



Strategic Management Board

**ACS.CCLP1
SAFETY ASSESSMENT CRITERIA
INITIAL.DOMESTIC
LPG**

**ACS.CCLP1
SAFETY ASSESSMENT CRITERIA
RE-ASSESSMENT. DOMESTIC
LPG**

CCLP1**INITIAL & RE-ASSESSMENT****Introduction**

This Core assessment now incorporates the criteria for combustion performance analysis for delivery from 1st April 2012. This packaged Assessment shall be delivered from 1st April 2012 and shall be downloaded to the national database using the assessment codes CCLP1 + CPA1. This will ensure the Candidate's competence in combustion performance analysis is recognised.

Candidates sitting and achieving CCLP1 from 1st April do not need to sit CPA1.

CCLP1 shall be associated with at least one of CCLP1 PD, RPH, LAV, and B.

Tests gas safety competence in core LPG work.

Candidates subsequently sitting only CCLP1 B will not need to prove competency in LPG metering or the commissioning of OPSO/UPSO valves from the following competence criteria.

Group 1. Part A. Comprises:

1. Gas safety legislation and Standards
2. Gas emergency actions and procedures.
3. Products and characteristics of combustion (inc. combustion performance analysis)
- 3a. Characteristics of LPG.
- 3b. Supply pressures. Operation and positioning of emergency isolation, flow control and valves for cylinders.
- 3c. Cylinder location, safety and sizing.
5. Installation of pipework and fittings.
- 6a. Tightness testing and purging (PD, LAV and RPH).
- 6b. Tightness testing and purging (B).
8. Unsafe situations, use of emergency notices and warning labels.
11. Operation and checking of appliance gas safety devices and controls.
12. Chimney Standards.
13. Chimney inspection and testing.
14. Installation of open, closed, balanced and fan assisted chimneys.
15. Re-establish existing gas supply and re-light appliances.

CBs and ACs may adopt Competence and Criteria numbering different to that used in this document.

CB and AC documentation may adopt wording for criteria different to that used in this document, provided the meaning is unaffected.

Range

All LPG gas fittings.

Pre-requisites**Initial**

None.

Re-assessment

CCLP1.

For Competence 3.16 K&U, where CPA1 or CCLP1 sat from 1st April 2012, or CCCN1 or COCN1 or CCLNG1 sat from 1st April 2012 but for non-domestic premises only is not held, the Initial criteria have to be met when undertaking re-assessment.

References and normative documents

MIs.

All relevant documents as listed in the Legislative, Normative & Informative Document List (LINDL), inc.:

- **BS EN ISO 10239:2014**
- IGEM/UP/1B Edition 3
- HSL56
- GIUSP.

ACS.SMB.003.ACRND identifies Normative Documents that should be held by ACs.

Abbreviations

AC. Assessment Centre
 AIV Appliance Isolation Valve
 CB. Certification Body
 B. Boat
 HP. High pressure
 I. Initial
 LAV. Leisure accommodation vehicle
 LDF. Leak detection fluid
 LP. Low pressure
 MIs. Manufacturer's/manufacturers' instructions
 OP. Operating pressure
 OQ. Oral questioning
 OPSO. Over-pressure safety cut-off
 PD. Permanent dwelling
 R. Re-assessment
 Ref. Reference
 RPH. Residential park home
 SSOV. Safety shut-off valve
 UPSO. Under-pressure safety cut-off.

1. Gas safety legislation and Standards

KNOWLEDGE AND UNDERSTANDING			REF	I	R
1. HSL56:					
(i)	Reg.2	General interpretation and application 2(1) to (5)		√	
(ii)	Reg.3	Qualification and supervision 3(1),(2),(3),&(6)		√	
(iii)	Reg.4	Duty on employer		√	
(iv)	Reg.5	Materials and workmanship 5(1) to (3)		√	
(v)	Reg.6	General safety precautions 6(1) to (9)		√	
(vi)	Reg.7	Protection against damage 7(1) to (3)		√	
(vii)	Reg.8	Existing gas fittings 8(1) to (3)		√	
(viii)	Reg.25	Interpretation of Part E		√	
(ix)	Reg.26	Gas appliances - safety precautions 26(1) to (9)		√	
(x)	Reg.35	Duties of employers and self-employed persons		√	
(xi)	Reg.36	Duties of landlords 36(1) to (12)		√	

2. Gas emergency actions and procedures

KNOWLEDGE AND UNDERSTANDING			REF	I	R
1(a)	priorities of actions and responsibilities			√	
1(b)	dealing with gas leakage with fire and safety/fire precautions for cylinders			√	
1(c)	dealing with gas leakage without fire:				
2.	specific gravity and its effect in relation to air e.g. search techniques			√	
3.	preventing/reducing dangerous concentrations of gas in atmosphere and at low level			√	
4.	advice to occupants			√	
5.	HSL56: Reg.9 Emergency controls 9 (5)			√	

3. Products and characteristics of combustion

K&U 3.16 Initial criteria apply for Candidates undertaking re-assessment when they do not hold CPA1 or CCLP1 sat from 1st April 2012, or CCCN1 or COCN1 or CCLNG1 sat from 1st April 2012 but for non-domestic premises only is not held.

PERFORMANCE CRITERIA	REF	I	R
1. visually inspect flame picture of burners and identify those indicating:			
(i) complete combustion		√	√
(ii) incomplete combustion		√	√
2. identify incomplete combustion in an open flue appliance:			
(i) around appliance location		√	√
(ii) in appliance		√	√
3. CO detectors and indicators:			
(i) identify detectors and indicators		√	√
(ii) installation – locations		√	√
(iii) commissioning and maintenance of detectors (audible, readable, visual)		√	√
4. Combustion performance analysis:			
(i) inspect appliances of 3 flue types intended for combustion performance testing to ensure installation, flueing and ventilation are to MIs		√	√
(ii) inspect appliances for obvious signs of damage and factors that may affect combustion performance		√	√
(iii) check OP and/or heat input of each appliance		√	√
(iv) light each appliance and visually inspect combustion performance		√	√
(v) check analyser is suitable, correctly assembled and calibrated		√	√
(vi) select correct types of sampling probe for each appliance		√	√
(vii) turn on analyser and prepare for use to MIs		√	√
(viii) correctly position probes for sampling products from each appliance		√	√
(ix) adjust position of probe to obtain highest steady value of CO ₂ or lowest steady value of O ₂ for each appliance		√	√
(x) read and record CO/CO ₂ ratios for each appliance		√	√
(xi) adjust and re-test appliance if CO/CO ₂ ratio levels are too high		√	√
KNOWLEDGE AND UNDERSTANDING	REF	I	R
1. main constituents of complete and incomplete combustion		√	
2. air requirements for complete combustion		√	
3. causes of appliance incomplete combustion at:			
(i) burner		√	
(ii) combustion space		√	
(iii) heat exchanger		√	
(iv) flue		√	
4. symptoms of CO poisoning		√	
5. advice to a person who describes symptoms of being affected by products of combustion or when indicator/detector has activated		√	√
6. other sources of CO and CO ₂ in dwellings		√	√
7. ambient levels of CO in atmosphere		√	√
8. levels of CO within dwellings and effect on electronic detectors		√	√
9. causes of activation of CO detectors and indicators		√	√
10. ambient levels of CO ₂ in atmosphere		√	√
11. critical levels of CO ₂ that could cause vitiation effecting combustion process		√	√
12. movement of products of combustion within properties and its effects		√	√
12a advice to be given when a CO detector has activated	BS7967 2015 7.2	√	√
13. manufacturing standards for electronic CO detectors (alarms)		√	√
14. identification of unsafe situation of combustion products that could enter a premises	GIUSP Ed 7 7-6	√	√
15. additional allowance for CO levels for gas cookers		√	√
16. combustion performance analysis:			
(i) re-testing appliances when new components have been fitted		√	
(ii) unsafe situation category for flued appliance that fails test	GIUSP Ed 7	√	
(iii) unsafe situation category for flueless appliance that fails test	Situation Table 7.6	√	
(iv) understanding of action levels for gas appliances		√	
(v) actions if CO/CO ₂ ratio remains above suitable performance levels after adjustment		√	
(vi) types of portable combustion analysers		√	√

3a. Characteristics of LPG

KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	types of commercial LPG (propane, butane)		√	
2.	storage pressures for both gas types and its relation to temperature		√	
3.	specific gravity of LPG vapour and its effect in relation to air and Natural Gas		√	
4.	vaporisation of LPG liquid and off-takes - effects of temperature		√	
5.	limits of flammability		√	
6.	calorific value		√	

3b. Cylinder location, safety requirements and sizing

KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	safety requirements, sizing of cylinders:			
(i)	sizes and marking of common Propane and Butane cylinders commercially available and recommended off-takes to match appliance demand		√	
(ii)	linking cylinders through manifolds		√	
(iii)	areas where cylinders are not to be located		√	
2.	HSL56:			
(i)	Reg.6 General Safety Precautions 6 (8)		√	
(ii)	Reg.6 General Safety Precautions 6 (9)		√	

3c. Supply pressures - operation and positioning of emergency isolation, flow control and valves for cylinders

PERFORMANCE CRITERIA		REF	I	R
1.	LPG regulators :			
(i)	turn off all appliances		√	√
(ii)	turn off gas supply		√	√
(iii)	zero pressure gauge and connect to appropriate test point		√	√
(iv)	identify manufacture standard of second stage regulator; re-establish gas supply, observe and record lock up pressure (BS 3016 regulators 37-47 mbar propane/ 28-38 mbar butane, EN 12864 and EN 13785 regulators 37-50mbar propane/29-40 butane)		√	√
(v)	turn on and light a burner and observe and record OP (BS 3016 regulators 28 mbar ± 5 mbar butane & 37 mbar ± 5 mbar propane, EN 12864 & EN 13785 regulators 29 mbar + 6/ -9 mbar butane & 37 mbar + 8/ -12 mbar and 30 mbar ± 5 mbar for road LAV)		√	√
(vi)	turn on remaining appliances and light all burners to provide max. anticipated load		√	√
(vii)	read and record OP (28 mbar butane and 37 mbar ±5 mbar and up to a further – 2.5 mbar allowed for pressure loss). For road LAV manufactured after February 2003, pressure is 30 mbar for propane/butane		√	√
(viii)	remove gauge, re-seal test point and test for gas tightness		√	√
2.	check burner pressure at all other appliances, to MIs		√	√
3.	check UPSO is working to MIs		√	√
4.	check OPSO is working to MIs		√	√
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	recognition of supply pressures from gas storage cylinders:			
(i)	HP stage		√	
(ii)	LP stage		√	
2.	operation and positioning of gas storage cylinder fittings:			
(i)	pressure relief valve		√	
(ii)	cylinder valve		√	
3.	types and sizing of gas regulators		√	
4.	operation and positioning of emergency isolation valves		√	
5.	operation and positioning of automatic changeover valves for cylinders		√	
6.	HSL56: Reg.14 Regulators 14 (2) to (7)		√	
7.	min./max. outlet pressures for BS 3016, EN 12864 & EN 13785 regulators		√	√
8.	lock-up pressure for BS 3016, EN 12864 & EN 13785 regulators		√	√
9.	identifying causes of over pressure conditions		√	√
10.	operation/positioning/visible indicators (where applicable) of OPSOs		√	√
11.	procedures when OPSO has operated		√	√
12.	over pressure protection		√	√
13.	identifying when UPSO/OPSO commissioning needs to be made		√	√

14. safety and security of single supply gas storage vessels and controls			√
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5. Installation of pipework and fittings. Range of pipe sizes: 6 mm to 28 mm

PERFORMANCE CRITERIA	REF	I	R
1. join threaded pipe joints using appropriate fittings, methods and agents		√	
2. join copper or stainless steel pipe using appropriate compression fittings, methods and agents		√	
3. connect replacement HP hoses. Fabricate LP hoses using appropriate clips, fittings, agents		√	√
3a. reconnect cylinder and remove temporary earth continuity bond			√
4. use temporary continuity bond correctly		√	
5. ensure work carried out is gas tight		√	√
6. purge meter and pipework of air (meter not applicable to (B)) Apply any protective coating (OQ)		√	√
7. identify installation pipework safety defects		√	√
KNOWLEDGE AND UNDERSTANDING	REF	I	R
1. copper pipe and fittings; standards, suitability and use		√	
2. flexible hoses (e.g. colour band on cooker hose) and rigid connections standards, suitability and use		√	
3. HP and LP hoses and connections - types, condition and date of manufacture		√	
4. restrictions on length of hoses from regulator to LP nozzle and pigtailed from cylinders to regulator/change-over valves - replacing pigtailed		√	
5. pipe sizing to appliance requirements - inc. theoretical exercise		√	
6. jointing and cleaning agents for copper pipework		√	
7. pipe supports, clips and fixing for copper, stainless and galvanised steel pipework		√	
8. sleeving pipework		√	
9. precautions and protection when installing pipework		√	
10. external surface mounted installation pipework		√	
11. main equipotential bonding		√	
12. precautions when using naked flames on pipework previously containing LPG		√	
13. siting and installation for gas controls and isolation valves		√	
14. making and breaking gas connections on appliances		√	
15. ducts purposely designed to contain gas pipes		√	
16. HSL56:			
(i) Reg.10 Equipotential bonding		√	
(ii) Reg.18 Safe use of pipes 18 (1) and (2)		√	
(iii) Reg.19 Enclosed pipes 19 (1) to (6)		√	
(iv) Reg.20 Protection of buildings		√	
(v) Reg.22 Testing and purging of pipes 22 (1) to (3)		√	
17. MP and LP meter locations which do not comply with BS 6400-3		√	√
18. location and sizing vent pipes on MP meter installations		√	√
19. gas meters supplying mobile dwellings and boats		√	√
20. where a number of primary meters serving multi-occupancy buildings are grouped		√	√
21. notices fitted to meter installations, meter housings		√	√

6a. Tightness testing (PD, LAV and RPH). Total IV ≤ 0.035 m³. OP ≤ 37 mbar

Up to 1½ (steel) and/or 35 mm (copper)

PERFORMANCE CRITERIA	REF	I	R
1. Testing new and existing installations with gas:			
(i) visually inspect the installation to ensure all sections to be tested are connected, all joints are correctly made and no open ends		√	√
(ii) check appliances burner control taps are turned off, ensure AIVs are open and cooker fold down lids are raised to ensure the SSOV is open		√	√
(iii) turn off the gas installation at the appropriate valve		√	√
(iv) connect the pressure gauge to a suitable pressure test point on the outlet of the supply control valve and the final regulator		√	√
(v) carry out a let-by test of the closed supply control valve:			
• adjust the pressure to between 7 and 10 mbar		√	√
• reset any UPSO to release upstream pressure and re adjust if the pressure exceeds 10 mbar		√	√
• close the supply control valve where necessary, note the gauge reading		√	√
(vi) check for any perceptible movement (rise) of the gauge reading over the next 1 minute period (if UPSO fitted operate at the end of the 1 minute period)		√	√

(vii) if no perceptible movement is observed then the valve is not letting by			
(viii) if pressure rise is observed, check valve by disconnecting its outlet union and applying LDF to valve barrel (OQ if valve does not let by practically)		√	√
(ix) on satisfactory completion of let-by test slowly raise the pressure in the installation to the appropriate tightness test pressure indicated in Table 4 (IGEM/UP/1B Edition 3)		√	√
(x) close the supply control valve		√	√
(xi) allow 1 minute stabilisation; if necessary re-adjust pressure to the tightness test pressure - do not proceed until a stable reading has been achieved		√	√
(xii) check for no perceptible movement (fall) of the gauge over the next 2 minute period		√	√
(xiii) if an installation fails test, trace and repair escape and re-test installation (OQ)		√	√
(xiv) if tightness test is successful, remove pressure gauge and re-seal test point		√	√
(xv) test pressure test point; ECV/AECV outlet connection; regulator connections and, where appropriate, MIV connections with LDF		√	√
(xvi) purge installation		√	√
(xvii) record test results		√	√
2. Locate and repair a gas escape		√	√
KNOWLEDGE & UNDERSTANDING	REF	I	R
1. Correct reading of pressure gauges		√	√
2. Locating escapes		√	√
3. Actions for dealing with valves letting by		√	√
3a. Effects of flexible connections used to connect cylinders on let-by tests		√	√
4. Use of electronic pressure gauge (calibration requirements)		√	√
5. Air test pressure requirements for butane/propane installations		√	√
6. Installation test pressures for propane/butane		√	√
7. Permissible pressure drops for existing LPG installations with appliances IGEM/UP/1B Edition 3 (Appendix 8)		√	√
8. Actions to be taken where a cylinder valve is found to be faulty		√	√
9. Actions to take ensure lock up does not affect the tightness test		√	√
10. Additional requirements for re-testing installations that may contain air or a gas/air mixture following an initial test		√	√

6b. Tightness testing. Boats, yachts and other vessels

PERFORMANCE CRITERIA BS PD 5482 – 3:Annex C	PERFORMANCE CRITERIA EN ISO 10239 Small craft – LPG systems	REF	I	R
1. testing before appliances are connected (U gauge using air)	1. LPG installation system tests with appliances connected (using air)			
(i) cap all open points except one to admit air using appropriate test tee	(i) test with air from gas regulator connection to closed burner valves at appliances		√	√
(ii) attach testing tee as BS 5482-3	(ii) ensure shut off valve is open		√	√
(iii) assemble and attach pressure gauge	(iii) connect suitable gauge		√	√
(iv) using air, raise pressure to 45 mbar; isolate pressurising source	(iv) introduce air into system to a test pressure 3 times OP (≤ 150 mbar)		√	√
(v) allow 5 minutes stabilisation	(v) allow 5 minutes pressure equilibrium		√	√
(vi) note reading	(vi) observe gauge for further 5 minutes		√	√
(vii) allow 2 minute test period	(vii) pressure should remain constant to ± 5 mbar		√	√
(viii) check reading	(viii) if pressure has fallen more than 5 mbar , check each joint with LDF and retest		√	√
(ix) if pressure has fallen, check each joint with LDF and retest			√	√
2. tightness testing complete installation BS PD 5482-3. C.7.2.2 Let-by test of cylinder main shut off valve				
(i) turn off all appliances and isolate supply			√	√
(ii) connect U gauge to test fitting, if present, or in-line test tee			√	√
(iii) gradually turn on main shut-off valve until regulator reaches lock-up pressure; close main shut-off valve			√	√
(iv) light one appliance and note drop in gauge. When pressure falls to 5 mbar, close appliance tap and isolation valve			√	√

(v)	allow 5 minutes stabilisation, record reading on gauge		√	√
(vi)	allow further 2 minutes, then re-record reading on gauge		√	√
(vii)	if reading in(vi) is not higher than reading in (v), there is no let-by leakage		√	√
3.	tightness testing entire system (inc. appliances). C.7.3			
(i)	turn off all appliances but leave on all appliance isolation valves; ensure any cooker fold down lids with SSOV are raised – isolate supply		√	√
(ii)	connect U gauge to test fitting, if present, or in-line test tee		√	√
(iii)	turn on main shut-off valve to lockup pressure, then close valve; leave for 5 minutes		√	√
(iv)	light one appliance; allow pressure to fall to 37 mbar (propane)/28 mbar (butane)		√	√
(v)	switch off appliance and leave for 2 minutes – record pressure		√	√
(vi)				
(vii)	there should be no discernible pressure drop in system(pipework only) or within given values (with appliances connected and tested)		√	√
(viii)	test joints made after test, with LDF		√	√
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	correct reading of pressure gauges		√	√
2.	use of electronic pressure gauge (calibration)		√	√
3.	locating escapes		√	√
4.	dealing with valves letting by		√	√
5.	determining permissible pressure loss (as BS 5482-3)		√	√
6.	tightness testing principles		√	√

8. Unsafe situations, use of emergency notices and warning labels

PERFORMANCE CRITERIA		REF	I	R
1.	identify unsafe situations as ID & AR		√	√
2.	identify defective appliance(s)/installation(s)		√	√
3.	label unsafe appliance(s)/installation(s) appropriately		√	√
4.	demonstrate procedure for each unsafe installation as GIUSP			√
5.	complete warning/advisory notices; explain and issue to appropriate persons			√
6.				
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	explain dealing with ID	Fig 1 & 6.1 GIUSP Edition 7	√	√
2.	explain dealing with AR	Fig 1 & 6.2 GIUSP Edition 7	√	√
2a	explain dealing with AR installations/appliances when turning off does not remove the risk	Fig 1 & 6.2.2 GIUSP Edition 7	√	√
3.	explain dealing with situations that do not meet current standards but are not unsafe	Foreword GIUSP Edition 7	√	√
4. (i)				
(ii)				
5.	clearly identify correct notices and labels to be used:			
(i)				
(ii)	warning notice forms		√	
(iii)	advisory notices – appliance use, electrical bonding, landlord records		√	√
6.	situations reportable under RIDDOR. Explain reporting to HSE		√	√
7.	HSL56: Reg.34 (1) - (3)- Procedures		√	
8.	GIUSP:			
(i)				
(ii)	overall scope		√	√
(iii)	gas incidents		√	√

11. Operation and checking of appliances gas safety devices and controls

PERFORMANCE CRITERIA – This PC applies only to those safety controls listed in Tables 1 and 3 of the Practical Provision (ACS.SMB.005.PP.TABLE1)		REF	I	R
1.	identify gas safety device/control		√	√
2.	check correct operation of each gas safety control/device to MIs or normative documents		√	√
3.	identify gas safety controls/devices which are not working correctly by operation, testing and/or visual, audible methods		√	√
4.	demonstrate diagnosis of faulty gas safety device/control		√	√
5.	isolate gas and/or electrical supplies, where necessary		√	√

6.	repair or replace faulty gas safety control/devices		√	√
7.	re-establish gas and/or electrical supplies, where necessary		√	
8.	ensure work carried out is gas tight		√	
9.	confirm correct operation of repaired/replaced gas safety controls/devices to MIs		√	
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	appliance data critical for spare part identification of gas safety control/devices		√	
2.	demonstrate/explain principle of operation of each control/device		√	
3.	explain sequence of operation of controls/devices e.g. liquid expansion thermostat in line with a liquid expansion FSD		√	

12. Chimney Standards

KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	classification of gas flue systems - flueless, open flue, room sealed		√	√
2.	chimneys and open gas flue systems: natural draught:			
(i)	construction and operation of a chimney /open flue		√	√
(ii)	types of open flue material - cement based, metallic		√	√
(iii)	methods of jointing open flue and chimney components		√	√
(iv)	clearances when passing through combustible material		√	√
(v)	special requirements for terminals and/or guards - protection against wildlife		√	√
3.	HSL56:			
(i)	Reg.27 Flues (1) to (5)		√	
(ii)	Reg.30 Room-sealed appliances (1) to (3)		√	
(iii)	Reg.32 Flue dampers (2) to (3)		√	

13. Chimney inspection and testing

PERFORMANCE CRITERIA		REF	I	R
1.	visually inspect chimney/flue throughout its length:			
(i)	flue is fit for intended appliance and is classified		√	√
(ii)	flue serves only one room or appliance <i>N.B. Assessors may choose to use underpinning question/s to cover this PC</i>		√	√
(iii)	secondary flue is correctly positioned and in good condition		√	√
(iv)	terminal position meets current legal requirements		√	√
(v)	joint between terminal and flue system is weather tight		√	√
(vi)	flue is adequately supported		√	√
(vii)	flue is clear of obstructions		√	√
(viii)	flue is not corroded or cracked		√	√
(ix)	use of bends meets current requirements		√	√
(x)	appliance draught diverter is correctly installed and in good condition		√	√
(xi)	flue joints are correctly made		√	√
(xii)	there are no visual signs of spillage of combustion products		√	√
(xiii)	space allocated between flue and combustible material is correct		√	√
(xiv)	seals on balanced natural and fan assisted flues in good condition and correctly installed		√	√
(xv)	balanced flue appliance seals in good condition and correctly installed		√	√
2.	apply flue flow test (smoke test):			
(i)	check adequate air supply is available to MIs		√	√
(ii)	close windows and doors in room or compartment where flue is to be tested		√	√
(iii)	pre-warm flue, if necessary		√	√
(iv)	position smoke pellet at base of flue being tested		√	√
(v)	check smoke is seen to discharge from correct chimney or terminal only		√	√
(vi)	check there is no entry of smoke into room/compartment or any other room/compartment, roof space or any part, external to flue		√	√
(vii)	rectify any fault found and re-test flue		√	√
3.	apply spillage test with appliance connected and in operation:			
(i)	close windows, adjustable vents and doors in room/compartment containing appliance to be tested		√	√
(ii)	check ventilation requirements; any mechanical ventilation supplied to room other than combustion air is turned off		√	√
(iii)	demonstrate procedures when an extract fan is installed in the property		√	√
(iv)	with appliance in operation at its set input setting, apply smoke match to appropriate position in appliance according to MIs		√	√
(v)	check smoke is correctly pulled into appliance flue/chimney system		√	√
(vi)	rectify any fault found and re-test appliance (OQ re. testing for spillage with all interconnecting doors open with all fans in operation)		√	√
4.	identify defective flue installations - record incorrect flue and ventilation			√

5.	identify defective chimney/flue installations		√	√
6.	Check room sealed fan assisted positive pressure appliance installation:			
(i)	identify positive pressure appliance		√	√
(ii)	fit appliance case (case screws, seals, items trapped between case seal and appliance etc.)		√	√
7.	check room sealed fan assisted positive pressure appliance case seals for possible leakage of products of combustion		√	√
(i)	set appliance controls to their highest setting and light burner		√	√
(ii)	initially check case seal by running hand around boiler case and back plate (OQ re. corroded/damaged back plate)		√	√
(iii)	light a match/taper and position flame very close to case seal or any possible leakage point		√	√
(iv)	move match/taper around entire seal, inc. bottom of case		√	√
(v)	identify any leakage of products of combustion		√	√
8.	inspection requirements for fanned flues in voids	TB 008 ED3 2013	√	√
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	types of room sealed positive pressure combustion chamber appliances		√	
2.	causes of leakage of products of combustion from room sealed fan assisted positive pressure appliances		√	
3.	checks on room sealed fan assisted positive pressure appliances prior to fitting the case, inc. back plate inspection, appliance case screws, case seals etc.		√	
4.	installation and spillage testing new or used appliances when MIs are not available		√	
5.	alternative methods of compliance when inspection hatches are not available for flues in voids	TB 008 ED3 2013	√	√
6.	Actions required where fumes, smells or spillage have been reported/encountered	BS7967 2015 6.1	√	√

14. Installation of open, closed, balanced and fan assisted chimneys

PERFORMANCE CRITERIA		REF	I	R
1.	cement based and/or metallic rigid:			
(i)	chimney /flue pipe jointing		√	√
(ii)	chimney /flue pipe adapters		√	√
(iii)	chimney /flue pipe bends		√	√
(iv)	chimney /flue pipe supports		√	√
(v)	spacing between flue pipe or chimney and combustible material		√	√
2.	plastic flue pipe - chimney /flue pipe jointing		√	√
3.	identify room sealed flue installation –correct and incorrect installations:			
(i)	chimney /flue duct cuts		√	√
(ii)	assemble, adjust and seal to MIs		√	√
(iii)	chimney/ flue terminal guards against the room sealed flue terminal			√
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	insulation for open flues /chimneys		√	
2.	chimney /flue guards for room sealed flue terminals		√	√
3.	heat shields for room sealed flue terminals		√	√

15. Re-establish existing LPG supply and relight appliances

PERFORMANCE CRITERIA		REF	I	R
1.	check installation is gas tight		√	√
2.	re-establish gas supply		√	√
3.	check changeover valve is operating correctly		√	
4.	appliance(s) is/are visually checked and re-lit inc.:			
(i)	purge system and appliances of air		√	√
(ii)	re-light appliance(s)		√	√
(iii)	confirm satisfactory operation of user controls		√	√
(iv)	visually inspect appliance installation(s) for unsafe situations		√	√
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	describe correct action when an un-commissioned appliance is identified		√	
2.	confirm actions if pipework and appliance(s) are not tested (commissioned) when gas supply is re-established		√	
3.	HSL56: Reg.33 Testing of appliances 33(1) to (3)		√	