

ACS.CCN1 SAFETY ASSESSMENT CRITERIA INITIAL.DOMESTIC NATURAL GAS

ACS.CCN1
SAFETY ASSESSMENT CRITERIA
RE-ASSESSMENT (OF CCN1).
DOMESTIC.NATURAL GAS
+CKR1; HTR1, HWB1, LAU1, CENWAT,
DAH1, LEI1, MET1/2, CKHB1, DFDA1

CCN1 INITIAL & RE-ASSESSMENT

Introduction

This Core assessment now incorporates the criteria for combustion performance analysis for delivery from $1^{\rm st}$ April 2012. This packaged Assessment shall be delivered from $1^{\rm st}$ April 2012 and shall be downloaded to the national database using the assessment codes CCN1 + CPA1. This will ensure the Candidate's competence in combustion performance analysis is recognised.

Candidates achieving CCN1 from 1st April 2012 do not need to sit CPA1.

Tests gas safety competence in core domestic gas work.

Comprises:

- 1. Gas safety legislation and Standards.
- 2. Gas emergency actions and procedures.
- 3. Products and characteristics of combustion
- 4. Ventilation.
- 5. Installation of pipework and fittings.
- 6. Tightness testing and purging.
- 7. Checking and/or setting meter regulators.
- 8. Unsafe situations, emergency notices and warning labels.
- 9. Operation and positioning of emergency isolation controls and valves.
- 10. Checking and setting appliance burner pressures and gas rates.
- 11. Operation and checking of appliance gas safety devices and controls.
- 12. Chimney Standards.
- 13. Chimney inspection and testing.
- 14. Installation of open, balanced and fan assisted chimneys.
- 15. Re-establish existing gas supply and relight appliances.
- 16. Inspect, test, commission and maintain gas appliances (Re-assessment only).

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 domestic gas fittings.

Pre-requisites

Initial

None. CCN1 (or a suitable Changeover assessment or aligned QCF or S/NVQ) is the pre-requisite for all other domestic Natural Gas safety assessments.

Re-assessment

CCN1.

For Competence 3.18 K&U where CPA1 is not held, or CCN1 sat after 1st April 2012 is not held, or CCCN1 or COCN1 or CCLNG1 sat after 1st April 2012 (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.:

- HSL56
- GIUSP.

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

Abbreviations

AC. Assessment Centre

AIV. Appliance Isolation Valve

AECV. Additional emergency control valve

CB. Certification Body

CFS. Communal Flue Systems

ECV. Emergency control valve

GT. Gas transporter

I. Initial

IV. Installation volume

LDF. Leak detection fluid

LP. Low pressure

MIs. Manufacturer's/manufacturers' instructions

MIV. Meter inlet valve

MOP. Maximum operating pressure

MP. Medium pressure

ND. Non-domestic

OAMI. OFGEM-approved meter installer

OP. Operating pressure

OQ. Oral questioning

R. Re-assessment

Ref. Reference.

^{*} denotes K&U for Initial but PC for Re-assessment.

1. Gas safety legislation and Standards

KNO	WLEDGE & UNDERSTANDING	REF	Ι	R
1.	HSL56:			
(i)	Reg.2 General interpretation and application $2(1),(2),(3),(4),(5) c(iii),(6),(7) & (8)$			
(ii)	Reg.3 Qualification and supervision 3 (1) , (2) , (3) , (5) , (6) , (7) & (8)			
(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 (6)			
(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 (10)			
(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

KNO	WLEDGE & UNDERSTANDING	REF	I	R
1a.	priorities of actions and responsibilities			
1b.	action to stop a gas escape downstream of ECV/AECV			
1c.	action if gas continues to escape after turning off supply			
2.	limits of flammability			
3.	specific gravity and its effect in relation to air			
4.	hazardous ignition sources and their elimination			
5.	preventing/reducing dangerous concentrations of gas in atmosphere			
6.	advice to occupants			
7.	HSL56: Reg.37 Escape of gas 37 (1) to (4)			

3. Products and characteristics of combustion (see 'pre-requisites' for re-assessment)

PERF	ORMANCE CRITERIA	REF	I	R
1.	inspect flame picture of burners visually and identify those indicating:			
(i)	complete combustion			$\sqrt{}$
(ii)	incomplete combustion			
2.	identify incomplete combustion in an open flue appliance:			
(i)	around appliance location			\checkmark
(ii)	in appliance			
3.	CO detectors and indicators:			
(i)	identify detectors and indicators		√	$\sqrt{}$
(ii)	installation – locations			√
(iii)	commission and maintain 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		,	L
(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		√ ,	<u>√</u>
(vii)	turn on analyser and prepare for use to MIs		√ ,	√ ,
(viii)	correctly position probes for sampling products from each appliance		1	√
(ix)	adjust position of probe to obtain highest steady value of CO ₂ or lowest steady			√
	value of O ₂ for each appliance		,	L.,
(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		√	√
	WLEDGE & UNDERSTANDING	REF	I	R
1.	main constituents of complete and incomplete combustion		√ /	
2.	air required 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			√

ACS.SMB.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT

	combustion or when indicator/detector has activated			
6.	other sources of CO and CO ₂ in dwellings			\checkmark
7.	ambient levels of CO in atmosphere			\checkmark
8.	levels of CO within dwellings and effect on electronic detectors			
9.	causes of activation of CO detectors and indicators			\checkmark
10.	ambient levels of CO ₂ in atmosphere			\checkmark
11.	critical levels of CO ₂ that could cause vitiation affecting combustion process			
12.	movement of products of combustion within properties and its effect			
13.	advice to be given when a CO detector has activated	BS7967 2015 7.2		√
14.				
15.	manufacturing standards for electronic CO detectors (alarms)			
16.	identify unsafe situation of combustion products that could enter a premises		√	√
17.	additional allowance for CO levels for gas cookers			
18.	Combustion performance analysis:			
(i)	re-testing appliances when new components have been fitted			
(ii)	unsafe situation category for flued appliance that fails test	GIUSP		₩
(iii)	unsafe situation category for flueless appliance that fails test	Ed 7 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		\checkmark	\checkmark
19.	Awareness of regional differences in Building Regulations regarding CO detection when installing new or replacement fixed combustion appliances.	GSR ISU 037	√	√

4. Ventilation

* These criteria are K&U for Initial but PC for Re-assessment.

PERI	FORMANCE CRITERIA	REF	I	R
1.	calculate free area of selection of air bricks (inc. terracotta types) and air vents		\checkmark	
2.	identify correct and incorrect types of air vents and grilles e.g. fly screens		√	\checkmark
3.	identify inadequate ventilation		\checkmark	\checkmark
4.	identify correct and incorrect positioning/location/restrictions of air vents (wall, window, floor, ceiling and ducted) direct to outside/series air vents			√
KNO	WLEDGE & UNDERSTANDING	REF	I	R
1.	requirements for ventilation			
2.	siting ventilation (wall, window, floor, ceiling and ducted) direct to outside air; series		\checkmark	
	air vents			
3.	restrictions to ventilator/grille locations*			$\sqrt{}$
4.	installing ventilation grilles and vents*		\checkmark	$\sqrt{}$
5.	types of grilles and vents			
6.	adventitious air supplies			
7.	sizing grilles and vents (free area availability)			
8.	calculating ventilation for:			
(i)	combustion of open flue appliances*			$\sqrt{}$
(ii)	compartments (open, balanced and fan flue appliances)*			
(iii)	multi-appliance installations (open flue and flueless appliances within same		\checkmark	\checkmark
	room/space)*			
9.	ventilation for flueless appliances (inc. cooking, water heating and space heating)*			$\sqrt{}$
10.	ventilator location for single and multiple flued and flueless DFE space heaters*			$\sqrt{}$
11.	additional ventilation e.g. extractor fans, cooker hoods, driers etc.			
12.	labels and notices*			$\sqrt{}$
13.	effects of oil or solid fuel appliances on ventilation for DFEs*			
14.	effects of double glazing/cavity insulation/draught proofing on ventilation provision		\checkmark	
15.	identification and installation of in tumescent air vents*			\checkmark
16.	operation of passive stack ventilation*			
17.	ventilation for internal kitchens*			

5. Installation of pipework and fittings. Pipe sizes: 6 mm to 35 mm

PER	FORMANCE CRITERIA	REF	I	R
1.	join mild steel pipe using appropriate fittings, methods and agents		\checkmark	
2.	join copper tube using appropriate capillary end feed fittings, methods and agents		\vee	
3.	join copper tube and mild steel pipe using appropriate compression fittings, methods and agents		√	
4.	use temporary earth continuity bond correctly			

AC3.31	MB.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT			
4a.	test supply for gas tightness, isolate, attach temporary earth continuity bond			\checkmark
4b.	disconnect meter, cap and make safe			\checkmark
4c.	cap or plug all open ends and take all general safety precautions prior to work			\checkmark
4d.	install copper capillary fitting adjacent to meter, using appropriate methods and			\checkmark
	agents			
4e.	re-connect meter and remove temporary earth continuity bond			\checkmark
5.	check work carried out is gas tight		√	\checkmark
6.	purge meter and pipework of air. Apply any protective coating (OQ)		\checkmark	
7.	identify installation pipework safety defects		\checkmark	
KNO	WLEDGE & UNDERSTANDING	REF	I	R
1.	copper pipe and fittings standards, suitability and use		√	
2.	mild steel pipe and fittings			
3.	copper to mild steel connections		√	
4.	flexible and rigid connections			
5.	jointing and cleaning agents for copper and mild steel			
6.	pipe supports, clips and fixing for copper and mild steel pipework		√	
7.	safety requirements for pipework installed:			
(i)	between joists in floors/roof spaces (solid timber; metal web; timber engineered)			
(ii)	across solid timber joists fitted with flooring		√	
(iii)	buried in concrete		√	V
(iv)	behind dry lined walls		V	V
(v)	within timber constructed walls		V	V
(vi)	passing through a timber frame/masonry wall - accommodating movement		V	V
8.	external surface mounted pipework		√	
9.	precautions when using an exposed flame when soldering joints on pipework		V	
	previously containing gas and/or when a gas meter is already fitted		,	
10.	restrictions on use of union and compression fittings		√	
11.	main equipotential bonding (minimum cross sectional area)		√	
12.	positioning and installation of gas controls and isolation valves		\checkmark	
12.	making and breaking gas connections on appliances		√	
13.	ventilation for pipework in ducts		\checkmark	\checkmark
14.	HSL56:			
(i)	Reg.10 Maintaining electrical continuity		\checkmark	
(ii)	Reg.18 Safe use of pipes 18 (1) and (2)		√	
(iii)	Reg.19 Enclosed pipes 19 (1) and (6)		\checkmark	
(iv)	Reg.20 Protection of buildings		\checkmark	
(v)	Reg.22 Testing and purging of pipes 22 (1) and (3)		√	
(vi)	Reg.23 Marking of pipes 23 (1) and (2)		√	
15.	pipe sizing for appliances – inc. theoretical exercise		√	
16.	fixing installation pipework when connected to a meter not securely restrained			
17.	installing fire stopping in buildings containing flats or maisonettes			\checkmark
18.	installing pipework inside a protected shaft or other fire escape route			\checkmark
19.	ventilation for protected shafts			\checkmark
20.	pipework for multi-occupancy buildings			
21.	minimum depth of pipework buried below ground			
22.	pipework installed under base of wall or foundations		$\sqrt{}$	\checkmark
23.	use of PE pipework		$\sqrt{}$	\checkmark
24.	identify unsafe situation where installation pipe from MP meter box directly enters		$\sqrt{}$	\checkmark
	premises through rear meter box spigot			
25.	identify concern for safety and MP gas supply labels			√

6a. Tightness testing and purging. Total IV \leq 0.035 m^3 (LP) Up to 1% (steel) and/or 35 mm (copper)

PERF	ORMANCE CRITERIA	REF	I	R
1.	testing new or existing installations with gas or air:			
(i)	visually inspect the installation to ensure joints made correctly and no open ends			\checkmark
(ii)	check appliances and ensure AIVs are open			$\sqrt{}$
(iii)	turn off the gas installation at the appropriate valve			$\sqrt{}$
(iv)	connect the pressure gauge to a suitable pressure test point on the installation or, if		\checkmark	\checkmark
	testing with air, branch of test T-piece			
(v)	if using gas, carry out a let-by test of the closed supply control valve			$\sqrt{}$
(vi)	adjust the pressure to between 7 and 10 mbar.			$\sqrt{}$
(vii)	close the valve and note the gauge reading			$\sqrt{}$
(viii)	test for 1 minute. If pressure rises by more than 0.25 mbar, let-by may be occurring		$\sqrt{}$	$\sqrt{}$
(ix)	if pressure rise is observed, check valve by disconnecting its outlet union and applying			\checkmark
	LDF to valve barrel (OQ)			
(x)	on satisfactory completion of let-by test, slowly raise the pressure in the installation			

AC5.51	B.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT			
	to between 20 and 21 mbar			
(xi)	turn off gas or air supply		\checkmark	
(xii)	allow 1 minute stabilisation; if necessary re-adjust pressure to between 20 and 21 mbar		√	√
(xiii)	check for any perceptible movement (fall) of the gauge over the next 2 minute period		\checkmark	\checkmark
(xiv)	for new installations, or existing installations with no appliances connected check there is no pressure drop		$\sqrt{}$	√
(xv)	for existing installations, check any pressure drop is within permissible values and there is no smell of gas		\checkmark	√
(xvi)	if installation fails test, trace and repair escape and re-test installation		$\sqrt{}$	√
(xvii)	if tightness test is successful, remove pressure gauge and re-seal test point		\checkmark	
	when connected to gas, test pressure test point; ECV/AECV outlet connection; regulator connections and, where appropriate, MIV connections with LDF		\checkmark	√
(xix)	purge installation		\checkmark	
(xx)	record test results		\checkmark	\checkmark
2.	locate and repair a gas escape		\checkmark	\checkmark
KNO	WLEDGE & UNDERSTANDING	REF	I	R
1.	selection and reading of pressure gauges		√	
2.	allowed pressure drops for existing installations related to meter size/type, pipe diameter and IV with appliances connected to gas supply and not isolated inc. E6, U6/G4, U16/G10 and where no meter is fitted		√	√
3.	identify no perceptible movement on gauge (0.25 mbar water gauge and 0.2 mbar electronic gauge reading to 1 decimal place)		√	√
4.	allowed pressure drop for existing installation, inc. ECV but no meter is installed e.g. flat where supply is not individually metered		√	√
5.	electronic token meter tamper devices and their effect on tightness testing		√	√
6.	dealing with ECV/AECV/MIV that is letting by		√	√
7.	actions when smell of gas persists (a) after completion of satisfactory tightness test (b) when ECV/AECV/MIV is turned off, or a leaking installation cannot be repaired		√	√
8.	testing pipework of diameter > 35 mm or total IV > 0.035 m ³		\checkmark	
9.	testing prior to alteration or extension to existing installations		√	√
10.	acronyms and symbols		√	√
11.	calculating IV and PV exercise for E6, U6 and G4 meters connected to 35 mm diameter pipework and U16 meters connected to any pipework of diameter ≤ 35 mm		√	√
12.	purging installations of IV $\leq 0.02 \text{ m}^3$ and those of IV $> 0.02 \text{ m}^3$		√	√
14.	purging matanations of IV 2 0.02 m ² and those of IV / 0.02 m ²		٧	٧

6b. Tightness testing and purging. Total IV \leq 0.035 m³ (MP) Up to 1% (steel) and/or 35 mm (copper)

PERFORMANCE CRITERIA	REF	I	R
Tightness testing existing NG installations for 75mbar <mop 2bar="" a="" miv<="" th="" without="" ≤=""><th></th><th></th><th></th></mop>			
(IGE/UP/1B Edition 3 Appendix 4 A4.3)			
1. turn off the gas installation at the ECV			$\sqrt{}$
2. connect the pressure gauge to a suitable pressure test point on the installation			$\sqrt{}$
3. carry out a let-by test of the closed ECV as follows:			$\sqrt{}$
(i) adjust the pressure to between 7 and 10 mbar		\checkmark	\checkmark
(ii) operate the UPSO or excess flow valve reset to balance the pressures either side of		√	\checkmark
the device, then allow it to re-shut			
(iii) close the ECV and note the gauge reading			$\sqrt{}$
(iv) check for any perceptible movement (rise) of the gauge reading (>0.25 mbar) over		\checkmark	\checkmark
the next 1 minute period			
(v) if ECV is letting-by the test is suspended, installation made safe and the		\checkmark	\checkmark
appropriate Gas Emergency Service Call Centre immediately notified (OQ)			
4. Slowly raise the pressure in the installation to between 18 and 19 mbar by opening the		\checkmark	$\sqrt{}$
ECV then turn off the valve			
5. Allow 1minute for temperature and pressure stabilisation, if necessary re-adjust the		\checkmark	\checkmark
pressure to between 18 and 19 mbar (the test shall not proceed until a stable reading is			
obtained)			
6. Continue test as from 6a) 1 (xiii) to (xx)			$\sqrt{}$

^{7.} Checking and/or setting meter regulators* These criteria are K&U for Initial but PC for Re-assessment

CRITERIA REF I R

1.	turn off all appliances		√	\checkmark
2.	zero pressure gauge and connect to meter test point		\checkmark	\checkmark
3.	observe and record standing pressure at test point		\checkmark	\checkmark
4.	turn on gas appliances and, dependent on appliances available, operate:			
(i)	boiler – at full rate		√	\checkmark
(ii)	space heater – at full rate		\checkmark	\checkmark
(iii)	cooker – three hotplate burners at full rate			$\sqrt{}$
(iv)	other appliances – at full rate			$\sqrt{}$
5.	read and record OP on gauge (21 mbar)			\checkmark
6.	if reading is incorrect:			
(i)	use procedure for notifying GT for pressures outside 19 – 23 mbar range			\checkmark
(ii)	apply procedure for OAMI to re-set regulator			\checkmark
7.	remove gauge and test point; re-seal and test for gas tightness			\checkmark
KNO	WLEDGE & UNDERSTANDING	REF	I	R
1.	effects of low and high flow rates on regulator outlet pressures (19 – 23 mbar)* (OQ)		\checkmark	\checkmark
2.	effects of pressure absorption across primary meter installation* (OQ)			$\sqrt{}$
3.	operation of a gas meter regulator		\checkmark	
4.	identifying MP meter/regulator installation			
5.	HSL56. Reg.14 Regulators 14(1), (5), (6), (7)			

8. Unsafe situations and emergency notices and warning labels

PERF	FORMANCE CRITERIA	REF	I	R
1.	identify unsafe situations		√	
2.	classify unsafe situations as ID & AR			$\sqrt{}$
3.	label unsafe appliance(s)/installation(s)			$\sqrt{}$
4.				
5.				
5a.	demonstrate procedure for each unsafe situation to GIUSP			$\sqrt{}$
5b.	complete, explain, issue appropriate warning/advisory notices to appropriate persons		√	√
KNO	WLEDGE & UNDERSTANDING	REF	Ι	R
1.	explain dealing with ID installations/appliances	Fig 1 & 6.1 GIUSP Edition 7	√	√
2.	explain dealing with AR installations/appliances	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	V	√
3.	explain dealing with situations that do not meet current standards but are not unsafe	Foreword GIUSP Edition 7	√	✓
4.				
5.				
6.	identify correct notices and labels to be used:			
(i)	MP gas supply			
(ii)	warning notice forms		√	
(iii)	advisory notices – appliance use; appliance shut off; work in progress; electrical bonding; landlords' records		√	
7.	situations reportable under RIDDOR – explain reporting to HSE			$\sqrt{}$
8.	HSL56. Reg.34 Use of appliances 34 (1) to (3)			
9.	GIUSP:			
(i)				
(ii)	scope		√	√
(iii)	gas incidents		√	

9. Operation and positioning of emergency isolation controls and valves

PER	FORMANCE CRITERIA	REF	I	R
1.	identify incorrectly positioned ECV/AECV/MIV			$\sqrt{}$
2.	identify correctly positioned ECV/AECV/MIV			$\sqrt{}$
3.	demonstrate dealing with incorrectly positioned ECV/AECV/MIV			$\sqrt{}$
4.	correct labels are identified and attached to ECV/AECV/MIV			\checkmark
KNC	WLEDGE & UNDERSTANDING	REF	I	R

1.	inside meter positions	$\sqrt{}$	
2.	outside meter positions		
3.	multi-occupancy building installations:		
(i)	external risers	\checkmark	
(ii)	internal risers		
(iii)	remote meters		
(iv)	types of isolation valve used (AECVs etc.)	√	$\sqrt{}$
4.	HSL56. Reg.9 (1) to (4)	\checkmark	

10. Checking and setting appliance burner pressures and gas rates

PE	RFORMANCE CRITERIA	REF	Ι	R
Me	asure OP of appliance			
1.	assemble and zero a suitable pressure gauge (OQ on electronic gauge))			
2.	dismantle appliance as required; remove pressure test screw, connect gauge via suitable tubing		√	√
3.	light appliance and check and record OP and confirm to MIs		\checkmark	>
4.	turn off appliance; remove gauge; replace test screw; re-establish gas and check test point with LDF		√	√
Me	asure gas rate of appliance			
1.	check and record gas rate using gas meter test dial or index			\checkmark
2.	check measured gas rate; confirm to MI rated appliance input		\checkmark	\checkmark
3.	explain requirements for range rated appliances		\checkmark	
KN	OWLEDGE & UNDERSTANDING	REF	I	R
1.	reasons for excessive pressure loss at appliance		\checkmark	
2.	effects of excessive pressure at appliance			
3.	effects of meter pressure absorption under full load conditions		\checkmark	
4.	use of electronic pressure gauge (calibration)		$\sqrt{}$	

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

	FORMANCE CRITERIA Apply only to those gas safety controls listed in Tables 1 3 of the practical provision (ACS.SMB.005.PP.TABLE 1)	REF	Ι	R
1.	identify gas safety device/control		\checkmark	
2.	check operation of each gas safety control/device is to MIs			
3.	identify gas safety controls/devices that 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 electricity supplies, where necessary		\checkmark	
6.	repair or replace faulty gas safety control/devices		\checkmark	
7.	re-establish gas and electrical supplies, where necessary		\checkmark	
8.	check work carried out is gas tight		\checkmark	
9.	confirm correct operation of repaired/ replaced gas safety controls/devices to MIs			
10.	explain safe operation of gas safety controls/devices		√	
KNO	WLEDGE & UNDERSTANDING	REF	Ι	R
1.	appliance data critical for correct spare part identification of gas safety control/devices		\checkmark	
2.	demonstrate (explain) principle of operation of each control/device		\checkmark	\checkmark
3.	explain sequence of operation of control/devices e.g. liquid expansion thermostat fitted in line with a liquid expansion FSD		√	√

12. Chimney Standards

KNO	WLEDGE & UNDERSTANDING	REF	I	R
1.	existing solid fuel chimneys:			
(i)	suitability – checks required			
(ii)	min. size of unlined chimney used for gas fire before terminal is required			
(iii)	min. size of side openings for slabbed over chimneys			
(iv)	min. cross sectional area of new chimney installations – gas fires			
(v)	operation of dampers and restrictor plates			
(vi)	effects of other fuels on chimneys and need for cleaning			
(vii)	min. void dimensions below appliance connections			
(viii)	catchment spaces and standard dimensions/volumes			
(ix)	types of flue liners – during construction (salt glazed clay etc.), poured/pumped concrete flue liners, flexible flue liners		√	√
(x)	restrictions on use of poured concrete liners		√	
(xi)	sealing and support for flexible flue liners in chimneys		√	

(xii) chinney beight/appliance types where liners are required (xiii) chinney beight/appliance types where liners are required (xiii) chinney beight/appliance types where liners are required (xiii) chinney beight/appliance types where liners are required (xiv) salitable and unsuitable terminals for space heaters inc. radiant, inset and DFE (xiv) fitting brid quards to chinneys (xiv) suitable and unsuitable terminals for space heaters inc. radiant, inset and DFE (xiv) pre-cast flue systems: (i) flue design, standards, operation, routing, connection, termination (xiv) min. requirement of vertical flue blocks (xiv) min. requirement of vertical flue blocks (xiv) jointing material for pre-cast flue blocks (xiv) jointing material for pre-cast flue blocks (xiv) inset size/diameter to connect ore-cast transfer blocks to termination point (xiv) effects of temperature on installation of flues (xiv) chicasfication or gas appliances: (xiv) chicasfication or gas appliances or chicasfication or chicas	ACS.SM	B.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT			
(wii) chimney height/appliance types where liners are required (xv) sealing chimney voids (xv) sealing chimney voids (xv) fitting bird guards to chimneys (xv) fitting bird guards to chimneys (xv) suitable and unsuitable terminals for space heaters inc. radiant, inset and DFE (xv) viii) (xv) per-cast flue systems: (xv) funding, standards, operation, routing, connection, termination (xv) viii) (xv) min. ross sectional area of new gas flue block (xv) min. ross sectional area of new gas flue block (xv) min. flue size/diameter to connect pre-cast transfer blocks to termination point (xv) viii) (xv) guinting material for pre-cast flue blocks (xv) min. flue size/diameter to connect pre-cast transfer blocks to termination point (xv) viii) (xv) classification of gas appliances - flueless, open flue, room sealed (xv) (xv) classification of gas appliances - flueless, open flue, room sealed (xv) (xv) construction and operation of chimney (xv) construction and operation of chimney (xv) (xv) construction and operation of chimney (xv) (xv) cridge terminal positions (xv) (xv) delaring of jointing chimney components (xv) viii) (xv) cridge terminal positions (xv) (xv) dealing with downdraught on steeply pitched roofs (xv) clearances when passing through combustible material or through tiled or slated roofs (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible material or through other dwellings (xv) clearances when passing through combustible materia	(xii)	inspection of chimneys through loft spaces		$\sqrt{}$	
(xiv) sealing chimney voids (xv) fitting bird quards to chimneys (xv) fitting bird quards to chimneys (xv) suitable and unsuitable terminals for space heaters inc. radiant, inset and DFE 2 pre-cast flue systems: (i) flue design, standards, operation, routing, connection, termination (ii) min. requirement of vertical flue blocks (iii) min. requirement of vertical flue blocks before off-sets (iv) jointing material for pre-cast flue blocks (v) inin. flue size/diameter to connect pre-cast transfer blocks to termination point (v) effects of temperature on installation of flues (v) effects of temperature on installation of flues (vi) effects of thimper yearial - cement based, and metallic (iii) types of chimney material - cement based, and metallic (vi) termination positions for chimney outlets (vi) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) effects of adjacent structure; basement areas; light wells and retaining walls, on terminal positions (viii) dealing with downdraught on steeply pitched roofs (vi) effects of adjacent structure; basement areas; light wells and retaining walls, on terminal positions (viii) dealing with downdraught on steeply pitched roofs (vi) effects of adjacent structure; basement areas; light wells and retaining walls, on terminal positions (viii) effects of adjacent structure; basement areas; light wells and retaining walls, on terminal positions (viii) effects of adjacent structure; basement areas; light wells and retaining walls, on terminal positions (viii) effects of adjacent structure; basement areas; light wells and retaining walls, on terminal positions (viii) effects of adjacent structure; basement areas; light wells and retai				√	√
(xv) fitting bird guards to chimneys (xv) suitable and unsuitable terminals for space heaters inc. radiant, inset and DFE v v 2. per-cast flue systems: (i) flue design, standards, operation, routing, connection, termination (ii) min. cross sectional area of new gas flue block (iii) min. requirement of vertical flue blocks before off-sets (v) v (vi) jointing material for pre-cast flue blocks (vi) min. flue size/diameter to connect pre-cast transfer blocks to termination point (vi) v (vi) classification of gas appliances - flueless, open flue, room sealed 3. chimneys for individual open flue natural draught appliances: (iii) types of chimney material - cement based, and metallic (vi) ridge terminal positions (vi) v (vi) ridge terminal positions for chimney outlets (vi) ridge terminal positions for chimney outlets (vi) ridge terminal positions (viii) restrictions to sitting and lengths of chimney run to avoid condensation (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to sitting and lengths of chimney run to avoid condensation (vi) dealing with downdraught on steeply pitched roofs (vi) clearances when passing through combustible material or through other dwellings (vi) clearances when passing through combustible material or through other dwellings (vii) restrictions to sitting and lengths of chimney run to avoid condensation (vi) clearances when passing through combustible material or through other dwellings (vi) clearances when passing through combustible material or through other dwellings (vi) clearances when passing through combustible material or through other dwellings (vi) creams and/or quarte protection against wildliff (vi) vi) restrictions to sitting and lengths of chimney run to avoid condensation (vi) vi) restrictions to sitting and lengths of chimney for natural draught and protection and protection of the prot	-			1/	_
(xvi) suitable and unsuitable terminals for space heaters inc. radiant, inset and DFE 2 pre-cast flue systems 3 (i) flue design, standards, operation, routing, connection, termination 3 (ii) min. cross sectional area of new gas flue block 4 (vi) min. requirement of vertical flue blocks before off-sets 5 (v) jointing material for pre-cast flue blocks 6 (v) jointing material for pre-cast flue blocks 7 (v) jointing material for pre-cast flue blocks 8 (v) vi) effects of temperature on installation of flues 9 (vii) classification of gas appliances: flueless, open flue, room sealed 2 classification of gas appliances - flueless, open flue, room sealed 3 chimerys for individual open flue natural draught appliances: (i) construction and operation of chimney (ii) types of chimney material - cement based, and metallic (iv) termination positions for chimney outlets (v) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (v) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (viii) dealing with downdraught on steeply pitched roofs (vi) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avo	· · ·			-/	-/
2. pre-cast flue systems:				ν,	<u>v</u>
(i) flue design, standards, operation, routing, connection, termination (v) min. cross sectional area of new gas flue block (v) min. requirement of vertical flue blocks before off-sets (v) pinnin material for pre-cast flue blocks (v) pinnin flue size/diameter to connect pre-cast transfer blocks (v) pinnin flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinnin flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinnin flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinnin flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinnin flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinnin flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinnin flue size/diameter (v) pinnin flue pre-cast pinnin flue pinnin fl				٧	٧
(ii) min. cross sectional area of new gas flue block (iv) min. nequirement of vertical flue blocks before off-sets (v) vinifing material for pre-cast flue blocks (v) min. flue size/diameter to connect pre-cast transfer blocks to termination point (v) min. flue size/diameter to connect pre-cast transfer blocks to termination point (v) vinification of gas appliances - flueless, open flue, room sealed (v) construction and operation of chimney (v) classification of gas appliances - flueless, open flue, room sealed (v) construction and operation of chimney (v) ridge terminal positions (v) ridge terminal positions (vi) dealing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney run to avoid condensation (vi) clearing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney material (vi) clearing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney material (vi) clearing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney with tiled of slated roofs (vi) passive stack ventilation systems in houses, where open flue natural draught appliances in fluel (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary f	2.	-			
(ii) min. cross sectional area of new gas flue block (iv) min. nequirement of vertical flue blocks before off-sets (v) vinifing material for pre-cast flue blocks (v) min. flue size/diameter to connect pre-cast transfer blocks to termination point (v) min. flue size/diameter to connect pre-cast transfer blocks to termination point (v) vinification of gas appliances - flueless, open flue, room sealed (v) construction and operation of chimney (v) classification of gas appliances - flueless, open flue, room sealed (v) construction and operation of chimney (v) ridge terminal positions (v) ridge terminal positions (vi) dealing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney run to avoid condensation (vi) clearing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney material (vi) clearing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney material (vi) clearing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney with tiled of slated roofs (vi) passive stack ventilation systems in houses, where open flue natural draught appliances in fluel (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary f	(i)	flue design, standards, operation, routing, connection, termination		\checkmark	\checkmark
(iii) min. requirement of vertical flue blocks before off-sets	(ii)			√	√
(iii) pinting material for pre-cast flue blocks (v) min. flue size/diameter to connect pre-cast transfer blocks to termination point (v) pinting usize/diameter to connect pre-cast transfer blocks to termination point (v) viii) classification of gas appliances - flue less, open flue, room sealed (v) construction and operation of chimney (i) construction and operation of chimney (ii) types of chimney material - cement based, and metallic (v) types of chimney material - cement based, and metallic (vi) termination positions for chimney outlets (v) termination positions for chimney outlets (v) ridge terminal positions (vi) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (viii) restrictions to siting and lengths of chimney run to avoid condensation (vi) dealing with downdraught on steeply pitched roofs (vi) min. up-stand for chimneys passing through tield or slated roofs (vi) chimneys passing adjacent to combustible material (vi) chimneys passing adjacent to combustible material (vi) chimneys passing adjacent to combustible material (viii) refibricated metal starter box for space heaters (viv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (viv) types of chimney material - cement based, and metallic (viv) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (vi) requirements prior to installing fans in secondary flues (viv) sealing flues surrounded by enclosures 4. fan dilutional requirements when fans are installed in secondary flues (viv) sealong flues surrounded by enclosures 5. shared open flue chimneys for appliances: (vi) requirements prior to installing fans in secondary flues (viv) sealong flues surrounded flue systems (viv) appliances on shared flue systems (viv) appliances on shared flue systems (viv) maintannace of shared flue systems (viv) o				·/	√ √
(v) effects of adjacent structures; basement areas; light wells and retaining walls, on termination structures to adjacent structures; basement areas; light wells and retaining walls, on terminal positions or chimney not under the structures to adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vi) dealing with downdraught on steeply pitched roofs (vii) retained and positions for chimney outlets (viii) retained and positions or chimney outlets (viii) retained by the structures; basement areas; light wells and retaining walls, on terminal positions (viii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (viii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (viii) chimneys passing adjacent to combustible material (viii) pre-fabricated metal starter box for space heaters (viii) retained and provided present and positions (viii) pre-fabricated metal starter box for space heaters (viv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (viv) present stack ventilation systems in houses, where open flue natural draught appliances are fitted (viv) present stack ventilation systems in houses, where open flue natural draught appliances are fitted (viv) present stack ventilation systems in houses, where open flue natural draught (viv) sealing flues surrounded by enclosures (viv) passive stack ventilation systems in houses, where open flue natural draught (viv) provided walling (viv) provided walling (viv) provided (viv) p				٧/	-\
(vi) defects of temperature on installation of flues √ √ √vi) classification of gas aspijances - flueless, open flue, room sealed √ √vi) construction and operation of chimney √ (ii) types of chimney material - cement based, and metallic √ (iii) methods of jointing chimney components √ √ (v) tridge terminal positions for chimney outlets √ √ (v) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions √ √ (vi) flects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions √ √ (vi) fledaling with downdraught on steeply pitched roofs √ √ (vii) dealing with downdraught on steeply pitched roofs √ √ (viii) prestancions to sting and lengths of chimney run to avoid condensation √ √ (viii) prestancions to sting and lengths of chimney basing through tied or slated roofs √ √ (xi) principal positions √ √ √ (xi) principal positions √ √ √ √ √ <td></td> <td></td> <td></td> <td></td> <td></td>					
Cui Classification of gas appliances - flueless, open flue, room sealed Standard Classification of gas appliances Standard Classification of gas appliances Standard Classification Standard Classification Standard Stand	. ,			ν	<u>v</u>
3. chimneys for individual open flue natural draught appliances: () construction and operation of chimney (ii) types of chimney material – cement based, and metallic (iii) methods of jointing chimney components (iv) termination positions for chimney outlets (v) ridge terminal positions (vi) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (vi) min. up-stand for chimneys passing through titled or slated roofs (vi) chimneys passing adjacent to combustible material or through other dwellings (viii) pre-fabricated metal starter box for space heaters (viv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (vv) types of chimney material – cement based, and metallic (vv) sealing flues surrounded by enclosures (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed on different floors (vi) additional requirements when fans are installed on different floors (vi) additional requirements when fans are installed on different floors (vi) additional requirements when fans are installed on different floors (vi) additional requirements when fans are installed on different floors (vi) additional requirement when fans are installed on different floors (vi) additional requirements when fans are installed on different floors (vi) two or more appliances connected to same flue (vi) to uposition selow on shared flue systems (vi) to uposition below on shared flue systems (vi) to uposition floor on shared flue systems (vi) to uposi				٧	7
(ii) types of chimney material – cement based, and metallic (iii) methods of jointing chimney components (iv) methods of jointing chimney components (iv) degreement positions for chimney outlets (iv) degreement positions for chimney outlets (iv) degreement positions for chimney outlets (iv) degreement positions (iv) dealing with downdraught on steeply pitched roofs (iv) celearances when passing through combustible material (iv) clearances when passing through combustible material (iv) clearances when passing through combustible material (iv) clearances when passing through combustible material (iv) chimneys passing adjacent to combustible material or through other dwellings (iv) clearances when passing through combustible material (iv) chimneys passing adjacent to combustible material or through other dwellings (iv) chimneys passing adjacent to combustible material or through other dwellings (iv) chimneys passing adjacent to combustible material or through other dwellings (iv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (iv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (iv) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (iv) requirements prior to installing fans in secondary flues (iv) eaditional requirements when fans are installed in secondary flues (iv) eaditional requirements when fans are installed in secondary flues (iv) requirements prior to installing fans in secondary flues (iv) eaditional requirements when fans are installed in secondary flues (iv) eaditional requirements when fans are installed in secondary flues (iv) eaditional requirements when fans are installed in secondary flues (iv) eaditional requirements when fans are installed in secondary flues (iv) eaditional requirements when f	(vii)			$\sqrt{}$	
(ii) types of chimney material – cement based, and metallic (iii) methods of jointing chimney components (iv) termination positions for chimney outlets (v) ridge terminal positions (v) ridge terminal positions (v) ridge terminal positions (v) ridge terminal positions (v) refects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (vi) restrictions to siting and lengths of chimney run to avoid condensation (vi) min. up-stand for chimneys passing through tilde or slated roofs (vi) clearances when passing through tilde or slated roofs (vi) chimneys passing adjacent to combustible material (vi) chimneys passing adjacent to combustible material or through other dwellings (vii) pre-fabricated metal starter box for space heaters (viii) pre-fabricated metal starter box for space heaters (viii) pre-fabricated metal starter box for space heaters (viv) types of chimney material – cement based, and metallic (vv) types of chimney material – cement based, and metallic (vv) types of chimney material – cement based, and metallic (vv) types of chimney material – cement based, and metallic (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vii) additional requirements when fans are installed in secondary flues (vii) appliances with a common flue in same room (vii) appliances with a common flue in same room (viv) maintenance of shared flue systems (vi) town or more appliances connected to same flue (vi) appliances with a common flue in same room (viv) maintenance of shared flue systems (vi) balanced flue construction (vii) ablanced flue construction (vii) ablanced flue construction (viii) balanced flue construction (viv) uutet position horizontal to an opening, relating to appliance net input (viv) outlet position in care ports (viii) balanced flue terminal guard	3.	chimneys for individual open flue natural draught appliances:			
(ii) types of chimney material – cement based, and metallic (iii) methods of jointing chimney components (iv) termination positions for chimney outlets (v) ridge terminal positions (v) ridge terminal positions (v) ridge terminal positions (v) ridge terminal positions (v) refects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (vi) restrictions to siting and lengths of chimney run to avoid condensation (vi) min. up-stand for chimneys passing through tilde or slated roofs (vi) clearances when passing through tilde or slated roofs (vi) chimneys passing adjacent to combustible material (vi) chimneys passing adjacent to combustible material or through other dwellings (vii) pre-fabricated metal starter box for space heaters (viii) pre-fabricated metal starter box for space heaters (viii) pre-fabricated metal starter box for space heaters (viv) types of chimney material – cement based, and metallic (vv) types of chimney material – cement based, and metallic (vv) types of chimney material – cement based, and metallic (vv) types of chimney material – cement based, and metallic (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vii) additional requirements when fans are installed in secondary flues (vii) appliances with a common flue in same room (vii) appliances with a common flue in same room (viv) maintenance of shared flue systems (vi) town or more appliances connected to same flue (vi) appliances with a common flue in same room (viv) maintenance of shared flue systems (vi) balanced flue construction (vii) ablanced flue construction (vii) ablanced flue construction (viii) balanced flue construction (viv) uutet position horizontal to an opening, relating to appliance net input (viv) outlet position in care ports (viii) balanced flue terminal guard	(i)	construction and operation of chimney		\checkmark	
(iii) methods of jointing chimney components (v) termination positions for chimney outlets (v) termination positions (vi) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (v) wimen up-stand for chimneys passing through tiled or slated roofs (v) clearances when passing through combustible material (v) clear passing adjacent to combustible material or through other dwellings (v) clearances when passing through combustible material (vi) pre-fabricated metal starter box for space heaters (vi) vi) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (vi) vi) pess of chimney material – cement based, and metallic (vi) vi) pess of chimney material – cement based, and metallic (vi) sealing flues surrounded by enclosures (vi) requirements prior to installing fans in secondary flues (vi) requirements prior to installing fans in secondary flues (vi) requirements prior to installing fans in secondary flues (vii) fan dilution and shared open flue, fanned draught systems in domestic dwellings (v) vi) dilution and shared open flue, fanned draught systems in domestic dwellings (v) viii) appliances with a common flue in same room (vi) maintenance of shared flue systems (vi) waintenance of shared flue systems (vi) waintenance of shared flue systems (vi) waintenance of shared flue systems (vi) viii) balanced flue construction (vi) outlet position horizontal to an opening, relating to appliance net input (vi)				√	
(iv) termination positions for chimney outlets (v) ridge terminal positions (v) ridge terminal positions (vi) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions to siting and lengths of chimney run to avoid condensation (v) viii) restrictions os siting and lengths of chimney run to avoid condensation (v) viii) restrictions os siting and lengths of chimney run to avoid condensation (v) viii) restrictions os siting and lengths of chimney run to avoid condensation (v) viii) terminals and/or guards – protection against wildlife (v) chimneys passing adjacent to combustible material or through other dwellings (vi) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (vi) types of chimney material – cement based, and metallic (vi) types of chimney material – cement based, and metallic (vi) yealing flues surrounded by enclosures (v) types of chimney material – cement based, and metallic (vi) yealing flues surrounded by enclosures (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) appliances with a common flue in same room (v) vi) appliances with a common flue in same room (v) vi) two or mor appliances connected to same flue (vi) appliances with a common flue in same room (vi) appliances with a common flue in same room (vi) appliances with a common flue in same room (vi) appliances with a common flue in same room (vi) appliances with a common flue in same room (vi) appliances with a common flue in same room (viii) alouted position below an opening, re				٧/	٦/
(v) ridge terminal positions				-/	
(iii) effects of adjacent structures; basement areas; light wells and retaining walls, on terminal positions (vii) dealing with downdraught on steeply pitched roofs (viii) restrictions to stiting and lengths of chimney run to avoid condensation (v) viii) dealing with downdraught on steeply pitched roofs (v) viii) unu-stand for chimneys passing through tiled or slated roofs (v) clearances when passing through combustible material (v) chimneys passing adjacent to combustible material or through other dwellings (vi) chimneys passing adjacent to combustible material or through other dwellings (vi) terminals and/or guards – protection against wildlife (vi) pre-fabricated metal starter box for space heaters (vii) pre-fabricated metal starter box for space heaters (viii) pre-fabricated metal starter box for space heaters (viiv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (vii) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (vii) passive stack ventilation systems in houses, where open flue natural draught (vi) types of chimney material – cement based, and metallic (vi) types of chimney material – cement based, and metallic (vi) types of chimney material – cement based, and metallic (vi) types of chimney material – cement based, and metallic (vi) sealing flues surrounded by enclosures (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) additional requirements when fans are installed in secondary flues (vi) appliances with a common flue in same room (vi) two or more appliances connected to same flue (vi) two or more appliances connected to same flue (vii) appliances with a common flue in same room (viii) labeling appliances on shared flues installed on different floors (viii) adjusted positions below an opening, relating to appliance net input (vi) v				ν,	
terminal positions (vii) dealing with downdraught on steeply pitched roofs (vii) restrictions to siting and lengths of chimney run to avoid condensation (x) (viii) restrictions to siting and lengths of chimney run to avoid condensation (x) clearances when passing through combustible material (x) clearances when passing through combustible material (xi) terminals and/or guards – protection against wildlife (xi) terminals and/or guards – protection against wildlife (xi) types stack ventilation systems in houses, where open flue natural draught appliances are fitted (xv) types of chimney material – cement based, and metallic (xv) types of chimney material – cement based, and metallic (xv) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (1) requirements prior to installing fans in secondary flues (3) additional requirements when fans are installed in secondary flues (4) in additional requirements when fans are installed in secondary flues (5) shared open flue chimneys for natural draught appliances: (6) two or more appliances connected to same flue (9) y via publiances with a common flue in same room (10) labelling appliances on shared flues installed on different floors (11) appliances with a common flue in same room (12) y via diabelling appliances on shared flue systems (13) room sealed natural draught chimney configurations for appliances: (14) (15) balanced flue construction (15) balanced flue construction (16) outlet position horizontal to an opening, relating to appliance net input (17) via ulter position below an opening, relating to appliance net input (18) via via position below an opening, relating to appliance net input (19) outlet position horizontal to an opening, relating to appliance net input (19) via position for a ports (10) outlet position below an opening relating to appliance net input (10) voutlet option below gutters, soil pipes, drain pipes and eaves (10) restrictions on lengths, bends etc. for fanned draught room seal				٧_	
(viii) restrictions to siting and lengths of chimney run to avoid condensation (viii) restrictions to siting and lengths of chimney run to avoid condensation (viii) restrictions to siting and lengths of chimney run to avoid condensation (viii) restrictions to siting and lengths of chimney run to avoid condensation (viii) chimneys passing adjacent to combustible material (vi) chimneys passing adjacent to combustible material (vi) chimneys passing adjacent to combustible material (viii) pre-fabricated metal starter box for space heaters (viii) pre-fabricated metal starter box for space heaters (viv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (vi) types of chimney material - cement based, and metallic (vi) types of chimney material - cement based, and metallic (vi) types of chimney material - cement based, and metallic (vi) types of chimneys for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) requirements prior to installing fans in secondary flues (iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings (iv) two or more appliances connected to same flue (iv) appliances with a common flue in same room (iv) maintenance of shared flues installed on different floors (iv) maintenance of shared flues installed on different floors (iv) maintenance of shared flues installed on different floors (iv) maintenance of shared flue systems (iv) maintenance of shared flues installed on appliance net input (v) vivi maintenance of shared flues installed on appliance net input (v) vivi due to position horizontal to an opening, relating to appliance net input (v) outlet position below an opening, relating to appliance net input (v) outlet position blow an opening, relating to appliance net input (v) outlet position blow on opening, relating to appliance net input (v) outlet position blow on opening prelating to appliance net input (v) outlet position in car ports (v) outlet posit	(vi)			√	\checkmark
(viii) restrictions to siting and lengths of chimney run to avoid condensation √ <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
(viii) restrictions to siting and lengths of chimney run to avoid condensation √ <td< td=""><td>(vii)</td><td>dealing with downdraught on steeply pitched roofs</td><td>T</td><td>$\sqrt{}$</td><td>$\sqrt{}$</td></td<>	(vii)	dealing with downdraught on steeply pitched roofs	T	$\sqrt{}$	$\sqrt{}$
(ix) min. up-stand for chimmeys passing through tiled or slated roofs (x) clearances when passing through combustible material (x) chimmeys passing adjacent to combustible material (x) chimmeys passing adjacent to combustible material or through other dwellings (xii) pre-fabricated metal starter box for space heaters (xiii) pre-fabricated metal starter box for space heaters (xiv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (xv) types of chimney material – cement based, and metallic (xvi) sealing flues surrounded by enclosures (4 fan draught chimneys for open flue appliances: (5) requirements prior to installing fans in secondary flues (6) additional requirements when fans are installed in secondary flues (7) y daditional requirements when fans are installed in secondary flues (8) shared open flue chimneys for natural draught appliances: (9) two more appliances connected to same flue (10) two or more appliances connected to same flue (11) appliances with a common flue in same room (12) y y (13) albelling appliances on shared flues installed on different floors (13) y y (14) appliances with a common flue in same room (14) y maintenance of shared flue systems (15) y y (16) balanced flue construction (17) y outlet position below an opening, relating to appliance net input (18) y y (19) outlet position bow an opening, relating to appliance net input (19) y outlet position bow an opening, relating to appliance net input (19) y outlet position bow an opening, relating to appliance net input (19) y y (10) outlet position bow an opening, relating to appliance net input (19) y y (19) outlet position bow an opening, relating to appliance net input (19) y y (19) outlet position bow an opening, relating to appliance net input (19) y y (19) outlet position bow an opening, relating to appliance net input (19) y y (19) outlet position bow an opening, relating to appliance net input (19) y (19) outlet position bow an opening, relating to appliance net input (19) y (19) outl				√	√
(x) clearances when passing through combustible material or through other dwellings (xi) chimneys passing adjacent to combustible material or through other dwellings (xii) terminals and/or guards – protection against wildlife (xiii) pre-fabricated metal starter box for space heaters (xiv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (xv) types of chimney material – cement based, and metallic (xv) types of chimney material – cement based, and metallic (xv) types of chimney for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) additional requirements when fans are installed in secondary flues (iii) additional and shared open flue, fanned draught systems in domestic dwellings (iv) two or more appliances connected to same flue (iv) two or more appliances connected to same flue (iv) two or more appliances connected to same flue (iv) two or more appliances connected to same flue (iv) two or more appliances connected to same flue (iv) two appliances with a common flue in same room (iv) two appliances on shared flues installed on different floors (vi) maintenance of shared flue systems (viv) maintenance of shared flue systems (viv) the same of the construction (viv) the position from (iv) to (viv) (viv) outlet position below an opening, relating to appliance net input (viv) outlet position briomatil to an opening, relating to appliance net input (viv) outlet position in car ports (viv) balanced flue terminal guards (viv) outlet position in car ports (viv) balanced flue terminal guards (viv) balanced flue terminal guards (viv) construction along lengths, bends etc. for fanned draught room sealed appliances (viv) restrictions for outlet positions inc. horizontal and vertical configurations (viv) restrictions for outlet positions inc. horizontal and vertical configurations (viv) restrictions for outlet positions inc. horizontal and vertical configurations (viv					1/
(xii) terminals and/or quards – protection against wildlife			+	',	٧
(xii) terminals and/or guards – protection against wildlife (xiii) pre-fabricated metal starter box for space heaters (xiv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (xv) types of chimney material – cement based, and metallic (xvi) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (ii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (ii) balanced flue construction (ii) outlet position below an opening, relating to appliance net input (v) outlet position bove an opening, relating to appliance net input (v) outlet position in car ports (vi) outlet position in car ports (vi) outlet position in car ports (vi) balanced flue reminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (i) restrictions for outlet positions inc. horizontal and vertical configurations (v) vi dentify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) construction and operation of SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (v) vi onterposition and operation of Se-ducts, U-ducts and CFS (vi) construction and operation of Se-ducts, U-ducts and CFS			+	v /	
(xii) pre-fabricated metal starter box for space heaters (xiv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted (xv) types of chimney material – cement based, and metallic (xv) types of chimney material – cement based, and metallic (xv) types of chimney material – cement based, and metallic (xv) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (i) additional requirements when fans are installed in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) appliances with a common flue in same room (iv) maintenance of shared flue systems (iii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position horizontal to an opening, relating to appliance net input (v) outlet position below an opening, relating to appliance net input (v) outlet option below an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (v) outlet position in car ports (v) outlet position for appliances (v) outlet position for appliances (v) restrictions on lengths, bends etc. for fanned draught room sealed appliances (v) restrictions for outlet positions inc. horizontal and vertical configurations (v) restrictions on lengths, bends etc. for fanned draught room sealed appliances (v) restrictions on lengths, bends etc. for fanned draught room sealed appliances (v) proximity of flue duct outlets to boundaries (v) restrictions on lengths, bends etc. for fanned draught room sealed appliances (v) restrictions of appliances are ari inlet ducts (v) proximity of flue duct outlets				ν,	Ψ,
(xiv) passive stack ventilation systems in houses, where open flue natural draught appliances are fitted appliances are fitted (xv) types of chimney material – cement based, and metallic / vivia sealing flues surrounded by enclosures / 4. fan draught chimneys for open flue appliances: (in requirements prior to installing fans in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia diditional requirements when fans are installed in secondary flues / vivia mount of the chimneys for natural draught appliances: (i) two or more appliances connected to same flue / vivia mapliances with a common flue in same room / vivia mapliances with a common flue in same room / vivia maintenance of shared flues systems / vivia maintenance of shared flues systems / vivia maintenance of shared flue systems / vivia maintenance of shared flue systems / vivia maintenance of shared flue systems / vivia was according to the construction / vivial dentify 2 positions from (ii) to (vi) (i) balanced flue construction / vivial dentify 2 position below an opening, relating to appliance net input / vivial vivial position below an opening, relating to appliance net input / vivial				٧.	<u> </u>
appliances are fitted (xv) types of chimney material – cement based, and metallic (xvi) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) additional on shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) abelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position below an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position bove an opening, relating to appliance net input (v) outlet position in car ports (v) outlet position in car ports (v) outlet position in car ports (vi) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (iii) erclosing chimneys (v) proximity of flue duct outlets to boundaries (v) proximity of flue duct outlets to boundaries (v) proximity of flue duct outlets to boundaries (v) proximity of flue darend of the appliances: (ii) cross sectional galances for shared chimneys (SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (v) iii) chimney outlet positions for roof terminals (v) v	(xiii)			$\sqrt{}$	$\sqrt{}$
appliances are fitted (xv) types of chimney material – cement based, and metallic (xvi) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) additional on shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) abelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position below an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position bove an opening, relating to appliance net input (v) outlet position in car ports (v) outlet position in car ports (v) outlet position in car ports (vi) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (iii) erclosing chimneys (v) proximity of flue duct outlets to boundaries (v) proximity of flue duct outlets to boundaries (v) proximity of flue duct outlets to boundaries (v) proximity of flue darend of the appliances: (ii) cross sectional galances for shared chimneys (SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (v) iii) chimney outlet positions for roof terminals (v) v	(xiv)	passive stack ventilation systems in houses, where open flue natural draught		- /	- /
types of chimney material – cement based, and metallic V Vixi) sealing flues surrounded by enclosures V Vixi) sealing flues surrounded by enclosures Vixion additional requirements when fans are installed in secondary flues V Vixion additional requirements when fans are installed in secondary flues V Vixion additional requirements when fans are installed in secondary flues V Vixion additional requirements when fans are installed in secondary flues V Vixion additional requirements when fans are installed in secondary flues V Vixion additional requirements when fans are installed in secondary flues V Vixion additional requirements when fans are installed in secondary flues V Vixion additional shared open flue chimneys for natural draught appliances: V Vixion appliances with a common flue in same room V Vixion appliances with a common flue in same room V Vixion appliances on shared flues installed on different floors V Vixion was earlied flue systems V Vixion was earlied flue systems V Vixion was earlied flue systems V Vixion was earlied flue appliances for appliances: Vixion above an opening relating to appliance net input V Vixion vixion above an opening, relating to appliance net input V Vixion vixion above an opening, relating to appliance net input V Vixion vixion above an opening, relating to appliance net input V Vixion vixion appliance appliance V Vixion vixion appliance appliance V Vixion vixion Vixion appliance V Vixion vixion Vixi	, ,			ν	ν
(xvi) sealing flues surrounded by enclosures 4. fan draught chimneys for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) additional requirements when fans are installed in secondary flues (iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems (or room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (ii) balanced flue construction (iii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet oposition above an opening, relating to appliance net input (v) outlet oposition in car ports (vi) outlet position in car ports (vii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (ii) restrictions on lengths, bends etc. for fanned draught room sealed appliances (iii) enclosing chimneys (v) ditty unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (ii) cross sectional areas of air inlet ducts (v) ormon sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (iii) chimney outlet positions for roof terminals	(xv)			1/	
4. fan draught chimneys for open flue appliances: (i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues 5. fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems (i) room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (ii) balanced flue construction (iii) outlet position horizontal to an opening, relating to appliance net input (v) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) outlet position in car ports (vii) constanction on lengths, bends etc. for fanned draught room sealed appliances (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) viii) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) cross sectional areas of air inlet ducts (v) identify unsafe situation of sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (ii) construction and operation of SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (iii) chimney outlet positions for roof terminals				·	٦/
(i) requirements prior to installing fans in secondary flues (ii) additional requirements when fans are installed in secondary flues (iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet opsition below an opening, relating to appliance net input (iv) outlet position in car ports (iv) estrictions on lengths, bends etc. for fanned draught room sealed appliances: (iv) restrictions on lengths, bends etc. for fanned draught room sealed appliances (iv) restrictions for outlet positions inc. horizontal and vertical configurations (iv) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (ii) cross sectional areas of air inlet ducts (iv) compartment construction (iv) compartment construction (iv) compartment construction of SE-ducts, U-ducts and CFS (iv) construction and operation of SE-ducts, U-ducts and CFS (iii) chimney outlet positions for roof terminals					V
(ii) additional requirements when fans are installed in secondary flues (iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue appliances with a common flue in same room (iv) appliances with a common flue in same room (iv) maintenance of shared flues systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (ii) balanced flue construction (iii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet position below gutters, soil pipes, drain pipes and eaves (iv) outlet position in car ports (iv) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (iv) proximity of flue duct outlets to boundaries (iv) proximity of flue duct outlets to boundaries (iv) proximity of flue duct outlets to boundaries (ii) ducted air positioning (iv) cross sectional areas of air inlet ducts (iv) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS): (iii) chimney outlet positions for roof terminals √ √ √ (iii) chimney outlet positions for roof terminals				,	
(iii) fan dilution and shared open flue, fanned draught systems in domestic dwellings 5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (v) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (v) outlet position in car ports (vi) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) dentify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (v) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (iii) chimney outlet positions for roof terminals (v) v (iii) chimney outlet positions for roof terminals				√	√
5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems (v) v 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position in car ports (vi) outlet position in car ports (vii) outlet position in car ports (viii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (ii) cross sectional areas of air inlet ducts (v) identify unsafe situation of SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS): (iii) construction and operation of SE-ducts, U-ducts and CFS): (iii) chimney outlet positions for roof terminals	(ii)	additional requirements when fans are installed in secondary flues		\checkmark	
5. shared open flue chimneys for natural draught appliances: (i) two or more appliances connected to same flue (ii) appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems (v) v 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position in car ports (vi) outlet position in car ports (vii) outlet position in car ports (viii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (ii) cross sectional areas of air inlet ducts (v) identify unsafe situation of SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS): (iii) construction and operation of SE-ducts, U-ducts and CFS): (iii) chimney outlet positions for roof terminals	(iii)	fan dilution and shared open flue, fanned draught systems in domestic dwellings		\checkmark	√
(ii) two or more appliances connected to same flue appliances with a common flue in same room (iii) labelling appliances on shared flues installed on different floors (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (ii) balanced flue construction (iii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (ii) cross sectional areas of air inlet ducts (iii) cross sectional areas of air inlet ducts (iii) construction and operation of SE-ducts, U-ducts and CFS): (iii) construction and operation of SE-ducts, U-ducts and CFS (iii) chimney outlet positions for roof terminals					
(iii) appliances with a common flue in same room				٠/	٠./
 (iii) labelling appliances on shared flues installed on different floors √ √ (iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction √ √ (iii) outlet position horizontal to an opening, relating to appliance net input √ √ (iv) outlet position below an opening, relating to appliance net input √ √ (v) outlet position above an opening, relating to appliance net input √ √ (vi) outlet position below gutters, soil pipes, drain pipes and eaves √ √ (vii) outlet position in car ports √ √ (viii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations √ √ (iii) enclosing chimneys (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning √ √ √ 8. balanced compartments for open flue appliances: (ii) conspartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (ii) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation √ √ √ (iii) chimney outlet positions for roof terminals √ √ 				V /	
(iv) maintenance of shared flue systems 6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) outlet position in car ports 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) proximity of flue duct outlets to boundaries (v) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (v) viii) chimney outlet positions for roof terminals				ν	<u>v</u>
6. room sealed natural draught chimney configurations for appliances: (identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iii) outlet position below an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (v) or room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (v) vielniney outlet positions for roof terminals				٧	
(identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) outlet position in car ports (vii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (viii) enclosing chimneys (v) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (v) v (ii) cross sectional areas of air inlet ducts (v) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (v) v (iii) chimney outlet positions for roof terminals	(iv)			$\sqrt{}$	
(identify 2 positions from (ii) to (v)) (i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) outlet position in car ports (vii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (viii) enclosing chimneys (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (v) v (ii) cross sectional areas of air inlet ducts (v) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (v) v (iii) chimney outlet positions for roof terminals	6.	room sealed natural draught chimney configurations for appliances:			
(i) balanced flue construction (ii) outlet position horizontal to an opening, relating to appliance net input (iv) outlet position below an opening, relating to appliance net input (v) outlet position above an opening, relating to appliance net input (v) outlet position below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vii) outlet position in car ports (vii) balanced flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) viii) enclosing chimneys (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (v) viii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation v) viiii chimney outlet positions for roof terminals					
(ii) outlet position horizontal to an opening, relating to appliance net input (iii) outlet position below an opening, relating to appliance net input (iv) outlet position above an opening, relating to appliance net input (v) outlet option below gutters, soil pipes, drain pipes and eaves (vi) outlet position in car ports (vi) outlet position in car ports 7. room sealed flue terminal guards 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (v) viii) enclosing chimneys (v) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (v) viii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation v) viiii) chimney outlet positions for roof terminals	(i)			√	
(iii) outlet position below an opening, relating to appliance net input ✓ ✓ (iv) outlet position above an opening, relating to appliance net input ✓ ✓ (v) outlet option below gutters, soil pipes, drain pipes and eaves ✓ ✓ (vi) outlet position in car ports ✓ ✓ (vii) balanced flue terminal guards ✓ ✓ 7. room sealed fanned draught chimney configurations for appliances: ✓ (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances ✓ (ii) restrictions for outlet positions inc. horizontal and vertical configurations ✓ (iii) enclosing chimneys ✓ (iv) proximity of flue duct outlets to boundaries ✓ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility ✓ 8. balanced compartments for open flue appliances: ✓ (i) ducted air positioning ✓ ✓ (ii) cross sectional areas of air inlet ducts ✓ ✓ (iii) compartment construction ✓ ✓ (i) construction					٦/
(iv) outlet position above an opening, relating to appliance net input ✓ ✓ (v) outlet option below gutters, soil pipes, drain pipes and eaves ✓ ✓ (vi) outlet position in car ports ✓ ✓ (vii) balanced flue terminal guards ✓ 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (iii) restrictions for outlet positions inc. horizontal and vertical configurations (iii) enclosing chimneys ✓ (iv) proximity of flue duct outlets to boundaries ✓ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility ✓ 8. balanced compartments for open flue appliances: (i) ducted air positioning ✓ (ii) cross sectional areas of air inlet ducts ✓ (iii) compartment construction ✓ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation ✓ </td <td></td> <td></td> <td></td> <td>v ./</td> <td></td>				v ./	
(v) outlet option below gutters, soil pipes, drain pipes and eaves √ √ (vi) outlet position in car ports √ √ (viii) balanced flue terminal guards √ 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances √ (ii) restrictions for outlet positions inc. horizontal and vertical configurations √ (iii) enclosing chimneys √ (iv) proximity of flue duct outlets to boundaries √ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility √ 8. balanced compartments for open flue appliances: (i) ducted air positioning √ (ii) cross sectional areas of air inlet ducts √ (iii) compartment construction √ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS √ (ii) categories of appliances suitable for installation √ (iii) chimney outlet positions for roof terminals				٧,	_ •
(vi) outlet position in car ports ✓ ✓ (vii) balanced flue terminal guards ✓ 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances ✓ (ii) restrictions for outlet positions inc. horizontal and vertical configurations ✓ (iii) enclosing chimneys ✓ (iv) proximity of flue duct outlets to boundaries ✓ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility ✓ 8. balanced compartments for open flue appliances: (i) ducted air positioning ✓ (ii) cross sectional areas of air inlet ducts ✓ (iii) compartment construction ✓ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS ✓ (ii) categories of appliances suitable for installation ✓ (iii) chimney outlet positions for roof terminals					
(vii) balanced flue terminal guards ✓ 7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances ✓ (ii) restrictions for outlet positions inc. horizontal and vertical configurations ✓ (iii) enclosing chimneys ✓ (iv) proximity of flue duct outlets to boundaries ✓ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility ✓ 8. balanced compartments for open flue appliances: (i) ducted air positioning ✓ (ii) cross sectional areas of air inlet ducts ✓ (iii) compartment construction ✓ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS ✓ (ii) categories of appliances suitable for installation ✓ (iii) chimney outlet positions for roof terminals ✓					
7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (iii) enclosing chimneys (iv) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (iii) chimney outlet positions for roof terminals				$\sqrt{}$	
7. room sealed fanned draught chimney configurations for appliances: (i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (iii) enclosing chimneys (iv) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (iii) chimney outlet positions for roof terminals	(vii)	balanced flue terminal guards	T	$\sqrt{}$	
(i) restrictions on lengths, bends etc. for fanned draught room sealed appliances (ii) restrictions for outlet positions inc. horizontal and vertical configurations (iii) enclosing chimneys (iv) proximity of flue duct outlets to boundaries (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (iii) chimney outlet positions for roof terminals	7.				
(ii) restrictions for outlet positions inc. horizontal and vertical configurations ✓ ✓ (iii) enclosing chimneys ✓ ✓ (iv) proximity of flue duct outlets to boundaries ✓ ✓ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility ✓ ✓ 8. balanced compartments for open flue appliances: ✓ ✓ (i) ducted air positioning ✓ ✓ (ii) cross sectional areas of air inlet ducts ✓ ✓ (iii) compartment construction ✓ ✓ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): ✓ (i) construction and operation of SE-ducts, U-ducts and CFS ✓ (ii) categories of appliances suitable for installation ✓ (iii) chimney outlet positions for roof terminals ✓				1/	
(iii) enclosing chimneys √ √ (iv) proximity of flue duct outlets to boundaries √ √ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility √ √ 8. balanced compartments for open flue appliances: √ √ (i) ducted air positioning √ √ (ii) compartment construction √ √ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): √ √ (i) construction and operation of SE-ducts, U-ducts and CFS √ √ (ii) categories of appliances suitable for installation √ √ (iii) chimney outlet positions for roof terminals √ √			+	-	. /
(iv) proximity of flue duct outlets to boundaries ✓ ✓ (v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility ✓ 8. balanced compartments for open flue appliances: (i) ducted air positioning ✓ (ii) cross sectional areas of air inlet ducts ✓ (iii) compartment construction ✓ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS ✓ (ii) categories of appliances suitable for installation ✓ (iii) chimney outlet positions for roof terminals ✓				٧,	
(v) identify unsafe situation of room sealed fanned flue system enclosed without sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation √ √ √ (iii) chimney outlet positions for roof terminals				٧,	<u>√</u>
sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (iii) chimney outlet positions for roof terminals	(iv)			$\sqrt{}$	
sufficient inspection facility 8. balanced compartments for open flue appliances: (i) ducted air positioning (ii) cross sectional areas of air inlet ducts (iii) compartment construction 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS (ii) categories of appliances suitable for installation (iii) chimney outlet positions for roof terminals	(v)	identify unsafe situation of room sealed fanned flue system enclosed without	T	_,_	_/
8. balanced compartments for open flue appliances: (i) ducted air positioning	-			٧	V
(i) ducted air positioning ✓<	8.	balanced compartments for open flue appliances:			
(ii) cross sectional areas of air inlet ducts √				1 /	٦/
(iii) compartment construction √ √ √ 9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS √ √ √ (ii) categories of appliances suitable for installation √ √ √ (iii) chimney outlet positions for roof terminals √ √ √			+	v 7/	v
9. room sealed appliances for shared chimneys (SE-ducts, U-ducts and CFS): (i) construction and operation of SE-ducts, U-ducts and CFS			+	٧ /	
				٧	٧
	9.				
(ii) categories of appliances suitable for installation $\forall \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $		CFS):			
(ii) categories of appliances suitable for installation $\forall \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	(i)			$\sqrt{}$	
(iii) chimney outlet positions for roof terminals $\sqrt{}$				√	· √
				1/	٦/
(iv) labeling all filler ducts			+	v	_ v
	(IV)	labelling air inlet ducts		ν	<u>ν</u>

ACS.SMB.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT

(v)	labelling replacement appliances	√	√
(vi)	maintenance of shared flue systems		
(vii)	requirements for replacement appliances		
(viii)	NRV requirements for appliance/exhaust ducts for CFS		
10.	condensing flues:		
(i)	condensate disposal position termination for appliances of heat input ≤ 4 kW		
(ii)	plume management kits		
(iii)	differing air inlet duct and terminal positions		
(iv)	terminal guards for plume kit air inlets		
11.	chimneys for vertex appliances:		
(i)	construction and operation of vertex chimney		
(ii)	minimum height of appliance draught break above roof insulation		
12.	exchange of information and planning for chimneys:		
(i)	requirements of designer, builder, provider or installer when installing gas	√	
	chimneys		
(ii)	chimney certificates		
13.	HSL56:		
(i)	Reg.27 Flues (1) to (4)		
(ii)	Reg.30 Room-sealed appliances (1) to (3)		
(iii)	Reg.32 Flue dampers (2) and (3)		

13. Chimney inspection and testing

PERF	FORMANCE CRITERIA	REF	I	R
1.	inspect chimney visually throughout its length to verify (both correct and incorrect installation):			
(i)	fitness for intended appliance		√	
(ii)	serves only one room or appliance			
(iii)	terminal position meets current legal requirements		√	
(iv)	joint between terminal and chimney system is weather tight			
(iv)(a	a)chimney pipe adapter is correct			
(v)	adequate support			
(vi)	clearance from obstructions		√	
(vii)	no corrosion or cracking		\checkmark	
(viii)	use of bends meets current requirements			
(ix)	appliance draught diverter correctly installed and in good condition		√	
(x)	secondary flue correctly positioned and in good condition		√	√
(xi)	starter block correctly sized and positioned		√	√
(xii)	catchment space correct and free from debris		√	√
	joints correctly made		√	
	no visual signs of spillage of combustion products		√	√
	(a) ridge terminal and flue adaptor boot are correct, in good condition and properly			
, , ,	connected			
(xv)	correct space between flue and combustible material		√	\checkmark
	flexible flue liner correctly sealed at base and terminal position		√	
	seals on balanced natural and fan flues in good condition and correctly installed		√	
) balanced flue appliance seals in good condition and correctly installed		√	
	connection into a pre-lined chimney (clay)is correct			
2.	natural draught chimneys, metallic flexible flue liners:			
(i)	verify annular space around flue and void at base of chimney is correctly sealed			
()	(supplementary OQ(s) on effects/hazards of unsealed flue liners and voids)			
(ii)	check flexible flue liner is correctly clamped and sealed at base and terminal position			\checkmark
(iii)	identify incorrect use of flue liners (supplementary OQ(s) on application of			٦/
(111)	flexible flue liners will satisfy this PC)			٧
3.	plastic flue pipe systems:			
(i)	classify plastic flue			٦/
(ii)	join plastic flue pipe using correct methods, agents and fittings			\ \\
				V
4.	chimneys for balanced, fan assisted and vertex flue appliances:			. /
(i)	classify balanced/fan assisted and vertex flue systems			V /
(ii)	cut flue duct square, assemble, adjust and seal to MIs			√
(iii)	fit correct flue terminal guard			$\sqrt{}$
(iv)	ensure number of bends within flue length is to MIs (fan assisted)			$\sqrt{}$
(v)	check seals on balanced natural and fan flues are in good condition and correctly installed			√
(vi)	check balanced flue appliance seals are in good condition and correctly installed			$\sqrt{}$
(vii)	check vertex flue system operates correctly (supplementary OQ on operation of			

AC3.311	B.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT			
	vertex flues will satisfy this PC)			
(viii)	min. height of flue break above roof insulation is correct			
(ix)	calculate ventilation for a vertex flue to MIs			\checkmark
5.	record incorrect flue installations			\checkmark
6.	apply flue flow test (smoke test) (open flue/chimney systems only):			
(i)	check adequate air supply for combustion is available to appliance requirements			
(ii)	close windows and doors in room or compartment where flue is to be tested		√	√
(iii)	pre-warm chimney, if necessary		√	√
(iv)	position smoke pellet correctly at base of chimney being tested		V	V
(v)	check smoke discharges from correct chimney or terminal only			V
(vi)	check no entry of smoke into room/compartment or any other		√	V
(,	room/compartment, roof space or any part external to chimney		•	,
(vii)	rectify any fault found and re-test chimney		√	√
7.	apply spillage test with appliance connected and in operation:		•	•
(i)	close windows, adjustable vents and doors in room/compartment containing		٦/	
(1)	appliance to be tested		ľ	V
(ii)	check ventilation and turn off any mechanical ventilation supplied to room, other		√	٦/
(11)	than combustion air		V	V
/iii)	operate/open any fans or passive stack ventilation systems (extract fans, radon		- /	√
(iii)	extract fans, circulating fans, ceiling paddle fans etc.)		√	V
(iv.)	with appliance in operation at its set input, apply smoke match to appropriate		√	√
(iv)	position in appliance to method in MIs		V	V
()()	check smoke is correctly pulled into appliance chimney		-/	-/
(v)			-/	_ /
(vi)	rectify any fault found and re-test appliance (OQ on testing for spillage with all interconnecting doors open with all fans in operation)		V	V
8.			-/	
9.	identify defective chimney installations		V	
(i)	check room sealed fan assisted positive pressure appliance installation: identify positive pressure appliance		٦/	٦/
	fit appliance case correctly (case screws, seals, items trapped between case seal		_ /	_ /
(ii)	and appliance etc.)		V	V
10.	check room sealed fan assisted positive pressure appliance case seals			
10.	for possible leakage of products of combustion:			
/i)	set appliance controls to highest setting and light burner		٦/	٦/
(i)			_ /	_ /
(ii)	check case seal by running a hand around boiler case and back plate (OQ on		V	V
(:::)	corroded/ damaged back plate) light a match/taper and position flame very close to case seal or any possible		-/	-/
(iii)			V	V
(i) ()	leakage point		-/	-/
(iv)	move match/taper around entire seal, inc. bottom of case		7	7
(v)	identify any leakage of products of combustion	TD 000	ν	ν
11.	inspection requirements for fanned flues in voids	TB 008	√	√
KNION	WEDGE & UNDERGTANDING	ED3 2013	-	
	VLEDGE & UNDERSTANDING	REF	Ι	R
1.	room sealed positive pressure combustion chamber appliances:		,	,
(i)	types		√	ν
(ii)	causes of leakage of products of combustion		√	√,
(iii)	checks prior to fitting case, inc. back plate inspection, appliance case, screws,		√	\checkmark
	case seals etc.			
2.	installation and spillage testing new or used appliances when MIs are not		√	\checkmark
	available			
3.	alternative methods of compliance when inspection hatches are not available for	TB 008	√	\checkmark
	flues in voids	ED3 2013		
4.	Actions required where fumes, smells or spillage have been	BS7967		\checkmark
1	reported/encountered	2015 6.1	1	

14. Installation of open, balanced and fan assisted chimneys

PERF	ORMANCE CRITERIA	REF	I	R
Oper	flue chimney installation -identify correct and incorrect installations:			
1.	cement based and metallic rigid:			
(i)	jointing			
(ii)	adapters			
(iii)	bends		\checkmark	
(iv)	supports			
(v)	spacing between chimney and combustible material		\checkmark	
(vi)	ridge terminals and ridge tile adaptor			
(vii)	flueing into a pre-lined chimney (clay lined)			
2.	flexible flue liners:			

ACS.SMB.004.AC.TABLE 1.CCN1. INITIAL & RE-ASSESSMENT

(i)	joining at base and at chimney outlet using appropriate adaptors		\checkmark	ſ
(ii)	clamping at chimney outlet position			
(iii)	sealing annular space between liner and chimney		\checkmark	
(iv)	sealing voids at chimney base – pipework etc.			
3.	plastic flue pipe – flue pipe jointing		\checkmark	
Bala	nced and fan assisted chimney systems -identify correct and incorrect			
insta	llations.			
1.	natural draught:			
(i)	flue duct cuts			
(ii)	assemble, adjust and seal to MIs			
(iii)	flue terminal guards against balanced flue terminal			
2.	fan assisted:			
(i)	number of bends within flue duct length is to MIs			
(ii)	calculate ventilation for a vertex system		\checkmark	
KNO	WLEDGE & UNDERSTANDING	REF	Ι	R
1.	insulation for chimneys for open flue appliances			
2.	condensing appliance chimneys			
3.	chimney maintenance			
4.	guards for balanced flue terminals			
5.	effects and hazards of inadequately sealed flue liners			
6.	incorrect applications of flue liners			
7.	identify difference of vertex systems to vertical room sealed chimney configurations			

15. Re-establish existing gas supply and re-light appliances

PERFORMANCE CRITERIA				R
1.	check installation is gas tight			\checkmark
2.	re-establish gas supply			
3.	visually check appliance(s) and re-light inc.:			
(i)	purge system and appliances of air			
(ii)	re-light appliance(s)			\checkmark
(iii)	confirm satisfactory operation of user controls			
(iv)	visually inspect appliance installation(s) for unsafe situations	GIUSP		\checkmark
		App 5		
KNOWLEDGE & UNDERSTANDING		REF	Ι	R
1.	describe 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)			

16. Re-Assessment. Inspect, test, commission and maintain domestic gas appliances

Candidates undertaking CENWAT or HTR1 shall hold CPA1 (or CCN1 or ND Core Generic Part B where these are obtained from 1^{st} April 2012).

PERFORMANCE	CKR1	HTR1	LAU1	WAT1	CEN	DAH1	LEI1	MET1/2	CKHB1	HWB1	DFDA1
CRITERIA					WAT						
1.check appliance/fittings complete, fit and suitable for use	*	*	*	*	*	*	*	*	*	*	*
2.check gas supply pipe in acceptable position for appliance	*	*	*	*	*	*	*	*	*	*	*
2a.determine pressure in service pipe as LP or MP								*			
3. check appliance and fittings are installed using appropriate materials and fittings, to MIs and Normative Documents	*	*	*	*	*	*	*	*	*	*	*
4. inspect and test burners, injectors, primary air ports, filters, heat exchanger, flue-ways, ignition, FSD, thermostats and other gas safety components for correct operation to MIs	*	*	*	*	*	*	*		*	*	*
5. identify AR & ID installations	*	*	*	*	*	*	*	*	*	*	*
6. identify suitable and unsuitable locations	*	*	*	*	*	*	*	*	*	*	*
7. check gas safety components for correct operation	*	*	*	*	*	*	*	*	*	*	*
8. identify gas safety faults on components	*	*	*	*	*	*	*	*	*	*	*
commission appliance:											
(i) purge of air	*	*	*	*	*	*	*	*	*	*	*
(ii) check operating pressure and/or gas rate at appliance	*	*	*	*	*	*	*	*	*	*	*
(iia) check regulator locks up at 30 mbar when no gas flowing								*			
(iii) check flue safely removing combustion products		*		*	*	*	*		*	*	*
(iv) check supply of combustion air is adequate	*	*	*	*	*	*	*		*	*	*
(v) ensure appliance safe to use	*	*	*	*	*	*	*	*	*	*	*
(vi) check flame picture, stability and ignition	*	*	*	*	*	*	*		*	*	*
(vii) carry out combustion performance analysis to MIs and record		*			*						*
(viii)check appliance working correctly and safely as intended	*	*	*	*	*	*	*	*	*	*	*
(ix) check user's controls operating correctly	*	*	*	*	*	*	*	*	*	*	*
10. explain safe operation of appliance	*	*	*	*	*	*	*	*	*	*	*

KN	REF	R	
1.	CENWAT: CO and combustion ratio checks using an ECGA when commissioning a condensing		\checkmark
	boiler incorporating air/gas ratio control valve technology		
2.	CENWAT: 2 or more domestic central heating boilers fitted within a single space with an	BS6798	\checkmark
	aggregate total in excess of 70kW	(Scope)	