

New test specification for 2079-201 Handling fluorinated gases and ozone-depleting substances (category II personnel)

As part of a recent review of the existing Evolve banks for the unit 'Handling fluorinated gases and ozone-depleting substances (category II personnel)', we are updating the test specification to match the unit content to ensure better clarification for centres and learners.

Please note that we are not adjusting the distribution of questions in the tests, nor are we changing the pass mark or the time allowed to take the test.

The change is to ensure that the score report sections that learners see once they have completed the test are the same as the learning outcomes in the QCF unit as published in our handbooks. This is in line with other City & Guilds on-line multiple choice tests. The new score reports will show five sections, one for each of the five unit learning outcomes covered by the on-line test.

- 1 identify basic systems, terms, principles, units and how these relate to theory and thermodynamics of vapour compression cycles and refrigerants
- 2 identify the causes and effects of global warming and climate change
- 3 identify causes and effects of ozone depletion
- 4 identify stationary refrigerant, air conditioning and heat-pump system components, functions and leakage risk
- 5 identify the hazards and safe working practices for the installation, commissioning and handling of refrigerants

A mapping document can be found below which shows how the current test section areas match the unit's assessment criteria and also the new test specification.

Test spec 2079-201 Handling fluorinated gases and ozone-depleting substances (category II personnel)

Time: 70 minutes

No of questions: 34

Pass/fail only

| New Syllabus Refs | | Old Test spec ref | no. of questions per test |
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| Outcome | Assessment Criteria | | |
| 01 be able to identify basic systems, terms, principles, units and how these relate to theory and thermodynamics of vapour compression cycles and refrigerants | 01.01 identify the standard units relating to category II systems | 1.1 | 11 |
| | 01.02.01 Identify the terms and principles of basic theory/thermodynamics that relate to category II systems (basic vapour compressions cycle, key terms and P-h diagrams) | 1.2 | |
| | 01.02.02 Identify the terms and principles of basic theory/thermodynamics that relate to category II systems (function of compressor, condenser, expansion device and evaporator) | 1.3 | |
| | 01.02.03 Identify the terms and principles of basic theory/thermodynamics that relate to category II systems (condition/state of refrigerant by use of a refrigerant comparator or service gauge) | 1.4 | |
| | 01.02.04 Identify the terms and principles of basic theory/thermodynamics that relate to category II systems (reasonable operating conditions for a condenser and evaporator for a range of applications) | 1.5 | |
| | 01.02.05 Identify the terms and principles of basic theory/thermodynamics that relate to category II systems | 1.6 | |

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| | (features of zeotropic blends) | | |
| 02 be able to identify the causes and effects of global warming and climate change | 02.01 identify the stated causes of climate change | 2.1 | 8 |
| | 02.02 identify how the Kyoto Protocol aims to reduce the effect of effects of greenhouse gas emissions | | |
| | 02.03 identify direct and indirect global warming potential (GWP) of the common hydrofluorocarbon (HFC) and hydrocarbon (HC) refrigerants | 2.2 | |
| | 02.04 identify the importance of energy efficiency on greenhouse gas emissions to atmosphere | 2.3 | |
| | 02.05 identify the basic requirements of Regulation (EC) No 842/2006 and other relevant regulations | 2.4 | |
| | 02.06 identify the equipment records/commissioning data requirements of Regulation (EC) No 842/2006 and all appropriate regulations and standards | 3.1 | |
| 03 be able to identify causes and effects of ozone depletion | 03.01 identify ozone depletion potential (ODP) of hydrochlorofluorocarbon (HCFC) refrigerants | 10.1 | 2 |
| | 03.02 identify the effect of chlorine on ozone depletion | | |
| | 03.03 identify the basic requirements of Regulation (EC) 2037/2000 | 10.2 | |
| | 03.04 identify the aims and impact of the Montreal Protocol | | |
| 04 be able to identify stationary refrigerant, air conditioning and heat-pump system components, functions and leakage risk | 04.02 identify potential leakage points of refrigeration/air conditioning and heat pump equipment | 4.1 | 8 |
| | 04.03 identify the requirements and procedures for handling, storage, transportation and disposal of contaminated refrigerant and oil | 5.1 | |

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|--|--|--------------------|-----------|
| | 04.04 identify how the state/condition of equipment (major components) can lead to refrigerant release | 6.1, 7.1, 8.1, 9.1 | |
| | 04.05 identify the risks of refrigerant release associated with equipment (major, control and line components) | | |
| 05 be able to identify the hazards and safe working practices for the installation, commissioning and handling of refrigerants | 05.01 identify the hazards and safe working practices associated with flame brazing | 11.2 | 5 |
| | 05.02 identify the hazards and safe working practices associated with nitrogen pressure testing | 11.3 | |
| | 05.03 identify the hazards and safe working practices associated with refrigerant release | 11.1 | |
| TOTALS | | | 34 |