A	
Consumable Trade Name :	KOBELCO TGS-50	KOBELCO LB-52	
Consumable Insert :	N/A	N/A	
Other :	N/A	N/A	

* Each base metal filler combination should be recorded individually

Higher Tech Fabricator Sdn Bhd Reg No: 1115567-W
10/02/2019

Lloyd's Register Technical Services Reviewed/Verified/Witnessed 21/2/2019
Khairi Anuar
Lloyd's Register

HTFSB

Wps No. HTFSB-WPS-001 Rev. 0

POSITION (QW-405)

Position (s) of Groove	:	All
Weld Progession	:	Uphill
Position (s) of Fillet	:	All

POSTWELD HEAT TREATMENT (QW-407)

Temperature Range	:	N/A
Time Range	:	N/A

PREHEAT (QW-406)

Preheat Temp.	Min :	Ambient
Interpass Temp.	Max :	350° C
Preheat Maintenance :		N/A

(Continuous as special heating where applicable should be be recorded)

GAS (QW-408)

Percent Composition

		Gas(es)	(Mixute)	Flow Rate
Shielding	:	Argon	99.99%	12 ~ 18L/M
Tariling	:	N/A	N/A	N/A
Backing	:	N/A	N/A	N/A

ELECTRICAL CHARACTERISTICS (QW-409)

Weld Layer(s)	Process	Filler Metal		Current		Volt Range	Travel Speed Range (mm / min)	Heat Input (kj / mm)
		Class	Dia (ø) (mm)	Type Polar	Amp Range			
Root	GTAW	ER70S-G	2.4	DCEN	100 ~ 150	10 ~ 20	90 ~ 160	Max 2.0
Hot Pass	SMAW	E7016	2.6	DCEP	80 ~ 110	20 ~ 30	90 ~ 160	Max 2.0
Filling	SMAW	E7016	3.2	DCEP	90 ~ 130	20 ~ 30	90 ~ 160	Max 2.0
Capping	SMAW	E7016	3.2	DCEP	90 ~ 130	20 ~ 30	90 ~ 160	Max 2.0

Tungsten Electrode Size and Type : 2.4 mm / 2% Thoriated
(Pure Tungsten, 2% Thoriated, etc)

Mode of Metal Transfer For GMAW : N/A
(Spray arc, short circuting arc, etc)

Electrode Wire feed speed range : N/A

TECHNIQUE (QW-410)

String or Weave Bead :	String / Weave
Orifice or Gas Cup Size :	N/A
Initial and interpass Cleaning (Brushing, Grinding, etc):	Brushing & Grinding
Method of Back Gauging:	N/A
Oscillation:	N/A
Contact Tube to Work Distance:	N/A
Multiple or Single Pass (Per side):	Multiple
Multiple or Single Electrodes:	Single
Travel Speed (Range):	Refer table
Peening:	N/A
Other:	N/A

Prepared by,

Higher Tech Fabricator Sdn Bhd Reg No: 1115567-W

HTFSB QA/QC
Name: FAHMI
Date: 12/02/2019

Reviewed by,

Client Representative
Name:
Date:

Approved by,

Lloyd's Register Technical Services Reviewed/Verified/Witnessed Khairil Anuar Kuala Lumpur Office 21/2/2019

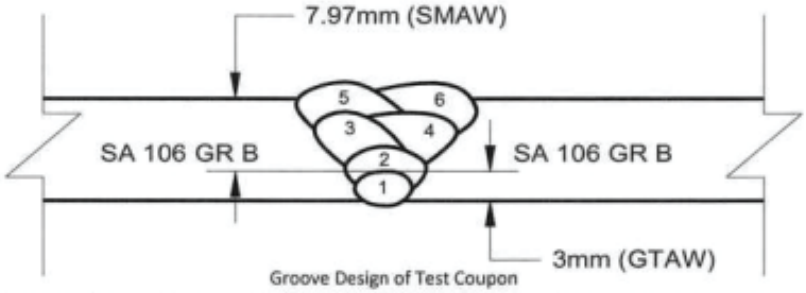
Third Party
Name:
Date:

HIGHER TECH FABRICATOR SDN. BHD.

PROCEDURE QUALIFICATION RECORDS (PQR)

Company Name :	HIGHER TECH FABRICATOR SDN BHD		
Procedure Qualification Record No :	HTFSB-PQR-001	Date :	18-Jan-19
WPS No. :	HTFSB-WPS-001		
Welding Process (es) :	GTAW + SMAW		
Types (Manual, Automatic, Semi-Auto) :	MANUAL		
Reference Code & Standard :	ASME IX : 2017		

JOINTS (QW-402)



Groove Design of Test Coupon

(For combination qualifications, the deposited weld metal thickness shall be recorded for each filler metal or process used)

BASE METAL (QW-403)

Material Spec. :	SA 106	to	SA 106	
Type or Grade :	B	to	B	
P-No :	1	to P-No :	1	
Group :	1	to Group :	1	
Thickness of Test Coupon :	10.97mm			
Diameter of Coupon :	6"			
Other :	N/A			

POSTWELD HEAT TREATMENT (QW-407)

Temperature :	N/A
Time :	N/A
Other :	N/A

FILLER METAL (QW-404)

	GTAW	SMAW
SFA Specification :	A5.18	A5.1
AWS Classification :	ER70S-G	E 7016
Filler Metal F-No :	6	4
Weld Metal Analysis A-No :	1	1
Size of Filler Metal (mm) :	ø 2.4	ø 2.6 & ø 3.2
Other :	N/A	N/A

GAS (QW-408)

	Gas(es)	(Mixture)	Flow Rate
Shielding :	Argon	99.99%	12 ~ 18L/M
Trailing :	N/A	N/A	N/A
Backing :	N/A	N/A	N/A

POSITION (QW-405)

Position of Groove :	6G
Weld Progression :	Uphill
Other :	All

ELECTRICAL CHARACTERISTICS (QW-409)

	GTAW	SMAW
Current :	DC	DC
Polarity :	DCEN	DCEP
Amps /Volts :	146 / 14	103-119 / 20-24
Tungsten Electrode Size :	2.4 mm/2% Thoriated	
Other :	N/A	

PREHEAT (QW-406)

Preheat Temp :	Ambient
Interpass Temp :	80°C - 204°C
Other :	N/A

TECHNIQUE (QW-410)

	GTAW	SMAW
Travel Speed (mm/min) :	94.4	105.5 - 139.2
String or Weave Bead :	Both	
Oscillation :	N/A	
Multipass or Single Pass :	Multipass	
Single or Multiple Electrodes :	Single	
Other :	N/A	

Higher Tech Fabricator Sdn Bhd
Reg No: 1115567-W
12/02/2019

Lloyd's Register Technical Services
Reviewed/Verified/Witnessed
Khairi Anuar Bin Hj Hanipah
Kuala Lumpur Office
12/2/2019

HIGHER TECH FABRICATOR SDN BHD
WELDER PERFORMANCE QUALIFICATION (WPQ)

Welder's name : MOHD HAFIS MOHD ARSAD Identification no : 860403-23-5809

Test Description

Identification of WPS followed : HTFSB-WPS-001 ☑ Test coupon ☐ Production weld

Specification of base metal (s) : SA 106 GR B Thickness : 10.97 mm

Welder no : WN001

Testing conditions and qualification limits

Welding variable (QW-350)	Actual values		Range qualified	
	Process 1	Process 2	Process 1	Process 2
Welding process(es) :	GTAW	SMAW	GTAW	SMAW
Type (ie; manual, semi-auto) used :	Manual	Manual	Manual	Manual
Backing (metal, weld metal, double-welded, etc) (With / Without)	Without	With	With & Without	With
☐ Plate ☑ Pipe (enter diameter if pipe or tube) :	Ø 6 " Sch 80		Ø 2 7/8" OD to Unlimited	
Base metal P-or S-number to P-or S-number :	P 1 Group to P 1 Group 1		P-or S-No. 1 through P-or S-No.15F, P- or S-No. 34, and P-or S-No 41 through P- or S-No. 49 or unassigned metal of similar chemical composition	
Filler metal or electrode specification(s) (SFA) :	SFA 5.18	SFA 5.1	As per qualified F-Number	
Filler metal or electrode classification (s) :	ER70S-G	E-7016	As per qualified F-Number	
Filler metal F-Number (s) : (8 : with backing / NB : no backing)	6	4	All F-No. 6	1B, 2B, 3B, 4B
Consumable insert (GTAW or PAW) :	N/A		N/A	
Filler type (solid/metal or flux cored/powder)(GTAW or PAW)	Solid		Solid	
Deposit thickness for each process :				
Process 1 : GTAW	3 mm		Max 6 mm	
Process 2 : SMAW	7.97mm		Max 15.94 mm	
Position qualified (2G,6G,3F etc) :	6G			
a) Groove				
i) Plate and Pipe Over 24 in. (610 mm) O.D. :			All	
ii) Pipe ≤ 24 in. (610 mm) O.D. :			All	
b) Fillet				
i) Plate and Pipe :			All	
Vertical progression (uphill or downhill) :	Uphill		Uphill	
Type of fuel gas :	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 current type/polarity (AC, DCEP, DCEN) :	DCEN		DCEN	

Results

Visual examination of completed weld (QW-302.4) : Acceptable

☐ Bend test, ☐ Transverse root and face [QW-462.3(a)] ☐ Longitudinal root and face [QW-462.3(b)], ☐ Side (QW-462.2)

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

☐ Macro test for fusion [QW-462.5(b)] ☐ Macro test for fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
N/A	N/A	N/A	N/A	N/A	N/A

Alternative radiographic examination results (QW-191) : Acceptable - Refer RT Report No. (TS/RT/TDE/003)

Fillet weld — fracture test (QW-180) : N/A Length and percent of defects : N/A

Macro examination (QW-184) : N/A Fillet size (in.) N/A x N/A Concavity/convexity (in.) : N/A

Other tests : N/A

Film or specimens evaluated by : NASRAN (ASNT LEVEL II) Company : TOTAL STERLING (M) SDN BHD

Mechanical tests conducted by : N/A Laboratory test no. : N/A

Welding supervised by : Lloyd's Register

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

Prepared by : Witnessed by : (If required) Approved by :

Higher Tech Fabricator Sdn Bhd Client Third Party / Authorized Inspector

Date : 12/09/2019 Date : Date : 12/9/2019

HIGHER TECH FABRICATOR SDN BHD

No. 483, 1st Floor, Wisma MCA, Jalan Baharu, 71000 Port Dickson, Negeri Sembilan, Malaysia

Welding Procedure Specification (WPS) AWS D1.1

Qualified by Testing

Company Name	: HIGHER TECH FABRICATOR SDN BHD	Revision	: 0	Type :	
Welding Process(es)	: SMAW	Date	: 11 FEBRUARY 2019	Manual	: X
WPS No.	: HTFSB-WPS-002	By	: QA/QC	Machine	:
Supporting PQR No.(s)	: HTFSB-PQR-002	Authorized by	: Lloyd's Register	Semi Automatic	:
		Date	: 12 FEBRUARY 2019	Automatic	:

JOINT DESIGN USED

Type : CJP GROOVE WELD (SINGLE-V)

Single : X — Double Weld : ☐

Backing : Yes : ☐ — No : X

Backing Material : N/A

Root Opening : 0mm - 3mm (+ 2mm) — Root Face Dim : 0mm - 3mm (+ 2mm)

Groove Angle : 60° (+ 10°) — Radius(J-U) : N/A

Back Gouging : Yes : ☐ — Method : N/A

: No : X

POSITION

Position of Vertical Progression — Groove : ALL — Up : X — Fillet : ALL — Down : N/A

ELECTRICAL CHARTERISTICS

Transfer Mode (GMAW) — Short-Circuiting : ☐ — Globular : ☐ — Spray : ☐ — Pulsed : ☐

Current : AC ☐ — DCEP X 2nd Pass and Above — DCEN X 1st Pass

Other :

Tungsten Electrode (GTAW) — Size: N/A — Type: N/A

BASE METALS

Material Spec.	: ASTM A106	Welded To	: ASTM A106
Type or Grade	: B		: B
Material Grouping	: GROUP I		
Thickness	: 3 mm to 21.94		Fillet : Max 21.94 mm
Diameter (Pipe)	: 4" TO UNLIMITED		

TECHNIQUE

Stringer or Weave Bead: STRINGER & WEAVE

Multi-pass or single Pass (per side) : MULTIPASS

Number of Electrodes: SINGLE

Electrode Spacing — Longitudinal: N/A — Lateral: N/A — Angle: N/A

Contact Tube to Work Distance: N/A

Peening: NO

Interpass Cleaning: GRINDING & WIRE BRUSH

FILLER METALS

	(1)	(2)	
AWS Classification	E-7016	E-7018	
Diameter	2.6	2.6 / 3.2 / 4.0	
Manufacturer/Trade Name	LB-52U	LB-52-18	(Kobelco)

SHIELDING

Flux : N/A — Gas : N/A

Composition : N/A

Electro-Flux (Class) : N/A — Flow Rate : N/A

Gas Cup Size : N/A

PREHEAT

Preheat Temp. Min. : 0° C for thickness(0mm - 20mm)

60° C for thickness (20mm above)

Interpass Temp. Max. : 250°C

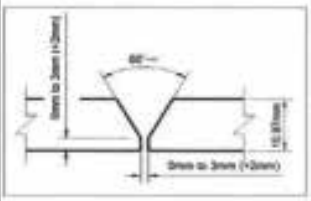
POST WELD HEAT TREATMENT

Temp. : N/A

Time : N/A

Others : N/A

WELDING PROCEDURE

Pass	Process	Filler Metals		Current			Travel Speed mm / min	Heat Input (kJ/mm)	Joint Details
		Class	Dia.	Type & Polarity	Amperage	Volts			
1 PASS	SMAW	E7016 LB-52U	2.6	DCEN	30 - 80	20 - 30	90 - 160	2.0 max	
2 PASS & ABOVE	SMAW	E7018 LB-52-18	2.6	DCEP	50 - 90	20 - 30	90 - 160	2.0 max	
			3.2	DCEP	80 - 130	20 - 30	90 - 160	2.0 max	
			4.0	DCEP	110 - 180	20 - 30	90 - 160	2.0 max	

And all joint details complying to AWS D1.1 Figure 3.3

Higher Tech Fabricator Sdn Bhd

12/2/2019

HIGHER TECH FABRICATOR SDN BHD

No. 483, 1st Floor, Wisma MCA, Jalan Baharu, 71000 Port Dickson, Negeri Sembilan, Malaysia

Procedure Qualification Records Specification (PQR) AWS D1.1

Qualified by Testing X

Company Name	: HIGHER TECH FABRICATOR SDN BHD	Revision	: 0	Type :	
Welding Process(es)	: SMAW	Date	: 11 FEBRUARY 2019	Manual	: X
Supporting PQR No.(s)	: HTFSB-PQR-002	By	: QA/QC	Machine	:
WPS No.	: HTFSB-WPS-002	Authorized by	: Lloyd's Register	Semi Automatic	:
		Date	: 12 FEBRUARY 2019	Automatic	:

JOINT DESIGN USED

Type : CJP GROOVE WELD (SINGLE-V)
Single : X Double Weld :
Backing : Yes : No : X
Backing Material : N/A
Root Opening : 4mm Root Face Dim : 2mm
Groove Angle : 60° Radius(J-U) : N/A
Back Gouging : Yes : Method : N/A
: No : X

POSITION

Position of Groove : 6G Fillet : N/A
Vertical Progression Up : X Down : N/A

ELECTRICAL CHARTERISTICS

Transfer Mode (GMAW) Short-Circuiting : Spray :
Globular : Pulsed :

Current : AC DCEP X 2nd pass & above
DCEN X 1st pass
Other :
Tungsten Electrode (GTAW) Size: N/A
Type: N/A

BASE METALS

Material Spec.	: ASTM A106	Welded To	: ASTM A106
Type or Grade	: B		: B
Material Grouping:	: GROUP NO I		
Thickness	: Groove : 10.97 mm		Fillet : N/A
Diameter (Pipe)	: 6" Sch 40		

TECHNIQUE

Stringer or Weave Bead: STRINGER & WEAVE
Multi-pass or single Pass (per side) : MULTIPASS
Number of Electrodes: SINGLE
Electrode Spacing Longitudinal: N/A
Lateral: N/A
Angle: N/A
Contact Tube to Work Distance: N/A
Peening: NO
Interpass Cleaning: GRINDING & WIRE BRUSH

FILLER METALS

	(1)	(2)	
AWS Classification	E-7016	E-7018	
Diameter	2.6	2.6 & 3.2	
Manufacturer/Trade Nam	LB-52U	LB-52-18	(Kobelco)

SHIELDING

Flux : N/A Gas : N/A
Composition : N/A
Electro-Flux (Class) : N/A Flow Rate : N/A
Gas Cup Size : N/A

PREHEAT

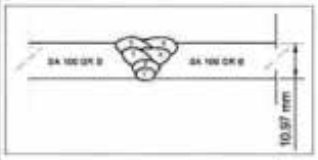
Preheat Temp. : Ambient Temperature
Interpass Temp. Max. : 204°C

POST WELD HEAT TREATMENT

Temp. : N/A
Time : N/A

WELDING PROCEDURE

Pass	Process	Filler Metals		Current			Travel Speed mm/min	Heat Input (kJ/mm)	Joint Details
		Class	Dia.	Type & Polarity	Amperage	Volts			
1	SMAW	E7016	2.6	DCEN	80	22	94.4	1.12	
2	SMAW	E7018	2.6	DCEP	108	21	105.5	1.29	
3	SMAW	E7018	3.2	DCEP	119	24	125.5	1.37	
4	SMAW	E7018	3.2	DCEP	118	24	139.2	1.22	
5	SMAW	E7018	3.2	DCEP	105	20	110.9	1.14	
6	SMAW	E7018	3.2	DCEP	103	21	119.2	1.09	



Higher Tech Fabricator Sdn Bhd Reg No: 1115567-W
12/02/2019

Lloyd's Register Technical Services Reviewed/Witnessed Khairi Anuar Yusoh
19/2/2019

HIGHER TECH FABRICATOR SDN BHD

No. 483, 1st Floor, Wisma MCA, Jalan Baharu, 71000 Port Dickson, Negeri Sembilan, Malaysia

Procedure Qualification Record (PQR) No: HTFSB-PQR-002

Test Results

TENSILE TEST

Specimen No.	Width (mm)	Thickness (mm)	Area	Ultimate Tensile Load, lb	Ultimate Unit Stress, psi	Character of Failure and Location
TT1	20.02	19.99	221.42	11.4 tf	73006 psi	*The specimen shows ductile fracture at base metal*
				111455 N	503.36 N/mm2	
TT2	19.99	10.35	206.9	10.8 tf	74231 psi	*The specimen shows ductile fracture at base metal*
				105892 N	511.81 N/mm2	

GUIDED BEND TEST

Specimen No	Type of Bend	Result	Remarks
1	Transverse Side Bend	Pass	No visible open defect was observed
2	Transverse Side Bend	Pass	No visible open defect was observed
3	Transverse Side Bend	Pass	Open defect was observed measuring 0.2mm at the weld metal
4	Transverse Side Bend	Pass	No visible open defect was observed

VISUAL INSPECTION

Appearance : Acceptable
Undercut : NIL
Piping porosity : NIL
Convexity : NIL
Test date : 02 February 2019
Witnessed by : Lloyd's Register

Welder's name : Mohd Hafis Bin Mohd Arsad
I/C No : 860403-23-5809

CHARPY IMPACT TEST

TAG NO.	LOCATION	VALUE			AVERAGE

HARDNESS SURVEY - LOAD 10kgf. TYPE = HVN

TOP	NO	HVN
Base Metal		
HAZ		
Weld Metal		
BOTTOM	**NO**	**HVN**
Base Metal		
HAZ		
Weld Metal		

RADIOGRAPHIC-ULTRASONIC EXAMINATION

RT report no: ***TS/RT/TDE/004*** Result: ***Accept***
UT report no: N/A Result: N/A

FILLET WELD TEST RESULTS - N/A

Min. size multiple pass N/A
Macroetch N/A

Min. size multiple pass N/A
Macroetch N/A

ALL WELD METAL TENSION TEST - N/A

Tensile strength, psi : N/A
Yield point/strength, psi : N/A
Elongation in 2 in., % : N/A

MACRO EXAMINATION

Macro examination shows satisfactory penetration, no lack of fusion inclusions and other defects.

Test conducted by : Metacos Engineering & Testing Services Sdn. Bhd.
Test No: METSB 19-034

We, the undersigned, certify that the statements in this record are correct and that the test welds were preprared, welded, tested in accordance with the requirement of AWS D1.1 - 2015 Structural Welding Code

Signed : Title : QA/QC
Name : Date : 12/02/2019

Signed : Title : Third Party
Name : Date :

Higher Tech Fabricator Sdn Bhd Reg No. 111557-U HTFSB

Lloyd's Register Technical Services Reviewed/Verified Khairi Anuar Kuala Lumpur Office Lloyd's Register

AWS D1.1:2015

HIGHER TECH FABRICATOR SDN BHD

WELDER, WELDING OPERATOR OR TACK WELD QUALIFICATION TEST RECORD

Type of Welder	: SMAW	**Welder No.**	: WN001
Name	: MOHD HAFIS BIN MOHD ARSAD	**Identification No.**	: 860403-23-5809
Welding Procedure Specification No.	: HTFSB-WPS-002	**Rev** : 0	**Date** : 18 JANUARY 2019

Variables	Record Actual Values Used in Qualification	Qualification Range
Process / Type [Table 4.12, Item (1)]	SMAW	SMAW
Electrode (single or multiple) [Table 4.12, item (7)]	Single	Single
Current / Polarity	DCEP	DCEP
Position [Table 4.12, Item (4)]	6G	All Positions
Weld Progression [Table 4.12, item (5)]	Uphill	Uphill
Backing (Yes or No) [Table 4.12, item (6)]	NO	WITH & WITHOUT
Material Spec	ASTM A106 GR.B	All base material in Table 3.1
Base Metal		
Thickness : (Plate)		
Groove	N/A	5 mm to Unlimited
Fillet	-	5 mm to Unlimited
Thickness : (Pipe / Tube)		
Groove	10.97 mm Thk.	5 mm to 21.94 mm
Fillet	N/A	5 mm to 21.94 mm
Diameter : (Pipe)		
Groove	6 in.	4 in. OD to Unlimited
Fillet	N/A	All
Filler Metal [Table 4.12]		
Spec. No.	SFA 5.1	SFA 5.1
Class	E-7016 & E7018	E-7016 & E-7018
F-No [Table 4.12, item (2)]	4	4
Gas / Flux Type [Table 4.12]	N/A	N/A
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)

Acceptable: YES or NO Yes

Guided Bend Test Results (4.30.5)

Type	Results	Type	Results
N/A	-	N/A	-
N/A	-	N/A	-

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appereance	: N/A	**Filler Size**	: N/A
Fracture test root penetration	: N/A	**Macroetch**	: N/A

(Describe the location, nature and size of any crack or tearing of specimen

Inspected by	: N/A	**Test Number**	: N/A
Organization	: N/A	**Date**	: N/A

RADIOGRAPHIC TEST RESULTS (4.30.3.2)

Film identification			Film identification		
Number	**Results**	**Remarks**	**Number**	**Results**	**Remarks**
0 - 18	Accept	NSD	36 - 0	Accept	NSD
18 - 36	Accept	Porosity			

Interpreted by	: Mr. Nasran	**Test Number**	: TS/RT/TDE/004
Organization	: Total Sterling (M) Sdn. Bhd.	**Date**	: 23 JANUARY 2019

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 4 of AWS D1.1, (2015) Structural Welding Code - Steel.

Manufacturer or Contractor : Higher Tech Fabricator Sdn. Bhd. 12/02/2019.

Authorized By : Lloyd's Register

Date : 12/2/2019

OUR SERVICES

01 Gas and Piping/ Pipe Line

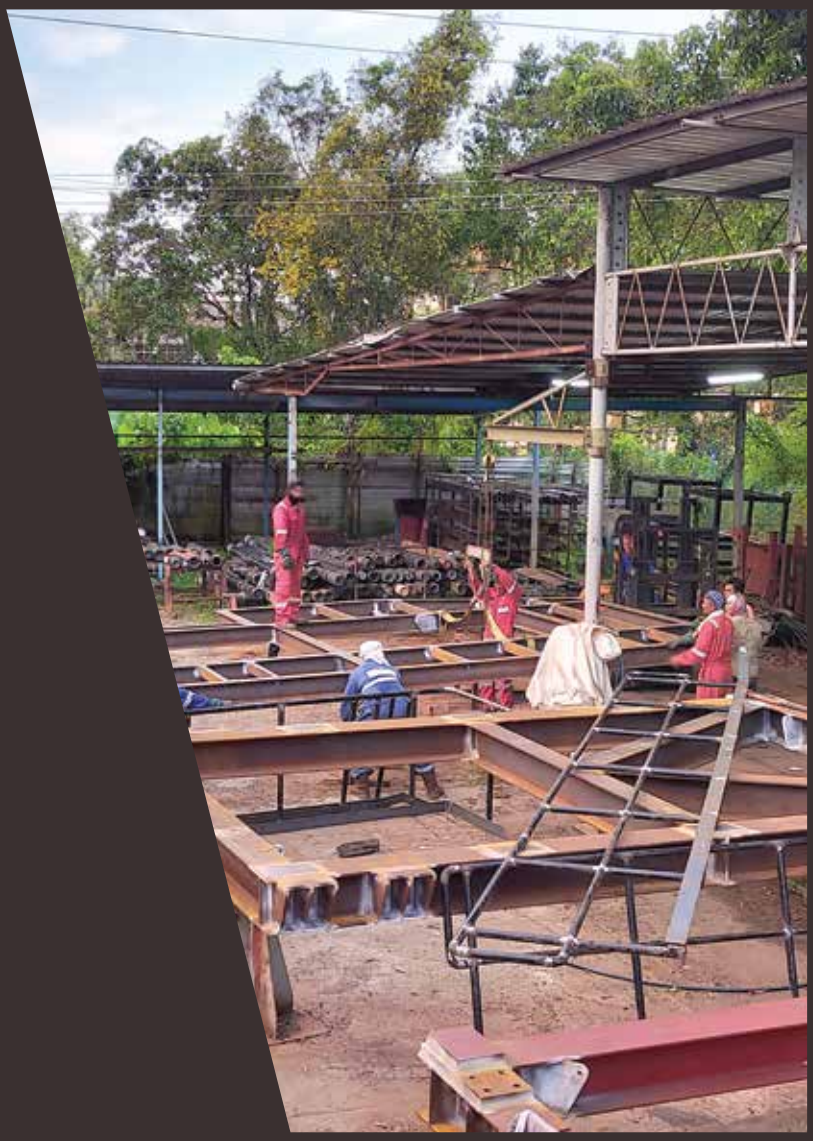
We ensure the engineering methodology that comprises of latest technology is utilized to profitably produce, transport and distribute these products.

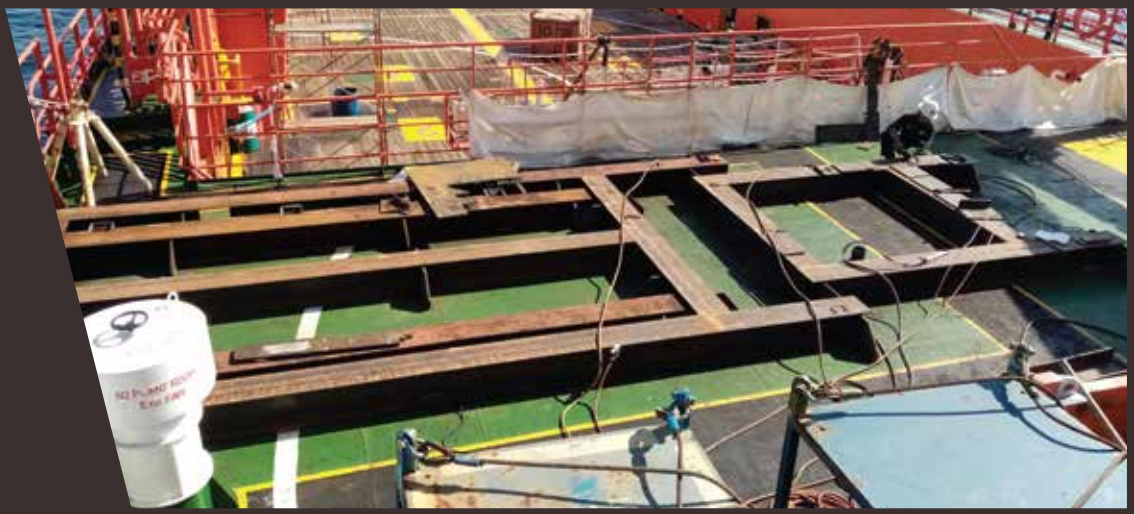
Higher Tech Engineering provide clients with a complete oil and gas pipeline solution from GIS capability, distributed control and instrumentation packages and a solid background in premits and community relations as well as the ability to design and optimise the actual pipeline itself. We have the practical experience, technical background and specialized tools necessary to meet owner specifications and government regulations. Our engineering management covers the entire spectrum of engineering servixes, renging from basic and detailed engineering to construcetion supervision and project commissioning. We ensure the highest quality standards bycombining advanced technology with extensive knowledge and experience.

02

Steel Structure and Installation

Often times challenging project requires complex Steel Fabrication. Our clients put their trust to our unmatched capabilities of meeting their complex design-build requirements. As the recognized expert in steel fabrication industries, the core priority of our company is to successfully exceed client expectation by focusing on innovation, knowledge and commitment on every each of our professional work product.






LGM 1032
LABUAN GAS & MACHINERY
SDN. BHD.

03

Steel Repair and Maintenance

We provide of steel repair and maintenance services not only in oil and gas bit also all engineering industries. We will meet all your needed repairs and maintenance according to your specifications.

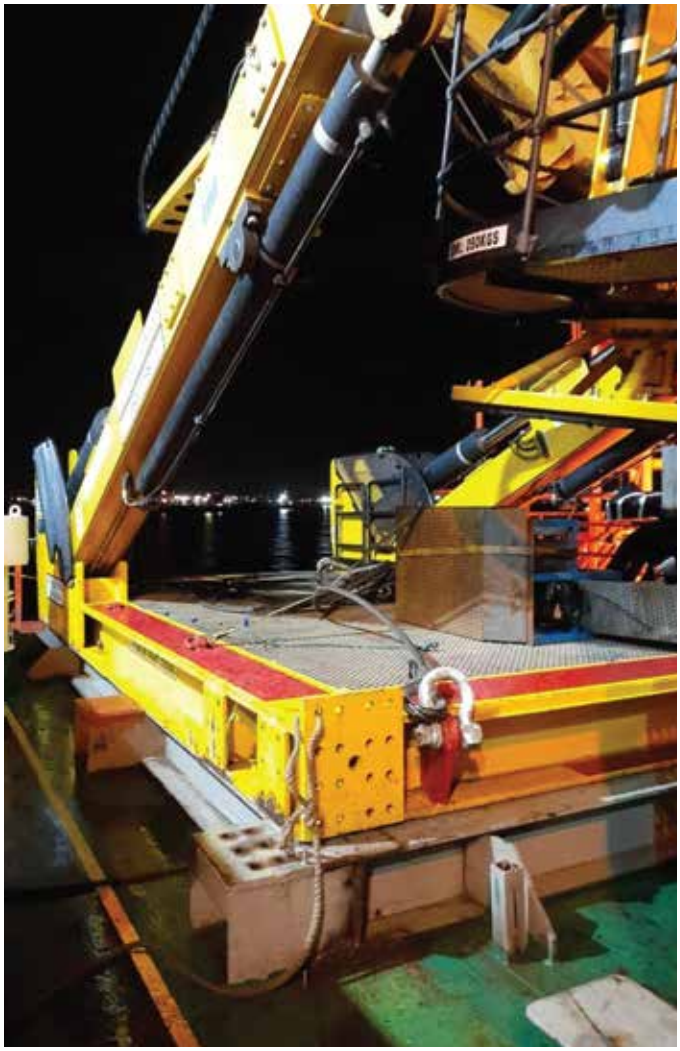
Dedicated to provide quality services at an affordable price regardless of the scope of work received either major or minor. With our qualified technicians and extensive experience, we will ensure the repair and maintenance of our service will not dissappoint you.


BS 1066

04

Ship & Rig Repair and Maintenance

With an open sea accessible, strategic and ISPS location in the main yard of Labuan and Peninsular Malaysia, Higher Tech Engineering is dedicated in hiring the most experienced and talented management team who understand the need to safely re-deliver a vessel on-time and on-budget. Our shipyards and our people are committed to quality, continuous improvement.




7000KG

05

Sea Fastening Services

We understand the need for safety securing cargo and abnormal loads at sea in order that no movement occurs that may result in costly damage. The safe passage of vessel, cargo and crew remain paramount in the provision of sea fastening servoces and we endeavour to design bespoke sea fasteing systems to meet the needs of individual cargo and ships/barges. We are committed and deliver services to the most demanding requirements of offshore transportation with the capabilities of customing solutions to suit your specific requirements.

With many years of experience in the oil and gas and engineering industry, we pride ourselves in knowing what you need, why you need it and having the best soltion available.


PPE ZONE


SN-SMSW NO 172
MGW 1000 KG
DIM - 194X95X160
T - 28 - 07 - 2015
VN 10 09 2019

06

Blasting and Painting Works

We provides various types of blasting and painting services in all engineering industry. We understand that surface preparation is essential for satisfactory performance of any paint systmes will fail if surface preparation is inadequate either in cleanliness or profile.

Our highly skilled blasters and painters are committed to provide the best solutions, methods, quality and value in areas such as Shipyards, LNG Plants, fabrication faicilities, offshore and onshore projects and more. We work in difficult to reach locations, for repair work or where there are time restraints in completing a project. Rope Access is a mean to complete your projects safely, on-time and within budget. All our coating system are applied in accordance with the respective paint manufactures specifications. This process closely monitored throughout the coating application.

07 Barge Handrail Works

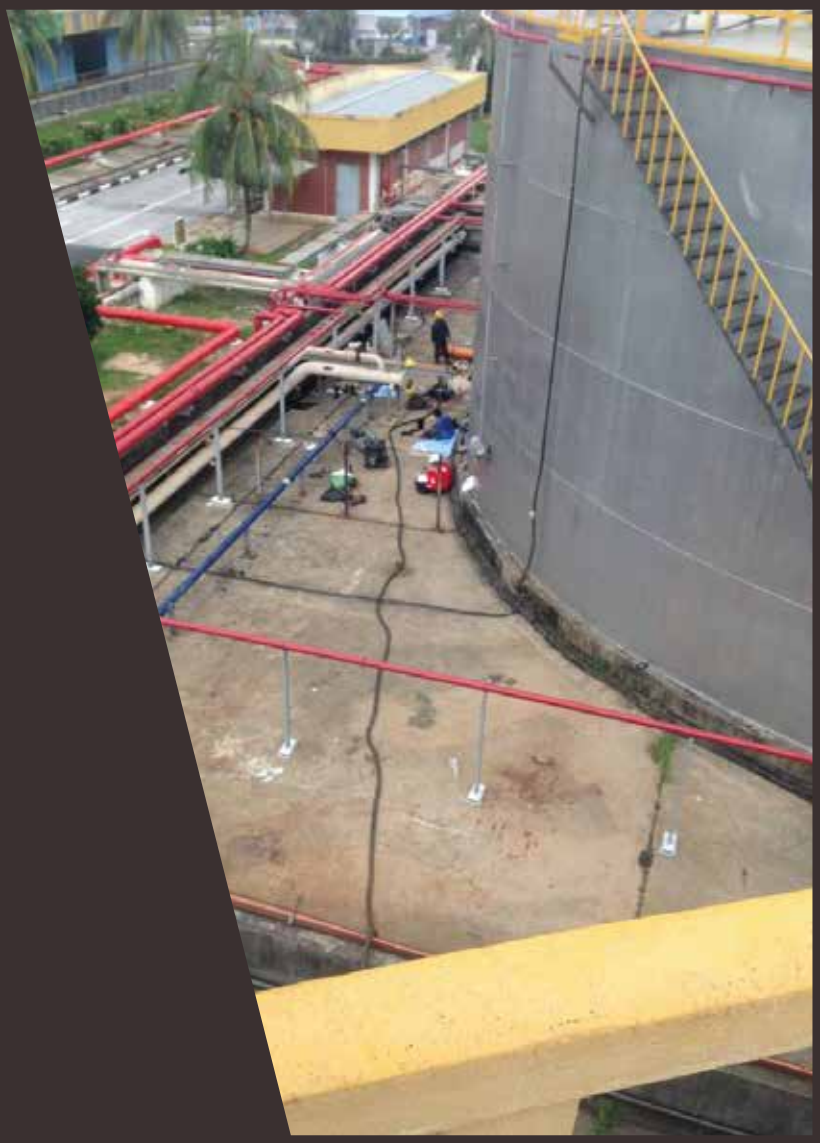
The main function of handrails is to act as a barrier and guidance. Handrails are an excellent safety barrier in case someone trip, missed step, or losing balance. To prevent any accidents in the work area, Higher Tech Engineering plays a big role in providing separation, support and safety for our customers.


NO HOT
WORK
AREA

08 Tank and Bundle Cleaning

We are specializes in cleaning tanks that are utilized to store various chemical product types including crude oil, fuel oil, slop oil, hazardous chemicals, wastewater, asphalt and other products.

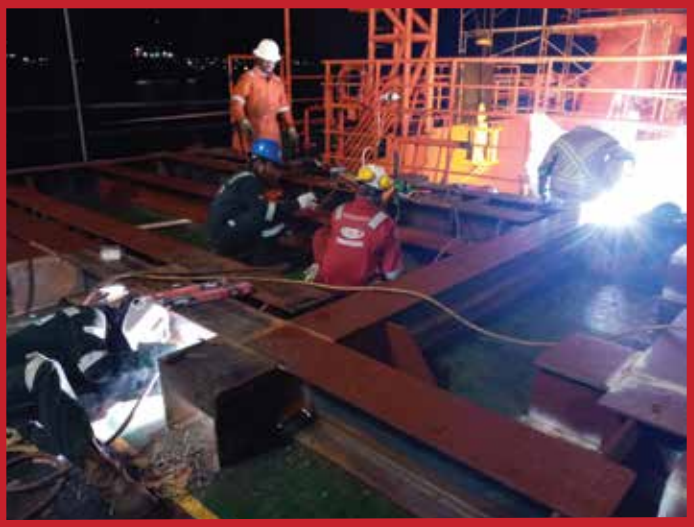
From rotine maintenance to remove solids and sludge, decontamination measures, tank renovation or the demolition and decommissioning of a tank, our trained personnel will perform the storage tank cleaning.



COMPANY WORK EXPERIENCE

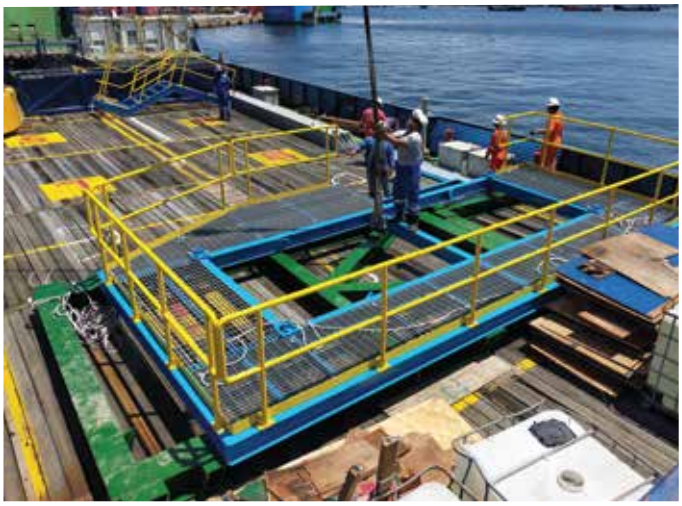
TA Project Petronas Melaka MRCSB






Vessel AT 300 Sapura Subsea Services Shell

SKD ESPERANZA JACK UP RIG ROV PROJECT



SUPPORT BIG AND GROWING ORGANIZATIONS

With the test of time, our strength and reliability have endured for four generations as the Malaysia's leading custom steel fabricator also in oil and gas industries. Since 2014, Standard Steel Fabricating has supplied and fabricated steel components for virtually every type of steel building construction and marine structure.

Founded on the principle of delivering the best product at a reasonable price and a strong work ethic, Standard Steel continues to meet the most demanding specifications from plans to the delivery of required steel for erection.

Any organization that hire us, we will provide the best solution nevertherless of the size of its organization.

Contact Information

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Kemaman Supply Base,
24007 Kemaman,
Terengganu Darul Iman.

LABUAN BRANCH
U0472B, Tingkat 2, Blok A,
Phase 3 Lazenda Shophouse,
Jalan OKK Abdullah,
87008, Wilayah Persekutuan Labuan,
Malaysia.