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BASIC COLD WORK TRAINING COURSE: UNDERWATER COMPOSITE REPAIR (WET)



REGISTRATION FORM
 Two-Day Course on Underwater Composite Repair (Wet)

Part 1 Company Information

Name of Company:

Address:

Telephone:

Fax:

Email:

Part 2 Contact Information

Contact Person Name:

Designation:

Telephone:

Fax:

Email:

Part 3 Participant Information

Training Date (please specify):

No	Participant Name	Designation	Remark

Note: Please indicate in the remark section if you prefer the course on weekdays.

Part 4 Terms and Conditions

- 1) MM Matrix Integrity Sdn. Bhd. will notify the exact date of training one (1) week earlier
- 2) If the registered participant is not able to attend, he/she may request for a replacement (3 days before the training date).
- 3) Please make a full payment prior the training to MM Matrix Integrity (M) Sdn. Bhd. (CIMB account no: 8600 458 106) and submit the payment details together with the registration form.
- 4) In the event of any cancellation after the payment, only 80% of the payment is refunded.
- 5) MM Matrix Integrity (M) Sdn. Bhd. reserves the right to postpone the course if due to unforeseen circumstances.

Composite repair has been widely introduced in the oil and gas and general industries since more than two decades ago. Composite repairs are gaining popularity and acceptance worldwide among asset owners and operators. Composite repair methods and procedure are guided international engineering standards and provide an engineered, proven and durable solution to metallic and non-metallic pipe repair works.

Components of composite repair materials generally comprise of filler rebuilding material, resin component and reinforcement layered sheet.

Filler rebuilding materials is used as the base materials due to their excellent adhesion, mechanical properties, and corrosion resistance properties. The bonding strength between each layers of the composite repair system created by the resin material forms a strong mechanical bond with the filler rebuilding material and substrate. These reinforcement sheets, made from fiberglass materials will withstand hoop stress and load transferred from the area of pipe defects.



WE NOW OPEN FOR NEW IN-TAKE

COURSE CONDUCTED – WEEKDAYS OR WEEKEND DEPENDING ON YOUR PREFERENCES
 (UPON REQUEST) – STARTING FROM 1ST JANUARY 2019 ONWARDS

FEE: **RM1200.00/PAX** (SPECIAL PRICE FOR STUDENTS)

SYNOPSIS



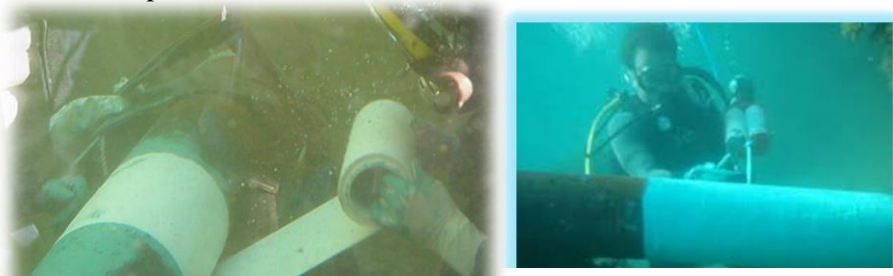
Underwater Composite repair (Wet) system provides the asset owner and equipment operators a cold repair engineered solution to restore damaged substrates. These underwater composite repair systems are specifically designed to be applied in a wet condition and the applicator **MUST** be a diver. The main purpose for this application is to extend the lifetime of piping systems and bring the asset back to its design operating conditions. There are many advantages of composite repair including: installation during in-service condition, operating pressure may not need to be reduced during repair works, no hot works required to install the composite repair systems, remediate, repair and reinforce the pipe defects by increasing wall thickness, reduce unnecessary heat affected zone, avoid induced stresses from welding, versatile for application on complex pipe geometries, faster project implementation duration and economical repair solution. Besides that, this **underwater composite repair** of the present technology can significantly save time, money and more importantly underwater asset life. **The composite repair method has been widely accepted by PETRONAS as well as other Oil & Gas companies.**

PROGRAM OUTCOMES

- Acquire the basic skills of Underwater Composite Repair (Wet)
- Develop the Cold Work Composite Repair (Wet) knowledge and skills toward industrial standards
- Work as an effective and independent team

WHAT YOU LEARN

- Method of Statement & Design Calculation for Underwater Composite Repair
- Surface Preparation Practical Training
- How to Arrest the Leak by applying Underwater Composite Repair (Wet) Method



THE FUN PART



The application of composite repair is normally carried out in a dry condition. But when it is applied underwater, the applicator will experience and observe how amazing the composite materials are in terms of its behaviour and reaction in the water.

SPECIAL FEATURES

- **Meals are provided**
- Accommodations can be arranged for those who travel from long distance
- The classes can be arranged either on weekday / weekend
- **Training Certificate** is provided



COURSE SCHEDULE

TIME	DAY 1	DAY 2
0830 - 0900	Registration & Breakfast	Breakfast
0900 - 0915	Safety Briefing	Leak Arresting & Reinforcing (Practical Session)
0915 - 1000	Introduction of Underwater Composite Repair	
1000 - 1015	Tea Break	Tea Break
1015 - 1230	Design Calculation (Theory Session)	Wet Composite Repair Practical Session
1230 - 1400	Lunch	Lunch
1400 - 1530	Surface Preparation (Practical Session)	Wet Composite Repair Practical Session
1530 - 1545	Break	Break
1545 - 1700	Underwater Diving Preparation Session (Scuba)	Wet Composite Repair Practical Session
1700	Dismiss	Certificate Ceremony & Dismiss