



Guidance for Mobile Air Conditioning (MAC) Sectors

This Information Sheet provides guidance on the interim and full minimum requirements for training and certification of personnel working on mobile air-conditioning (MAC) systems.

Please note that the requirements for MAC systems are not the same as those that apply to stationary refrigeration and air-conditioning systems. See Information Sheet RAC 5 that described the training requirements for stationary systems.

It is important to be aware that the training requirements described below cover:

- ◆ Interim minimum requirements, which apply until 4th July 2010.
- ◆ Full requirements that apply after that date.

1. Summary of F Gas Regulations

For MAC systems containing HFCs the basis for all personnel certification is set out in the EC Regulation 842/2006 on certain fluorinated greenhouse gases (the F gas Regulation).

A further Commission Regulation, EC/307/2008 provides extra details and defines the minimum training and certification requirements for MAC systems.

The relevant EU Regulations as listed above provide the basis for both interim and full requirements.

The GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument 2009 No. 261) lists the current required qualifications for MAC.

The above Regulations are collectively referred to as “the F gas Regulations”.

2. Which personnel must be qualified?

Personnel carrying out certain operations on MAC systems containing F gas refrigerants must have appropriate qualifications. These operations include the removal of F gas refrigerants from all mobile equipment (excluding those in military use) when the air-conditioning systems are under maintenance or prior to disposal of the equipment.

Trainee personnel are exempt for up to 1 year, but they must work under the supervision of certificated personnel and must be enrolled on a relevant training course.

3. What are the topics to be covered in training?

The qualifications will cover the following areas:

- ◆ Operation of MAC systems containing F gas refrigerants,
- ◆ Environmental impact of F gas refrigerants,
- ◆ Environmental regulations,
- ◆ Refrigerant recovery.

4. Personnel Requirements

System type	MAC
Refrigerant type	HFC
Refrigerant quantity	Any quantity

Holders of any of the air conditioning qualifications detailed below are deemed holders of a valid certificate for the purposes of the EC F gas Regulation and Commission Regulation 307/2008.

Interim Requirements, MAC, HFC Refrigerants

The interim period runs until July 2010. During this period in addition to the qualifications that meet the minimum requirements of EC/307/2008, as discussed in the “Full Requirements” section below, There are a number of alternative qualifications that are acceptable as a valid interim certificate/attestation. The minimum qualifications that apply in Great Britain are specified in Schedule 1, Part 2 of GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261) which has applied from 9th March 2009. These are:

- ◆ An in-house qualification (see Section 6 for more details).
- ◆ 22 alternative qualifications that only apply to MACs. See Section 7 of this Information Sheet for a full list of these qualifications.

The following more detailed refrigerant handling qualifications are also acceptable:

- ◆ City & Guilds Certificate in Handling Refrigerants Scheme 2078
- ◆ Construction Industry Training Board (CITB) Safe Handling of Refrigerants J01.

Holders of one of these qualifications wishing to undertake recovery on MAC systems containing F gases have until 3rd July 2010 to obtain a new qualification or be enrolled in a course to obtain a new qualification that meets the minimum requirements of EC/307/2008.

This proposed interim period for those working on MAC systems is one year shorter than the interim period for stationary refrigeration and air-conditioning systems.

Full Requirements from July 2010, MAC, HFC Refrigerants

The interim qualifications do not meet the minimum requirements defined by the EC F gas Regulation. In GB the qualifications that meet the EC minimum requirements have been developed and are available from the four awarding bodies:

- ◆ City and Guilds of London Institute,
- ◆ IMI Awards,
- ◆ The Institute of the Motor Industry (IMI),
- ◆ The Institute of Road Transport Engineers (Irtec).

Personnel can also have a European qualification recognised under the mutual recognition provisions, see Section 6.

The full requirement for personnel carrying out refrigerant recovery activities on MAC equipment containing HFC refrigerant will be to hold a valid certificate (“attestation”).

At the time of writing the MAC qualifications available in GB that meet the minimum requirements of EC/307/2008 are shown in Table 1.

Table 1 Details of Certification and Evaluation Bodies and Qualification offered

Certification and Evaluation Body	Contact Details	Qualification
<p>City and Guilds of London Institute 1 Giltspur Street, London, EC1A 9DD</p>	<p>Graham Goodwin T: 0207 294 2800 E: automotive@cityandguilds.com W: www.cityandguilds.com</p>	<p>C&G 5101 The course has 3 units if you complete all this gives you a VRQ Level 3</p> <ul style="list-style-type: none"> ◆ 301 – Refrigerant Handling for Mobile A/C Systems * ◆ 302 – Testing and Servicing Mobile A/C Systems ◆ 303 – Advanced Diagnostics for Mobile A/C systems <p>It is possible to take the 301 unit (*) only as it is sufficient to meet the minimum requirements.</p>
<p>The Institute of the Motor Industry (IMI) Fanshaws, Brickendon, Hertford, SG13 8PQ</p>	<p>T: 01992 511521 E: imi@motor.org.uk W: www.motor.org.uk</p>	<p>There are 3 levels of qualification offered by the ATA route. Each meets the minimum requirements.</p> <ul style="list-style-type: none"> ◆ Automotive Technician Accreditation Air Conditioning Refrigerant Handler (Qual Ref: IMIA/AC08/1) ◆ ATA Air Conditioning - Service Technician (Qual Ref: IMIA/AC08/2) ◆ ATA Air Conditioning - Diagnostic Technician (Qual Ref: IMIA/AC08/3) <p>These ATA courses are being delivered by IMI Awards at their centres.</p>
<p>IMI Awards Ltd, Fanshaws, Brickendon, Hertford, SG13 8PQ</p>	<p>Rob Gray/ Ian Cheetham T: 01992 511521 M: 07920721071 E: info@imiawards.org.uk W: www.imiawards.org.uk</p>	<ul style="list-style-type: none"> ◆ IMIAL Level 3 Award in Automotive Refrigerant Handling (EC842-2006) QCA I.D NO: 500/4225/7* ◆ IMIAL Level 3 Certificate In Automotive Air Conditioning and Climate Control (EC842-2006) QCA I.D No: 500/4229/4 <p>* The Award is sufficient to meet the minimum requirements.</p>
<p>The Institute of Road Transport Engineers (Irtec) 22 Greencoat Place, London, SW1P 1PR</p>	<p>T: 0207 630 1111 E: irtec@irtec.org.uk W: www.irtec.org.uk</p>	<ul style="list-style-type: none"> ◆ Certificate of competence in refrigerant handling for light commercial vehicles <p>This qualification is not currently available</p>

5. Taking Delivery

This obligation applies to an organisation taking delivery of F gases to undertake the activities described in Articles 3 and 4 of the EC F gas Regulation namely leak checking, repair and recovery. Companies involved in carrying out these activities can only take delivery of containers of F gas if it employs relevant personnel that are appropriately qualified and certificated.

Regulation 11(1) of the Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261), makes it an offence for any company who carries out an activity referred to in Article 3 or Article 4 of the EC F gas Regulation unless an employee of that company is a qualified person. However, the qualification obligation only applies to those personnel who are actually using the F gases to carry out the activities in Article 3 and 4 of the EC F gas Regulation. This does not prevent unqualified personnel from physically taking delivery of the F gases, providing that they do not carry out the activities in Articles 3 and 4 of the EC F gas Regulation.

6. What is the status of a non-UK personnel qualification?

The EC F gas Regulation requires that Member States give mutual recognition to certification of suitable qualifications from other EU countries. This will only apply to a "full qualification" that meets the minimum requirements specified in Commission Regulation 307/2008. In some EU countries the existing qualifications already meet or go beyond these minimum requirements. The European Commission will be compiling a list of qualifications that meet the new minimum requirements (not available at the time of writing this document).

Interim personnel certificates issued by other EU Member States will not be valid in the GB and vice versa.

7. What is an in-house qualification?

In-house qualification means a qualification verified by a certificate of competence or other written confirmation issued by an employer to such of its employees who have successfully completed a course of training provided by that employer relating to the work in question, but for which no external certificate is available.

A **course of training** provided by an employer must enable an employee who has been trained to carry out relevant work satisfactorily. An employer must keep a record of training must provide a copy to an employee which shows the name of employee trained, course provided, dates provided and date of completion or other confirmation that course was completed.

8. Full list of current qualifications

During the interim period, until 4th July 2010, one of the qualifications listed in Schedule 1 (Parts 1 & 2) of the GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument 2008 No. 261) must be held by all MAC personnel involved in refrigerant recovery and refrigerant handling. See below:

PART 1

1. City & Guilds Certificate in Handling Refrigerants Scheme 2078.
2. Construction Industry Training Board Safe Handling of Refrigerants Reference J01.

PART 2

1. An in-house qualification.
2. Automotive Technician Accreditation – Air Conditioning Refrigerant Handler.
3. Automotive Technician Accreditation – Air Conditioning Service Technician.
4. Automotive Technician Accreditation – Air Conditioning Diagnostic Technician.
5. Automotive Technician Accreditation – Senior Mechanical Electrical Trim Technician.
6. City & Guilds 5101–01 Certificate in Refrigerant Handling for Mobile Air Conditioning systems.
7. City & Guilds 5101–02 Certificate in Servicing Mobile Air Conditioning Systems.
8. City & Guilds 5101–03 Certificate in Advanced Diagnostics for Mobile Air Conditioning Systems.
9. City & Guilds 5101–04 level 3 Certificate in Mobile Air Conditioning Systems.
10. City & Guilds 5101 unit 301 Refrigerant Handling for Mobile Air Conditioning Systems.
11. City & Guilds 4101–55 Certificate in Vehicle Maintenance and Repair (Air Conditioning and Climate Control).
12. City & Guilds 4101 unit V87 Air conditioning and climate control systems.
13. City & Guilds 4100–03 Level 3 Progression Award in Automotive Vehicle Servicing and Repair (Air Conditioning and Climate Control).
14. City & Guilds 4100 Unit 7.
15. Institute of the Motor Industry (IMI) level 3 unit–Refrigerant handling AC1.
16. City & Guilds 3791–10 Automotive Air Conditioning –Part One.
17. City & Guilds 3791–10 Automotive Air Conditioning –Part Two.
18. City & Guilds 3791–10 Automotive Air Conditioning –Part Three.
19. City & Guilds 6048–01 Motor Vehicle Air Conditioning (Service and Repair).
20. City & Guilds 7543-01 Level 3 Award in Basic Mobile Air Conditioning Systems (QCA trial only).
21. City & Guilds 7543-02 Level 3 Award in Diagnosis and Repair of Mobile Air Conditioning/Climate Control Systems (QCA trial only).
22. Institute of the Motor Industry (IMI) level 3 Diploma in Automotive Air Conditioning and Climate Control.
23. Institute of the Motor Industry (IMI) level 2 Vehicle Air Conditioning Technician.



How to Contact F-Gas Support:

Telephone Help Line: 0161 874 3663 **Website:** www.defra.gov.uk/fgas

Email: fgas-support@enviros.com **Post:** F-Gas Support, P O Box 481, Salford, M50 3UD

This document has been prepared by F-Gas Support: the information provided is intended as guidance and must not be taken as formal legal advice nor as a definitive statement of the law. Ultimately only the courts can decide on legal questions and matters of legal interpretation. If you have continuing concerns you should seek legal advice from your own lawyers.

F-Gas Support is a Government funded team set up to help organisations understand their obligations under the EU Fluorinated Greenhouse Gases and Ozone Regulations. F-Gas Support is also working with Regulators to promote compliance. It is being run on behalf of Defra and the devolved administrations by the Local Authorities Coordinators of Regulatory Services (LACORS) and Enviros.