



**COURSE OVERVIEW EE0463**

**Certified MV/LV Splicing, Jointing & Termination**

**Course Title**

Certified MV/LV Splicing, Jointing & Termination

**Course Date/Venue**

December 08-12, 2024/ Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

**Course Reference**

EE0463

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs

**Course Description**



***This practical and highly-interactive course includes practical sessions and exercises where participants carryout HV/MV cable jointing, termination, splicing and testing. Theory learnt in the class will be applied using the latest heat-shrink jointing and termination methods suitable for in-class training.***



This course is designed to provide participants with a detailed and an up-to-date overview of MV/LV Cable Splicing, Jointing and Termination. It covers the different types of cables, their components and applications; the medium voltage (MV) and low voltage (LV) ratings; the various types of insulation materials and their properties; the basic procedures of cable splicing, jointing and termination and insulation resistance testing; the principles, techniques and different tools used in cable splicing; and the splicing procedure for low voltage cables and medium voltage cables.



During this interactive course, participants will learn the splice testing and cable jointing; the different tools and equipment used in cable jointing; the jointing procedure for low voltage cables and medium voltage cables and joint testing after cable jointing; the cable termination techniques and the different tools used in cable termination; the termination process for low voltage cables and medium voltage cables; the various tests performed after cable termination; the safety measures in cable splicing, jointing and termination; the safety precautions to be observed during these processes; and diagnosing and correcting common problems in cable splicing, jointing and termination.





## Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a comprehensive knowledge on MV/LV cable splicing, jointing and termination
- Identify the different types of cables, their components and applications
- Explain medium voltage (MV) and low voltage (LV) ratings including the various types of insulation materials and their properties
- Carryout basic procedures of cable splicing, jointing and termination and insulation resistance testing
- Discuss the principles and techniques of cable splicing and identify the different tools used in cable splicing
- Employ splicing procedure for low voltage cables and medium voltage cables
- Illustrate splice testing and cable jointing as well as recognize the different tools and equipment used in cable jointing
- Apply jointing procedure for low voltage cables and medium voltage cables and joint testing after cable jointing
- Carryout cable termination techniques and identify the different tools used in cable termination
- Illustrate termination process for low voltage cables and medium voltage cables including various tests performed after cable termination
- Implement safety measures in cable splicing, jointing and termination including the safety precautions to be observed during these processes
- Diagnose and correct common problems in cable splicing, jointing and termination

## Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

## Who Should Attend

This course provides an overview of all significant aspects and considerations of MV/LV cable splicing, jointing and termination for electrical engineers, instrumentation and control engineers, project engineers, maintenance engineers, power system protection and control engineers, data systems planners and managers as well as electrical, instrumentation and control technical staff.

## Course Fee

**US\$ 6,250** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.



**Course Certificate(s)**


(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Certificates are valid for 5 years.

**Recertification is FOC for a Lifetime.**

**Sample of Certificates**


The following are samples of the certificates that will be awarded to course participants:-




 **Haward Technology Middle East**

**Certified MV/LV Splicing, Jointing & Termination**  
 Certification Number: 74852  
 Certification Date: 14-Nov-2022  
 Expiration Date: 14-Nov-2027

This is to certify that **Waleed Al Habeeb** has successfully met the requirements of the **Certified MV/LV Splicing, Jointing & Termination** Program, EE0463.

  
 Mr. Jaryl Castillo  
 Academic Director

Haward Technology is accredited by:



 **Haward Technology Middle East**

**MV/LV Splicing, Jointing & Termination**  
 Certification Program

This program is designed to assist companies in identifying professionals who have satisfied the minimum competencies specified in EE0463. Haward Technology does not warrant or guarantee the performance of any professional certified under this program.

Haward Technology is accredited by:



  
74852





- (2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

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**Haward Technology Middle East**

Continuing Professional Development (HTME-CPD)

CEUs

## CEU Official Transcript of Records

**TOR Issuance Date:** 14-Nov-22

**HTME No.** 74852

**Participant Name:** Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
EE0463	Certified MV/LV Splicing, Jointing & Termination	November 10-14, 2022	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date

**3.0**

**TRUE COPY**

**Jaryl Castillo**  
Academic Director

Haward Technology has been approved as an Accredited Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2018 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2018 Standard.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) in accordance with the rules & regulations of the International Association for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology is accredited by


P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | E-mail: info@haward.org | Website: www.haward.org

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### Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

### Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.



### **Course Instructor(s)**

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



**Mr. Ahmed Abozeid** is a **Senior Electrical Engineer** with over **25 years** of **Onshore & Offshore** experience within the **Oil & Gas, Refinery, Petrochemical** and **Power** industries. His wide expertise covers **HV Cable Design, Cable Splicing & Termination, Cable Jointing Techniques, High Voltage Electrical Safety, HV/MV Cable Splicing, High Voltage Circuit Breaker Inspection & Repair, High Voltage Power System Safe Operation, High Voltage Safety, High Voltage Transformers, Safe**

**Operation of High Voltage & Low Voltage Power Systems, Electric Distribution System Equipment, Practical Troubleshooting of Electrical Equipment & Control Circuits, Electrical & Control System Testing & Commissioning, LV/MV/HV Circuit Breakers Inspection & Maintenance, Electrical Power Substation Maintenance, Practical High Voltage Safety Operating Procedures, Modern Power System Protective Relaying, Electrical & Control System Testing, Design, Commissioning, Operation and Maintenance of Switchgears, Transformers, Substations, Medium & High Voltage Equipment and Circuit Breakers, Electrical Motors & Variable Speed Drives, Motor Speed Control, Power Electronic Converters, AC Converters Section, Electromagnetic Compatibility (EMC), Motor Failure Analysis & Testing, Machinery Fault Diagnosis, Bearing Failure Analysis Process Control & Instrumentation, Process Control Measurements, Control System Commissioning & Start-Up, Control System & Monitoring, Power Station Control System, Instrumentation Devices, Process Control & Automation, PID Controller, Distributed Control Systems (DCS), Programmable Logic Controllers (PLC), ABB PLC & DCS System, Gas Analyzers, Simulation Testing, Load Flow, Electrical Load Forecasting, Short Circuit, Smart Grid, Vibration Sensors, Cable Installation & Commissioning, Calibration Commissioning and Site Filter Controller. Further, he is also well-versed in **Fundamentals of Electricity, Electrical Standards, Electrical Power, PLC, Electrical Wiring, Machines, Transformers, Motors, Power Stations, Electro-Mechanical Systems, Automation & Control Systems, Voltage Distribution, Power Distribution, Filters, Automation System, Electrical Variable Speed Drives, Power Systems, Power Generation, Power Transformers, Diesel Generators, Power Stations, Uninterruptible Power Systems (UPS), Battery Chargers and AC & DC Transmission.** He is currently the **Project Manager** wherein he manages, plans and implements projects across different lines of business.**

Mr. Ahmed worked as the **Electrical Manager, Assistant General Technical Manager, Electronics & Instruments Head, Electrical Power & Machine Expert, Electrical Process Leader, Team Leader, Electrical Team Leader, Electronics & Instruments Maintenance Superintendent, Engineering Supervisor, Technical Instructor** and **Instructor/Trainer** from various companies such as the Lafarge Nigeria, Egyptian Cement Company, ECC Training Center, Alrajhi Construction & Building Company and Ameria Cement Company, just to name a few.

Mr. Ahmed has a **Bachelor** degree in **Electrical Engineering**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, seminars, courses, workshops and conferences internationally.





### Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

### Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

#### **Day 1: Sunday, 08<sup>th</sup> of October 2024**

0730 – 0800	<i>Registration &amp; Coffee</i>
0800 – 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0930	<b>Cable Basics:</b> <i>Learning About Different Types of Cables, their Components &amp; Applications</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Understanding Voltage Ratings:</b> <i>Detailed Explanation of Medium Voltage (MV) &amp; Low Voltage (LV) Ratings</i>
1100 – 1200	<b>Cable Insulation Materials:</b> <i>Discuss Various Types of Insulation Materials &amp; their Properties</i>
1200 – 1215	<i>Break</i>
1215 – 1330	<b>Basics of Cable Splicing, Jointing &amp; Termination:</b> <i>Explanation of these Procedures &amp; their Importance</i>
1330 – 1420	<b>Insulation Resistance Testing:</b> <i>Introduction to Insulation Resistance Testing &amp; its Significance</i>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day One</i>

#### **Day 2: Monday, 09<sup>th</sup> of October 2024**

0730 – 0830	<b>Splicing Basics:</b> <i>Introduction to the Principles &amp; Techniques of Cable Splicing</i>
0830 – 0930	<b>Splicing Tools &amp; Equipment:</b> <i>Overview of the Different Tools used in Cable Splicing</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Splicing Procedure for LV Cables:</b> <i>Step-by-Step Walkthrough of the Splicing Process for Low Voltage Cables</i>
1100 – 1200	<b>Splicing Procedure for MV Cables:</b> <i>Explanation of How Medium Voltage Cable Splicing Differs from Low Voltage</i>
1200 – 1215	<i>Break</i>
1215 – 1330	<b>Splice Testing:</b> <i>Understanding the Tests Performed After Cable Splicing</i>
1330 – 1420	<b>Hands-On Exercise:</b> <i>Participants will Practice Splicing a Low Voltage Cable Under Supervision</i>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day Two</i>





**Day 3: Tuesday, 10<sup>th</sup> of October 2024**

0730 – 0830	<b>Cable Jointing Basics:</b> Introduction to the Principles & Techniques of Cable Jointing
0830 – 0930	<b>Jointing Tools &amp; Equipment:</b> Review of the Different Tools Used in Cable Jointing
0930 – 0945	Break
0945 – 1100	<b>Jointing Procedure for LV Cables:</b> Detailed Walkthrough of the Jointing Process for Low Voltage Cables
1100 – 1200	<b>Jointing Procedure for MV Cables:</b> Explanation of How Medium Voltage Cable Jointing Differs from Low Voltage
1200 – 1215	Break
1215 – 1330	<b>Joint Testing:</b> Overview of the Tests Performed After Cable Jointing
1330 – 1420	<b>Hands-On Exercise:</b> Participants will Practice Jointing a Low Voltage Cable Under Supervision
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Three

**Day 4: Wednesday, 11<sup>th</sup> of October 2024**

0730 – 0830	<b>Cable Termination Basics:</b> Introduction to the Principles & Techniques of Cable Termination
0830 – 0930	<b>Termination Tools &amp; Equipment:</b> Review of the Different Tools Used in Cable Termination
0930 – 0945	Break
0945 – 1100	<b>Termination Procedure for LV Cables:</b> Step-by-Step Walkthrough of the Termination Process for Low Voltage Cables
1100 – 1200	<b>Termination Procedure for MV Cables:</b> Explanation of How Medium Voltage Cable Termination Differs from Low Voltage
1200 – 1215	Break
1215 – 1330	<b>Termination Testing:</b> Overview of the Tests Performed After Cable Termination
1330 – 1420	<b>Hands-On Exercise:</b> Participants will Practice Terminating a Low Voltage Cable Under Supervision
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Four

**Day 5: Thursday, 12<sup>th</sup> of October 2024**

0730 – 0830	<b>Safety Measures in Cable Splicing, Jointing &amp; Termination:</b> Recap of the Safety Precautions to be Observed During these Processes
0830 – 0930	<b>Troubleshooting Common Issues:</b> Learn to Diagnose & Correct Common Problems in Cable Splicing, Jointing & Termination
0930 – 0945	Break
0945 – 1100	<b>Hands-On Exercise:</b> Participants will Perform Splicing, Jointing & Termination of an MV Cable Under Supervision
1100 – 1200	<b>Written Test:</b> A Written Test Covering all Course Material
1200 – 1215	Break
1215 – 1300	<b>Course Wrap-up &amp; Feedback:</b> Concluding the Course, Discussion on Further Learning Resources & Collecting Participant Feedback
1300 – 1315	<b>Course Conclusion</b>
1315 – 1415	<b>COMPETENCY EXAM</b>
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course





