



**Domestic Gas Safety Assessments (DGA)
Competency Assessment Certification Scheme for Registered Gas Installers**

**Practical Assessment Performance Criteria
Issue 1 September 2013 – Public Version**

REFERENCE:	CER/13/273	<i>The Commission for Energy Regulation, The Exchange, Belgard Square North, Tallaght, Dublin 24.</i>
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Practical Assessment Performance Criteria

Fuel type:

Natural Gas & LPG

Introduction:

This Gas Safety Assessment is designed to test the gas safety competence of a Registered Gas Installer (RGI) in domestic gas work by practical and knowledge and understanding assessment.

This Gas Safety Assessment comprises of 6 Competencies:

- 1) Combustion and its Control.
- 2) Pressure and Flow.
- 3) Domestic Pipework Installations.
- 4) Flues and Ventilation.
- 5) Domestic Gas Appliances.
- 6) Electrical Safety.

Range:

Domestic Gas Installations.

Pre-requisite to this Assessment:

RGI's wishing to undertake this assessment must hold a valid Gas Installer Domestic (GID) or current Domestic Gas Safety (DGS) training and assessments Certificate or equivalent (GI2,GI3,City&Guilds 662, Mutual Recognition), or the previously held DGS Competency Assessment Certificate.

Noted Exclusions:

The scheme will not assess any work that is not a matter of gas safety.

Normative Documents:

The assessment design must be based on the following specific documents:-

- All relevant I.S. and EN documents (Irish Standard I.S. 813 Domestic Gas Installations, Irish Standard I.S. EN 1949 Specification for the Installation of LPG Systems for Habitation purposes in Leisure Accommodation Vehicles and other Road Vehicles).
- Manufacturers' Instructions for the specific appliances being used for the assessment.
- RGII Technical Guidance Document for Registered Gas Installers, September 2012 (TGD).
- Tolly's Basic Science and Practice of Gas Service – Gas Service Technology Volume 1, 5th Edition 2009 (GST Vol 1)
- Essential Gas Safety Domestic 6th Edition – Corgi, 2012 (Corgi)

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- National Wiring Rules for Electrical Installations 4th Edition (ET101:2008)

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DOMESTIC GAS SAFETY ASSESSMENTS	1. Combustion and its Control	
Performance Criteria		
1	Recognise complete and incomplete combustion using:	
	(a) Visual examination of flames, including recognition of burner flames showing signs of correct and incorrect combustion	
	(b) Combustion analysers *	
2	Gas rate and heat input to a burner is confirmed as being correct	
3	Individual gas safety devices/controls are identified	
4	The correct operation of each gas safety control/device is checked and controls not working correctly are identified*	
5	The safe operation of gas safety control/device is explained**	
6	Combustion Performance Analysis (Use of Flue Gas Analyser etc.)	
7	Correct setting of appliance combustion	
Notes:		
*	Note: All candidates must complete a combustion analysis test on a gas boiler	
**	The gas safety controls in PC 3, 4 and 5 must include: Thermo-electric and rectification flame safety devices, mechanical and electrical appliance thermostats, pressure regulators, pressure switches, ignition devices.	

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DOMESTIC GAS SAFETY ASSESSMENTS	2. Pressure and Flow	
Performance Criteria		
1	A new gas installation shall be tested for soundness with air at minimum 100mbar (Natural Gas) or 150 mbar (LPG)	
2	An existing gas installation shall be tested for soundness with gas at operating pressure at 20mbar (Natural Gas) or 37 mbar (LPG)	
3	The installation shall be purged of air	
4	Using appropriate pressure gauge measure and record operating pressure of the meter regulator	
5	Re-admission of gas to an existing installation	
6	The proper procedures for testing an emergency control valve / meter	
7	An LPG installation in a leisure accommodation vehicle shall be tested for soundness	
8	Ensure pressure regulation flow rates for LPG systems in leisure accommodation vehicles are correct.	
Notes:		

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DOMESTIC GAS SAFETY ASSESSMENTS	3. Domestic Pipework Installations	
Performance Criteria		
1	Pipe work is connected to the gas installation and appropriate safety precautions taken	
2	Copper tube is joined using appropriate capillary end feed fittings, methods and agents	
3	Copper tube and mild steel pipe is joined using appropriate fittings methods and agents	
4	Mild steel pipe is joined using appropriate fittings, methods and agents	
5	The work carried out is gas sound and is correctly purged of air	
6	Domestic gas installation pipework safety defects are identified:	
	(a) Unsealed open end	
	(b) Push fit pipes on copper gas pipes	
	(c) Inadequately clipped pipes	
	(e) Un-sleeved pipe or unsealed pipe sleeve	
	(f) Pipes in voids which are incorrectly ventilated	
	(g) Indoor LPG pipes below ground level not either continuous or welded	
7	Domestic gas meter installation defects are identified (two faults)	
8	The correct pressure after the first stage regulator is identified for LPG system.	
9	The correct pressure after the second stage regulator is identified for LPG system.	
10	Identify pipe materials to be used in LPG systems in leisure accommodation vehicles	

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11 Identify suitable protection of pipework in leisure accommodation vehicles against mechanical damage	
Notes:	

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DOMESTIC GAS SAFETY ASSESSMENTS	4. Flues and Ventilation	
Performance Criteria		
1	The following types of flue are visually inspected throughout their length and faults identified	
	(a) Brick chimney*	
	(b) Flexible flue liner*	
	(c) Individual natural draught open flue installation*	
	(d) Individual fan-assisted open flue system	
	(e) The flue and combustion seals of a room sealed gas appliance	
2	A flue flow test shall be performed on an open flue	
3	A gas appliance connected to an open flue shall be spillage tested	
4	Ventillation requirements calculations are carried out	
5	Grills and vents are correctly sized (Free Air Availability)	
6	Air supply requirements for flueless appliances (including cooker, space heating & water heating) are identified	
7	Correct flue installation/protection in leisure accommodation vehicles is identified	
Notes:		
PC 1*	The following faults shall be identified: damper fitted, cracked leaking flue/chimney, incorrect terminal position, inadequately supported flue, incorrect installation of bends, the catchment space is correct & free from debris, the flue joints are correctly made, the space allocated between the flue and combustible material is correct, the flexible flue liner is correctly sealed at base and terminal position, the seals on balanced natural and fan assisted flues are in good condition and correctly installed.	

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DOMESTIC GAS SAFETY ASSESSMENTS	5. Domestic Appliances	
Performance Criteria		
1	The gas supply pipe is suitable for connecting the appliance	
2	The gas supply is connected using a suitable isolation valve and pipework	
3	The gas hose and bayonet connection conform to requirements (cooker)	
4	The appliance stability device is correctly located and secure (cooker)	
5	The appliance assembly is complete and is fit for use and purpose.	
6	Connect a cooker using a bayonet connection	
7	The cooker is correctly located, level and stable (cooker)	
8	The appliance is commissioned ensuring: the appliance is purged of air, the working pressure at the appliance is correct, the burner flame picture, stability and ignition is correct, the user controls are operating correctly, the safety control devices are operating correctly, gas rate of appliance is correct, and a Combustion Performance Analysis is carried out and print out attached, where appropriate. .	
9	Any defects on gas safety components are identified *	
10	Issue Declaration of Conformance and ensure the safe operation and use of the appliance is explained	
11	Flexible hose connected directly to an LPG cylinder is of correct length and type	
12	Gas detection system is fitted for LPG appliances located below ground level	
13	Only room sealed space heating appliances complying with EN 624 to be used in leisure accommodation vehicles are identified.	
14	Flue shall be located or protected to prevent damage to flue and danger to person in or about the vehicle	

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15	The fire place opening and hearth construction and dimensions conform to requirements (gas fire)	
16	A smoke test confirms that the flue discharges correctly only to atmosphere (space heater)	
17	The appliance & flue assembly is complete and is fit for use and purpose (gas fire)	
18	The appliance location is in accordance with Manufacturers Recommendations	
19	The appliance flue is correctly installed and sealed to the balanced flue set (central heating boiler)	
20	The safe operation of the appliance is checked	
21	Suitability of appliances located in caravans, motor caravans or other leisure accommodation vehicles is identified	
22	Recognition of correct requirements for installation of appliances located in caravans, motor caravans or other leisure accommodation vehicles is demonstrated	
23	Gas Appliance Rating	
24	Setting Appliance Burner Pressure	
Notes:		
PC 9*	At least 2 safety controls shall be faulty during commissioning	
PC 8	The Assessment Centre will nominate at least two of the following appliances to be commissioned – central heating boiler, cooker, water heater or fire. Note: Each of the four appliances will be available at each Assessment Centre. The appliances to be commissioned will be rotated on an on-going basis	

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DOMESTIC GAS SAFETY ASSESSMENTS	6. Electrical Safety	
Performance Criteria		
1	The current edition of the National Wiring Rules shall be referenced re all electrical issues	
2	Suitable cables and connections for the voltages and currents involved shall be used for appliance connections	
3	The configuration of the appliance isolation shall be in accordance with the manufacturer's requirements.	
4	Confirm gas pipework is correctly bonded	
5	Ensure Safe Electrical Isolation before any work is carried out on gas appliance	
6	The use of Electrical test equipment is demonstrated	
7	Electrical Safety Checks i.e. polarity, earth continuity and short circuit are carried out	
8	LPG Pipes in leisure accommodation vehicles shall not be used as an earth electrode or earth continuity conductor	
Notes:		