

**M&E Solar Thermal** is for experienced heating and plumbing installers, building services engineers and those who wish to extend their skills into solar heating.

## UNVENTED HOT WATER AND SOLAR THERMAL INSTALLATION COURSE: T52 – 3 DAY COURSE

A three-day course, including assessment, focusing on the requirements for the installation of Solar Collectors (Panels & Evacuated tubes) and associated small scale (up to 24 Kw) hot water systems and unvented hot water systems.

### Course dates

**16.17.18 March 2010** - Barnsley

**21.22.23 April 2010** - East Grinstead

**15.16.17 June 2010** - Penkridge

### Objectives: At the end of the course delegates will:

- i. Have knowledge of the regulations and standards applicable to the installation of solar thermal systems
- ii. Have gained an overview of the principles of hot water storage
- iii. Have been given a detailed explanation & covered the practical aspects of selecting, installing and commissioning flat plate collectors, evacuated tube arrays, fully filled and drainback solar systems
- iv. Have gained a qualification in the installation, servicing and maintenance of unvented hot water systems up to 500 litres
- v. Be familiar with the different types of Collector
- vi. Have learned about the external & internal site survey requirements of solar thermal systems

*This course is provided jointly by the Education and Training Departments of the Electrical Contractors' Association (ECA) and the Heating and Ventilating Contractors' Association (HVCA).*

# UNVENTED HOT WATER AND SOLAR THERMAL INSTALLATION

## Course Content:

### Hot water systems

- Regulations, standards and guidelines
- Theory of understanding of expansion of hot water (HW)
- Principles of HW storage
- Design considerations
- Components and function
- Safety controls, discharge and integration

### Accumulators

- Installation of unvented HW cylinders
- Maintenance and servicing of unvented HW systems
- Maintenance and servicing of unvented HW systems
- Health & Safety Considerations

### Solar Thermal systems

- Regulations & Standards: Collector types
- Solar Primary Circuit types
- Basic System Design & Integration
- External & Internal Site Survey requirements
- Filling & Commissioning
- Servicing & fault-finding

### Pre-requisites

All delegates should have a sound knowledge of and experience in building services engineering. Candidates who hold a G3 certificate in Unvented Hot Water systems need only complete 2 days – For further information contact 0845 872 5361.

### Assessment

Delegates will be required to complete written papers as part of the assessment and a practical assessment to install, commission, service and maintain

unvented HW systems, and to identify, install and commission Solar Thermal systems & their components.

### Noted exclusion from training and assessment:

This course is not intended to cover roof or access work in detail but does cover the legislative requirements, risk assessment requirements and working at height requirements.

Wherever practical we recommend the use of an experienced roofer to install the arrays (see [www.nfrc.co.uk](http://www.nfrc.co.uk)) although the collectors will require connection at roof level. So those wishing to carry out this work should be comfortable and experienced working at height.

### Accreditation

Both solar thermal and unvented courses are accredited by Logic Certification. These courses are recognised by the Solar Trade Association many competent person schemes.

## Delegate rate

Examination fee: £59.00 + VAT

**ECA and HVCA Members: £480 + £59 (exam fee) + VAT = £633.33**

**ELECSA Members: £586.50 + £59 (exam fee) + VAT = £758.46**

**Non-Members: £690 + £59 (exam fee) + VAT = £880.08**

## M&E Education and Training

ESCA House  
34 Palace Court  
London W2 4HY  
Tel: 0845 872 5361  
e-mail: [eandt@eca.co.uk](mailto:eandt@eca.co.uk)  
[www.mech-elec.org.uk](http://www.mech-elec.org.uk)



ECA AND HVCA WORKING TOGETHER





**UNVENTED HOT WATER AND SOLAR THERMAL INSTALLATION COURSE: T52 – 3 DAY COURSE**

- 16.17.18 March 2010 - Barnsley
- 21.22.23 April 2010 - East Grinstead
- 15.16.17 June 2010 - Penkridge

Please tick your required course date

Send to:  
**Course Co-Ordinator**  
**ECA Education and Training,**  
Short Courses, Camden House,  
Dudley Road, Off Dudley Road,  
Yarm Road Business Park,  
Darlington, Co. Durham, DL1 4GG

**DELEGATE NAME**

Mr/Ms/Dr/Other Forename(s)  Surname

Date of Birth dd/mm/yyyy

**COMPANY DETAILS**

**Contact name**

Mr/Ms/Dr/Other Forename(s)  Surname

Job Title  Organisation

Mailing Address

Country Postcode

Telephone  Fax  e-mail

**Please complete where applicable:**

(please tick appropriate box):

- I am/ my employer is a member of the Heating & Ventilating Contractors Association (HVCA)  
HVCA membership No .....
- I am/ my employer is a member of the Electrical Contractors Association (ECA)  
ECA membership No .....
- I am not a member of any of the partner organisations and therefore pay the non-member's rate for the course
- I am/my employer is a member of ELECSA membership No.....

Full payment must be received before a place can be guaranteed. Under UK Excise Regulations, delegates from all countries are required to pay VAT on any course taking place in the UK. The total amount may be paid by (please tick appropriate payment box):

- Sterling Cheque or Draft drawn on a bank in the UK. I enclose my remittance, made payable to the Electrical

Contractors Association. for the sum of £  See overleaf for BACS payment information

- Visa / MasterCard/Euro Card/Diners Club (please circle).

card no

expiry date      valid from      Switch/Maestro/Solo/Delta issue no

Authorised code (ECA use only)  Name of cardholder

Full address of cardholder (if different from above)

Signature  Date

## TERMS AND CONDITIONS

### IMPORTANT INFORMATION FOR DELEGATES AND EMPLOYERS

#### 1. How do I pay?

By cheque/postal order. A single cheque/postal order should accompany each booking. Corporate or block bookings for multiple delegates should be accompanied by a single company cheque covering all delegates. Cheques should be made payable to The Electrical Contractors' Association

BACS payments are available for corporate clients only. A BACS remittance advice or similar should accompany each application form

Bank details. National Westminster Bank Plc  
Sort Code: 60-40-04. Account name: The Electrical Contractors' Association. Account number: 10889000

Cleared payment must be received four weeks prior to the start of the course. M&E Education and Training reserves the right to re-allocate course places if fees are not paid on time

In the event of late payment, M&E Education and Training reserves the right to charge interest on all outstanding amounts

**Bookings will not be processed until cleared payment has been received. M&E Education and Training reserves the right to pursue its legal options in the case of default on payment, and to recover reasonable administration costs**

#### 2. What do the course fees include?

Joining instructions and directions to the venue will be dispatched approximately three weeks prior to the course start date

Course materials will be provided on the first day of the course

Where applicable, a short end-of-course assessment will be undertaken and a certificate provided on its successful completion. Failure to satisfy the assessment criteria will result in the issue of an attendance-only certificate

External certification fees for awarding bodies and other providers (eg, City & Guilds and IOSH) will be charged at cost, in addition to course fees, and are not refundable

#### 3. What is expected of me?

It is the delegate's responsibility to ensure that the training course is suitable for his/her purpose. The trainer has the right to refuse entry to any delegate who fails to arrive at the correct venue, or on the correct date or time, or who in their opinion is unfit to take the course, or whose conduct or behaviour is disruptive.

The decision of the trainer on the suitability of a delegate to complete the course shall be final and binding.

#### 4. What happens if I don't turn up?

Any delegate who fails to arrive at the correct venue, or on the correct date and time, will be deemed to have cancelled. Fees already paid will not be refunded and no alternative course dates will be offered

#### 5. Can I rearrange or cancel a booking?

There will be no charge for substituting delegates for the scheduled course by prior arrangement however all substitutions must be made 2.5 weeks prior to the course start date, in order to meet examination registration deadlines.

Cancellations made four weeks (or more) prior to the course start date will attract no penalty, and 100% of course fees will be refunded

Cancellations made between two and four weeks prior to the course start date will attract a refund of 50% of course fees

Cancellations made within two weeks of the course start date will attract no refund

#### 5. What happens if the course is cancelled?

M&E Education and Training reserves the right to:

- (a) alter course content without prior notice;
- (b) alter or cancel published dates, and change venues or lecturers without liability;
- (c) cancel a course at any time without liability – in which circumstances, delegates will be offered an alternative date or a full refund

**The liability of M&E Education and Training, the Electrical Contractors Association (ECA) and the Heating and Ventilating Contractors' Association (HVCA) for any expense, loss, cost or damage of any kind whatsoever whether direct, indirect or consequential (apart from personal injury or death) arising out of any action or proceedings relating to any services or equipment provided in accordance with the course shall be limited to the total amount of fees charged in respect of the course**

**M&E Education and Training, the ECA and the HVCA are unable to offer refunds for cancellations arising from events that lie outside their control. These include adverse weather conditions, flooding and industrial action**