

Assessment: City and Guilds 2079-11 Refrigerant Handling, Category 1 (Level 2 certificate in F Gas and ODS Regulations)

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 this qualification (or the Construction Skills equivalent) by July 4th 2011. Until then the City and Guilds 2078 (or CITB equivalent) is acceptable. 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. The assessment takes a full day.

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. R404A), 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 with service and Schrader valves;
- 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 GOLA (Global 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.

The Cool Concerns training and assessment package

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 followed by one revision day before the assessment day.

Self study	A self study book is sent to candidates about a month before the assessment. This provides comprehensive coverage of the knowledge required, an outline of the practical assessment and sample questions to check knowledge. This must be read and absorbed before the revision and assessment session.
Revision day	This includes 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.
Assessment day	Online assessment and practical assessment. Immediate feedback is given to the candidate after each assessment regarding pass / failure. The assessment day is the day following the training day.

The revision and assessment days are at our training facility in the West Midlands.

A five day service and maintenance course can also be provided for those with little experience of RAC. The C & G 2079 assessment is included in the course. Contact us for more information.

Cost

£495 plus VAT per person, including registration, self study book, training day, assessment day and lunches.

There will be an additional cost for candidates who need to re take the practical and / or the theory assessments.

Registration

We require full name and home address, date of birth, National Insurance number and contact phone number for each candidate at least 10 days before assessment.

We will send out an enrolment form to be completed and signed by each candidate before the assessment. **This form must be completed and signed by the candidate for data protection purposes** – successful candidates could go onto a publicly accessible data base of engineers who are qualified to the F Gas standard.

About Cool Concerns' Training and Assessments – for engineers by engineers

Training and assessments are carried out by the working directors – Jane Gartshore and Stephen Benton. We are both refrigeration engineers and have a wide and varied range of practical experience within the refrigeration and air conditioning industry.

We provide training that “hits the spot” – it is relevant, informative and fun with the emphasis on hands on practice mixed with high quality theory presentations.

All our training is designed to use trainees' time as efficiently as possible, thus minimising expensive down time. We draw on the wide range of experience of both trainers to prepare high quality training sessions.



Refrigerant Handling Legislation

Fluorinated Gases "F gases" are a family of chemicals that contain fluorine. Most "F gases" are very powerful greenhouse gases which contribute to climate change if emitted to the atmosphere. Many organisations have obligations under the EC F Gas Regulation. In particular, if you use, maintain or install refrigeration and/or air-conditioning equipment you are likely to be affected. Refrigeration and air-conditioning users may also be affected by the EC Ozone Regulation which is phasing out certain ozone depleting substances (ODS) such as R22.

One of the requirements of the F Gas regulation is a minimum standard of competency for engineers handling HFC refrigerants (such as R404A, R407C, R134a, R410A). City and Guilds 2078 and the CITB equivalent are acceptable until July 4th 2011. By this date all HFC handlers will have to have the new qualification - City and Guilds 2079 (or the Construction Skills equivalent).

For more information on the legal requirements contact Cool Concerns Ltd or visit F Gas Support at <http://www.defra.gov.uk/environment/air-atmos/fgas/index.htm>