

## C2, C3 City and Guilds 2079-11 F Gas Revision and Assessment for Experienced Engineers

These sessions are aimed at experienced engineers who don't have a current F Gas qualification, for example for those with an expired CITB J11 qualification.

Cool Concerns Ltd is approved by City and Guilds to assess candidates for the C & G 2079 refrigerant handling scheme. This is a practical skills test plus an online assessment to check knowledge. The overall aim of the assessment is to ensure candidates:

- Handle refrigerant safely and with minimum loss to atmosphere;
- Minimise refrigerant leakage and leak potential;
- Maximise energy efficiency.

It is a legal requirement that all engineers who handle HFC type refrigerants have an F Gas (Fluorinated Gas) qualification. The category 1 assessment is for engineers working on any size of system who will be accessing the system (e.g. for service), charging and recovering refrigerant and leak testing.

Most engineers will require some training / revision to reach the required standard for the practical and knowledge assessments. To minimise down time part of this training is in the form of self study.

The C2 two day session has very little hands on practice and is for anyone who handles refrigerants daily but does not have the F Gas qualification, e.g. because they have an expired CITB J11 qualification or because they work outside the EU.

The C3 session has more opportunity for hands on practice for the practical assessment – we strongly recommend this option for anyone who has not handled refrigerant for several years.

	C2 candidates	C3 candidates
Self study	A self study book is sent to candidates before the assessment. This provides comprehensive coverage of the knowledge required, an outline of the practical assessment and sample questions to check knowledge. <b>This must be read and absorbed before the revision and assessment session.</b>	
Day 1	Revision of the knowledge required, review of the sample questions and a practical demonstration. There is ample opportunity for candidates to ask questions about topics they are unsure of.	
Day 2	Online assessment and practical assessment. Immediate feedback is given to the candidate after each assessment regarding pass / failure.	Online assessment. Immediate feedback is given to the candidate after the assessment regarding pass / failure. Hands on practice.
Day 3	N/A	Further hands on practice if required. Practical assessment with immediate feedback.

The course is a mix of theory, videos, practical, discussion sessions and “toolbox talks” with the emphasis on active participation. Numbers on the course are usually limited to six. Trainees are provided with high quality course notes.

A five day service and maintenance course can also be provided for those with little or no experience of RAC. The C & G 2079 assessment is included in the course. Contact us for more information.

## Cost

The C2 course cost is £495 per person excluding VAT.

The C3 course cost is £695 per person excluding VAT.

The costs include self study notes sent in advance of the session, lunches and C & G certification.

## Location

The course is run at our training centre a few minutes from junction 8 of the M5. We provide joining information with directions, start time and a list of local hotels.

## About Cool Concerns Training

Our training is developed by the working directors Jane Gartshore and Stephen Benton and delivered by our centre manager Alan Snelling. We are engineers and have a wide and varied range of practical and theoretical experience within the refrigeration and air conditioning industry.

We provide training which is up to date, informative and fun with the emphasis on practical ‘hands on’ mixed with high quality presentations and supported by relevant documentation and notes. All our training is designed to use trainees’ time as efficiently as possible to minimise expensive down time. We draw on our wide range of experience to prepare and deliver industry leading training sessions. We limit numbers on each session to ensure an effective trainer to trainee ratio.

## City and Guilds 2079-11

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## Practical assessment

Engineers are required to carry out the following procedures on a test rig:

- Braze a joint and install it in the system;
- Pressure test the system for strength and leak tightness (including the brazed joint);
- Evacuate the system;
- Charge a zeotropic blend (e.g. R407F), run the system, check the refrigerant state;
- Carry out a visual check for leaks, indirectly assess the system for low charge and leak test using an electronic leak detector;
- Fit & disconnect gauges on the running system;
- Recover the refrigerant;
- Drain oil from a compressor.

The test rigs are industry standard air cooled condensing units coupled with DX evaporators, as shown in the photo.



## Knowledge assessment

Knowledge is assessed online using the City and Guilds on line assessment facility at Cool Concerns. The following topics are included in the 40 question multiple choice assessment:

- SI units of measure;
- Basic refrigeration theory, pressure enthalpy charts, function of components, state of refrigerant in the system, operating conditions;
- Monitoring system performance and indications of leakage;
- Environmental aspects - direct and indirect - of HFCs and HFC systems, including energy efficiency;
- Environmental regulations;
- Required record keeping;
- Potential leak points;
- Handling of contaminated refrigerant and oil;
- Component function and associated leak risk.



The procedure for the online assessment is explained prior to the assessment.

### For more information or to book contact:

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