

Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Tel: +6085-668178; Fax: +6085-668179

Lot 1386. Jalan Kubu. Miri Centre Point Phase 2. 98000 Miri. Sarawak.

Lot 1386, Jalan Kubu, Miri Centre Point Phase 2, 98000 Miri, Sarawak. Tel: +6085-438178; Fax: +6085-438196; Email: assb@akal.com.my



# A 6-MONTH WELDER SKILL TRAINING & CERTIFICATION COURSE TO SMAW 6G & GTAW 6G POSITIONS

#### INTRODUCTION

Welding is an important process in all major Industries. ISO 9000 – 2008 QMS classifies welding as a process and as such all personnel involved in a welding process must undergo **mandatory** training, qualification and certification. The students/trainees/participants are given 3 months intensive training on practical and theory on welding technology. After passing the welding skill assessment I, each welder trainee will be given the opportunity to have another 3-month internship exposure to actual welding practices and environment. With this training, they will be finally undergoing the 2<sup>nd</sup> certification assessment to be a certified welder.

This course is carefully designed to offer necessary theoretical and practical exposure welding process. The lessons are planned to enable the participants to easily graduate to be a confidently certified 6G **SMAW** welder. A Certificate of Completion on Welder Skill Training will be awarded by the training centre to the welder after having successfully passed the evaluation/assessment of welder qualification test (WQT) coupon prepared as per the requirements of AWS D1.1, ASME IX, BSEN 287, ISO 9606-1 together with a Certificate of Competency that is officially issued by **Bureaus Veritas (BV)**, an authorized third party inspection authority, that is recognized internationally and will enable the certified welder to find the skill job in the relevant industry domestically and internationally.

#### **TARGET GROUP:**

- (1) All trained welders who require certification and/or re-certification;
- (2) Retrenched workers who are keen to work as trained & certified skill welders;
- (3) All fresh school-leavers who have reached 17 years old and are interested in taking up welding technology as their future career development.

#### **SEMINAR MATERIALS:**

- (i) Hard cover file with notes and exercises
- (ii) Case study & practical materials

#### **DURATION / TIME**

A Total of 6-month welder skill training and certification as detail below.

- (a) Three (3) months: intensive training on theory on welding technology and practical training on welding techniques.
- (b) A further 3-month internship exposure to actual welding practices and environment.

#### **CERTIFICATE:**

- (a) A Certificate of Completion on Welder Skill Training will be awarded by the training centre upon successful completion of welder skill training course.
- (b) a Certificate of Competency that is officially issued by **Bureaus Veritas (BV)** after having successfully passed the evaluation/assessment of welder qualification test (WQT) coupon prepared as per the requirements of AWS D1.1, ASME IX, BSEN 287, ISO 9606-1.



Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Tel: +6085-668178; Fax: +6085-668179

Lot 1386, Jalan Kubu, Miri Centre Point Phase 2, 98000 Miri, Sarawak. Tel: +6085-438178; Fax: +6085-438196; Email: assb@akal.com.my



## Module - 1

#### **ENGLISH LANGUAGE TRAINING**

- 1) Technical English
- 2) Conversational English
- 3) English Language Assessment

## Module – 2

#### SAFETY and HEALTH in WORKING ENVOIRMENT

- 1) Unsafe act and unsafe condition
- 2) Fall protection
- 3) Safety precautions in welding
- 4) Health hazard due to toxic fumes and gases
- 5) Working in confine space
- 6) Industrial Fires
- 7) Safe workshop practice
- 8) Case studies & workshop practice.

## Module - 3

#### SHIELDED METAL ARC WELDING (SMAW)

- 1) Introduction and Principle of SMAW
- 2) Process Characteristics
- 3) Mode of Operation.

## Module - 4

#### **POWER SOURCE**

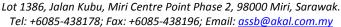
- 1) A.C. Arc
- 2) D.C. Arc
- 3) Straight Polarity (DCSP)
- 4) Reverse Polarity (DCRP)
- 5) Rectifier Base.
- 6) Thyristor Base.
- 7) Inverter Base.
- 8) Multi Operator Type
- 9) Duty cycle.
- 10) Open Circuit voltage ( OCV )
- 11) Welding Accessories.
- 12) Maintenance of Welding Equipment

## BUREAU VERITAS

## Advance Metallurgy & Welding Technology Sdn Bhd

Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Tel: +6085-668178; Fax: +6085-668179





### Module - 5

#### **ELECTRODES**

- 1) MMAW ELECTRODES
- 2) Function Of Flux Coating
- 3) Types Of Electrode Coating
- 4) Cellulosic Type
- 5) Rutile Type
- 6) Acid Type
- 7) Acid Rutile Type
- 8) Oxidizing Type
- 9) Basic Type
- 10) Classification and Coding Of Electrodes
- 11) Handling and Storage Of Electrodes

#### Module - 6

#### **WELD DEFECTS IDENTIFICATION & REMEDIES**

- 1) Porosity
- 2) Lack Of Fusion
- 3) Lack Of Penetration
- 4) Undercut
- 5) Cracks
- 6) Slag Inclusion
- 7) Overlap

## Module – 7

#### WELDING PROCEDURES AND TECHNIQUE

- 1) Typical Procedure Sheet for MMA Welding
- 2) Types of Joints
- 3) Welding Positions
- 4) Welding Technique

## Module - 8

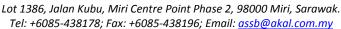
#### **INSPECTION AND TESTING**

- 1) Before welding
- 2) During welding
- 3) After Welding
- 4) Visual Inspection
- 5) DT & NDT



Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Tel: +6085-668178; Fax: +6085-668179





### Module - 9

#### STANDARDS AND PROCEDURES

- 1) American and British Standards
- 2) BSP Procedures
- 3) Company Procedures
- 4) WPS
- 5) PQR
- 6) WPQT

## Module - 10

#### **CODES AND STANDARDS**

AWS D 1-1: Structural Welding Code - Steel

AWS D 1-2: Structural Welding Code - Aluminum

AWS D 9.1: Sheet Metal Welding Code

ASME B 31.1: Code for Pressure Piping, Section on Power Piping

ASME B 31.3: Chemical Plant & Petroleum Refinery Piping

ASME IX: Boiler and Pressure Vessel Code (BPVC),

Section IX: Welding, Brazing, and Fusing Qualifications: Qualification Standard for Welding,

Brazing, and Fusing Procedures;

Welders; Braziers; and Welding, Brazing and Fusing Operators

API 1104: Welding of Pipelines and Related Facilities

ISO 9606-1: Qualification testing of welders. Fusion welding Steels



Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Tel: +6085-668178; Fax: +6085-668179

Lot 1386, Jalan Kubu, Miri Centre Point Phase 2, 98000 Miri, Sarawak. Tel: +6085-438178; Fax: +6085-438196; Email: assb@akal.com.my



### PRACTICAL EXERCISE

#### **TOPICS:**

- a) Pretest Theory & Practical to evaluate the participants level
- b) Basic Shop Floor Safety Briefing.
- c) Welding Techniques & Material Selection
- d) Preparation Of Weld Joints
- e) Practice In Welding for 1G, 3G & 6G Plates
- f) Evaluation of Welders Performance
- g) Final Qualification In 6G Welding Position
- h) Final test to gauge welders knowledge and issue of certificate

**HIGHEST QUALIFICATION IN GMAW:** 6G Welding Position.

**FINAL TEST:** To gauge welders' knowledge and issue of certificate.

#### **DURATION OF COURSE FOR GMAW:**

### (a) 1-3 Months:

- Up to 6G Welding Position in 3 months (classroom for welding theory + workshop for practical training).
- First Assessment: WQT before undergoing internship.

#### (b) 4-6 Months:

- If successfully passed the required initial WQT, assessed welders are allowed to undergo further 3-month internship training with a local fabricator.
- Final Assessment & Certification: All welding interns are required to take their respective final assessment for certification prior to the BV endorsement as certified welders.

**TIME:** 9.00 am – 5.00 pm

**THEORY:** 30 %

PRACTICAL: 70%

**BASIC QUALIFICATION REQUIREMENT: SPM or above** 

**CAPABILITY: ABLE TO SPEAK & READ BAHASA MALAYSIA.** 

#### **QUALIFICATIONS FOR WELDING CODES:**

ASME Section IX, AWS D1.1, API 1104 & ISO 9606-1

**COURSE FEES: RM 18,500.00** 



Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Tel: +6085-668178; Fax: +6085-668179

Lot 1386, Jalan Kubu, Miri Centre Point Phase 2, 98000 Miri, Sarawak.

Lot 1386, Jalan Kubu, Miri Centre Point Phase 2, 98000 Miri, Sarawak Tel: +6085-438178; Fax: +6085-438196; Email: <u>assb@akal.com.my</u>



## **REGISTRATION FORM**

## A 6-month welder skill Training & Certification Course to SMAW 6G & GTAW 6G POSITIONS

Venue: Lot 908 Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak.

Participants Details					
<u>Title</u>	Name & I/C No.	<u>Designation</u>	Mobile Number		
Mr/Ms					
Organization Details					
Name of Organization:					
Contact Person & Designation:					
Mailing .	Address:				
*Telepho	one No:	Fax No:			
Email Address:					

<sup>\*</sup>Required information so we can contact you regarding your registration.



Lot 908, Jalan Desa Senadin 1A, Off Jalan MaiGold, Senadin Industrial Estate, 98100 Miri, Sarawak. Tel: +6085-668178; Fax: +6085-668179



Lot 1386, Jalan Kubu, Miri Centre Point Phase 2, 98000 Miri, Sarawak. Tel: +6085-438178; Fax: +6085-438196; Email: assb@akal.com.my

## **Payment Made To**

All Payments shall be made payable to "Advanced Metallurgy and Welding Technology Sdn Bhd" by Telegraphic Transfer (TT) / bank into our Current Account No.: 161-101348-5 at OCBC Al-Amin Bank Berhad, Miri Branch, Sarawak Malaysia.

☐ Cheque payable to "Advanced Metallurgy and Welding Technology Sdn Bhd"				
Cheque No	:	Total Amount	:	
Confirmation of Registration				

The registration of participants must be accompanied with **FULL PAYMENT.** Kindly complete and send in your registration form to notify us your confirmation of registration via:

: +60(0)85 438196/668179 Fax **Email** : assb@akal.com.my

Or you may contact us via:

: +60(0)85 438178/668178 Tel.