



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

**Knowledge and Understanding Assessment Performance Criteria
Issue 2 (April 2015) – Public Version**

REFERENCE:	CER/15/081	<i>The Commission for Energy Regulation, The Exchange, Belgard Square North, Tallaght, Dublin 24.</i>
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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 7 Competencies:

1. Gas Safety Legislation and Irish Standards.
2. Combustion and its Control.
3. Pressure and Flow.
4. Domestic Pipework Installations.
5. Flues and Ventilation.
6. Domestic Gas Appliances.
7. Electrical Safety.

Range:

Domestic Gas Installations.

Pre-requisite to this Assessment:

RGI's wishing to undertake this assessment must hold a current Domestic Gas Safety (DGS) FEATC Award or a valid Gas Installer Domestic (GID) or training and assessments Certificate or equivalent (GI2, GI3, City & Guilds 662, Mutual Recognition), or a 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 (Including Irish National Annex)).
- 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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DOMESTIC GAS SAFETY ASSESSMENTS	1. Gas Safety Legislation and Irish Standards	
Knowledge and Understanding Criteria		
1	I.S. 813 - Irish Standard for Domestic Gas Installations	
2	I.S. EN 1949 - Irish Standard for Specification for the Installation of LPG Systems for Habitation Purposes in Leisure Accommodation Vehicles and other Road Vehicles (Including Irish National Annex).	
4	Electricity Regulation Act 1999	
5	Energy (Miscellaneous Provisions) Act 2006	
6	Energy (Biofuels and Miscellaneous Provisions) Act 2010	
7	Safety, Health and Welfare at Work Act 2005	
8	S.I. 225 of 2009 Gas Works Regulations	
9	S.I. 299 of 2011 Liquefied Petroleum Gas Works Regulations	
10	RGII Technical Guidance Document for Registered Gas Installers, September 2012 (TGD)	
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DOMESTIC GAS SAFETY ASSESSMENTS	2. Combustion and its Control	
Knowledge and Understanding Criteria		
1	Specific Gravity of Natural Gas/LPG	
2	Flammability limits of Natural Gas/LPG	
3	The main constituents of complete and incomplete combustion	
4	The air requirements for complete combustion	
5	Causes of appliance incomplete combustion	
6	The symptoms of CO poisoning	
7	Advice to give to a person who describes symptoms of being affected by products of combustion	
8	Most significant information obtained by using a flue gas analyser	
Notes:		

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DOMESTIC GAS SAFETY ASSESSMENTS	3. Pressure and Flow	
Knowledge and Understanding Criteria		
1	The correct selection and reading of pressure gauges	
2	When should gas pipework be subject to a soundness test.	
3	The action to be taken when appliances are connected prior to the soundness test of a new installation.	
4	The method of raising the pressure for a soundness test of a new installation.	
5	The minimum standard for gauges used for soundness testing up to 150mbar	
6	The actions required if a pressure drop is identified during a soundness test on an existing installation with appliances connected and not isolated.	
7	Permitted pressure drops for existing appliances isolated from the gas supply.	
8	The procedures for dealing with an emergency control valve / meter that is letting by	
9	The actions to be taken when a smell of gas persists (a) after completion of a satisfactory soundness test (b) when the ECV is turned off or a leaking installation cannot be repaired.	
10	The method for purging small volumes of gases	
11	The method for purging larger volumes of gases	
12	The actions to take if connected new appliances are not commissioned immediately following purging.	
13	Soundness of Existing Installations	
14	Soundness of LPG installations in leisure accommodation vehicles.	
15	Correct pressure regulation flow rates for LPG systems in leisure accommodation vehicles	

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DOMESTIC GAS SAFETY ASSESSMENTS	4. Domestic Pipework Installations	
Knowledge and Understanding Criteria		
1	Types of gas pipework entry into building (depth of cover, transition fittings, sleeving)	
2	Suitable and unsuitable primary meter installations	
3	Requirements when jointing gas pipework (copper capillary and threaded jointing materials)	
4	Gas pipe sizing and pressure losses	
5	Internal buried pipework	
6	External buried pipework	
7	Isolation of gas supplies	
8	Internal concealed pipework	
9	Pipes passing through external walls, cavity walls, solid floors or solid ceilings	
10	Indoor LPG pipes below ground level	
11	Pipes in service shafts	
12	Testing & commissioning of pipework	
13	Requirements for connection of appliances	
14	LPG supply systems	
15	Pipe materials to be used in LPG systems in leisure accommodation vehicles	
16	Protection of pipework in leisure accommodation vehicles against mechanical damage	
17	Avoidance of corrosion of pipework in LPG installations in leisure accommodation vehicles	

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DOMESTIC GAS SAFETY ASSESSMENTS	5. Flues and Ventilation	
Knowledge and Understanding Criteria		
1	The need for and operating principles of a flue and factors affecting its performance	
2	Flue sizing	
3	Materials, construction and fire precautions	
4	Individual open-flued systems using natural draught	
5	Individual fan assisted open-flued systems	
6	Flues for room sealed appliances	
7	Flue terminal locations for room sealed and open flues	
8	The requirements for combustion air ventilation	
9	The siting of ventilation (wall, window, floor, ceiling and ducted) direct/indirect to outside air.	
10	Restrictions to ventilator/grille locations	
11	Suitable and unsuitable types of grilles and vents	
12	Air permeability	
13	Sizing of grilles and vents (free area availability)	
14	Calculating ventilation requirements for combustion of open flued appliances	
15	Calculating ventilation requirements for compartments (open, balanced and fan assisted flued appliances)	
16	Calculating ventilation requirements for multi – appliance installations (multiple open flued and flueless appliances within the same room/space)	
17	Ventillation requirements for flueless appliances (inc, cooking, water heating and space heating)	

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18	Use of existing flues and chimneys	
19	Adequacy of air supply in existing installations	
20	Correct flue installation/protection in Leisure Accommodation Vehicles	
21	Accessibility of flues	
Notes:		

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DOMESTIC GAS SAFETY ASSESSMENTS	6. Domestic Appliances	
Knowledge and Understanding Criteria		
1	Gas supply connection/termination for appliances	
2	Suitable and unsuitable appliance room/space locations	
3	clearance requirements – proximity of combustible materials	
4	need for flame safety on all burners/ hot plates from 1 st Jan 2005	
5	Specific requirements for fixed flueless space heaters	
6	Specific requirements for decorative and Inset Live Fuel Effect fires	
7	Specific ventilation requirements for decorative fuel effect gas fires	
8	Minimum flue sizes for inset live fuel effect fires	
9	The consequence of an ineffective appliance case seal	
10	Provision of condensate drains	
10	Requirements for installation of LPG appliances below ground level	
12	Requirements for space heaters located in caravans, motor caravans or other leisure accommodation vehicles	
13	Suitability of appliances located in caravans, motor caravans or other leisure accommodation vehicles	
14	Installation of appliances located in caravans, motor vehicles or other leisure accommodation vehicles	
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DOMESTIC GAS SAFETY ASSESSMENTS	7. Electrical Safety	
Knowledge and Understanding Criteria		
1	Suitable cables and connections	
2	Correct use of fused spur box	
3	Correct electrical bonding of gas pipework	
4	Earthing of LPG Pipes.	
Notes:		