

ACS.CoDNCO1 SAFETY ASSESSMENT CRITERIA DOMESTIC TO NON-DOMESTIC NATURAL GAS & LPG CORE HEATING

CoDNCO1

Introduction

Tests gas safety competence of those intending to extend domestic heating Natural Gas work range to include non-domestic heating Natural Gas work range.

Work on specific appliances requires appliance assessments (CDGA1; CORT1; CIGA1; CDFE1)

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

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

Comprises:

- 4. Ventilation
- 12. Chimneys and flueing.

Range

All gas fittings for non-domestic heating.

Pre-requisites

c/o Core Generic Parts A and B or CCCN1 or CCLNG1 CCN1 or CCLP1 or QCF or S/NVQ.

Exclusions

Work previously covered in CCN1 or CCLP1.

References and normative documents

MIs.

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

- GIUSP
- BS 7967-5
- HSL56.
- IGEM/UP/10 Edition 4 (amended 2017)

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

Abbreviations

AC. Assessment Centre

CB. Certification Body

MIs. Manufacturer's/manufacturers' instructions

Ref. Reference.

3. Products and characteristics of combustion

PERF	ORMANCE CRITERIA		
1.	Analyse combustion performance:		
(i)	inspect appliances, chimney and ventilation for obvious signs of damage and	✓	
	factors that may affect combustion performance. Light each appliance		
(ii)	check OP and heat inputs. Leave appliance on at max. heat input	✓	
(iii)	check analyser is suitable, correctly assembled and calibrated (BS EN 50379-	✓	/
	3 analyser), then zero and purge analyser to MIs, outdoors.		
(iv)	assemble sample lines and probes and ensure all are free from leaks/damage	✓	
(v)	correctly position probes for sampling combustion products	✓	
(vi)	read and record O ₂ ; CO; CO ₂ ; CO/CO ₂ , as appropriate	✓	/
(vii)	compare readings to MIs and BS EN 7967-5	✓	/
(viii)	if readings are satisfactory, carry out final checks	✓	/
K	NOWLEDGE & UNDERSTANDING		
1.	types of gas analyser for measuring:		
1.	types of gas analyser for measuring: • combustion performance	✓	
1.		✓ ✓	
1.	combustion performance		/
2.	combustion performanceCO in ambient air (BS EN 50379-3 analyser)	✓	/
	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) 	✓ ✓	
2.	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) analysing combustion performance: 	✓ ✓	
2. (i)	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) analysing combustion performance: identifying suspect gas-fired appliances 	✓ ✓	
2. (i)	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) analysing combustion performance: identifying suspect gas-fired appliances dealing with appliances on which a combustion performance test cannot be 	\frac{}{}	
2. (i)	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) analysing combustion performance: identifying suspect gas-fired appliances dealing with appliances on which a combustion performance test cannot be carried out and those where CO/CO2 ratios exceed those given in MIs or BS 	\frac{1}{\sqrt{2}}	
2. (i) (ii)	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) analysing combustion performance: identifying suspect gas-fired appliances dealing with appliances on which a combustion performance test cannot be carried out and those where CO/CO2 ratios exceed those given in MIs or BS 7967-5 	\frac{1}{\sqrt{2}}	
2. (i) (ii)	 combustion performance CO in ambient air (BS EN 50379-3 analyser) CO2 in ambient air (BS EN 50379-3 or BS 8494 analyser) analysing combustion performance: identifying suspect gas-fired appliances dealing with appliances on which a combustion performance test cannot be carried out and those where CO/CO2 ratios exceed those given in MIs or BS 7967-5 actions when domestic appliances exceed CO/CO2 given in MIs or BS 7967-5 	\frac{1}{\sqrt{2}}	

4. Ventilation

PER	FORMANCE CRITERIA	REF	
1.	calculate free area of selection of air vents and grilles used in heating		✓
2.	identify installation of adequate and inadequate ventilation		✓
3.	ventilation of gas fired hot water boilers (BS 6644), direct fired convection air heaters (BS 6230) and overhead radiant heaters (BS 6896):		
(i)	identify suitable/unsuitable ducted ventilation. Boiler in a basement		✓
(ii)	 calculate ventilation at high and low level direct to outside air: Type B boilers in boiler rooms Type B boilers in enclosures Type C boilers in enclosures 		<
(iii)	calculate flow rate for ventilation for mechanical ventilation: • Type B1 (natural draught boilers) (inlet and extract) • Type B2 (forced draught boilers) (inlet and extract)		√
(iv)	calculate ventilation for overhead radiant heaters Types A and B		✓
(v)	 calculate natural ventilation for Type B1 and B2 boilers in heated space with air changes below 0.5 per hour air heaters in plant rooms, enclosures and heated spaces 		<
(vi)	calculate natural ventilation for direct gas fired air heaters in heated spaces		✓
	WLEDGE AND UNDERSTANDING	REF	✓
1.			✓
2.	mechanical ventilation installations for appliances/plant of heat input > 1.8 MW	IGEM UP10 Ed4 7.3.1. Table 2	V
3.	safety for balanced compartments		✓
4.	ventilator/grille locations/positions for appliances		✓
5.	safety interlocks between ventilation fans and gas appliances		✓
6.	max. temperature levels within boiler houses (floor, mid-position, ceiling)		✓
7.	labels and advisory notices		✓
8.	providing combustion and ventilation air for appliances of heat input ≤ 1.8 MW		√
9.	identification and installation of in tumescent air vents		✓

12. Chimneys and flueing

1. effect of chimney heights on sufficient dilution of combustion products 2. terminal types and positions for Type B open/natural draught chimneys 3. connecting appliance/equipment flues into main vertical chimneys 4. common natural draught chimney connections to headers for modular boiler systems 5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 10	KNO	WLEDGE AND UNDERSTANDING	REF	
2. terminal types and positions for Type B open/natural draught chimneys 3. connecting appliance/equipment flues into main vertical chimneys 4. common natural draught chimney connections to headers for modular boiler systems 5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 10. positioning of room sealed appliance terminals for heat input > 70kW 10. positioning of room sealed appliance terminals for heat input > 70kW 10. positioning of room sealed appliance terminals for heat input > 70kW 10. positioning of room sealed appliance terminals for heat input > 70kW 10. positioning of room sealed appliance terminals for heat input > 70kW 11. positioning of room sealed appliance terminals for heat input > 70kW 12. positioning of room sealed appliance till positioning input > 70kW 13. positioning of room sealed flues 14. included flues: 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. positioning provisions for large chimneys 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 10. Addition advice for flue systems when installed in Education Establishments 10. position provision for flue Installation data plates 10. position provision for plue Installation data plates 10. position provision for plue Installation data plates 10. position provision for flue Installation data plates 10. pos			IGEM/UP	√
3. connecting appliance/equipment flues into main vertical chimneys 4. common natural draught chimney connections to headers for modular boiler systems 5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (GEM) VPTIO (COPPID) COPPID (CO		, ,	10	
3. connecting appliance/equipment flues into main vertical chimneys 4. common natural draught chimney connections to headers for modular boiler systems 5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (GEM) VPTIO (COPPID) COPPID (CO	2	terminal types and positions for Type B open/natural draught chimneys		/
4. common natural draught chimney connections to headers for modular boiler systems 5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) discharge points (iii) diution air intakes (iv) dampers (iv) dampers (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.37 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (ICEN) (ICE				
Systems 5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (ii) Reg.27 Flues 27(1) to (5) inclusive (iii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 10. Requirements for flue Installation data plates 11. Requirements for flue Installation data plates 12. Identify acceptable and unacceptable materials used in flue types				✓
5. appliance open flues for gross heat input > 366.4kW (Gross) 6. positioning of room sealed appliance terminals for heat input > 70kW 7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 10. Requirements for flue systems when installed in Education Establishments (IGEM/UP/11) 11. Ed 4 8.1.4 12. Identify acceptable and unacceptable materials used in flue types 12. Identify acceptable and unacceptable materials used in flue types				
6. positioning of room sealed appliance terminals for heat input > 70kW 10 10 8.7.1.1 7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL.56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (IGEM) (IP/10 Ed 4 8.1.4 (IGEM) (IP/10 Ed 4 8.1.4 (IGEM) (IP/10 Ed 4 8.1.4 (IGEM) (IP/10 Ed 4 8.2.1.1 (IGEM) (IP/10 Ed 4 8.2.1.1	5.			✓
7. flueing for balanced compartments 8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 10. Identify acceptable and unacceptable materials used in flue types 10. Identify acceptable and unacceptable materials used in flue types				✓
8. gas safety controls for mechanically assisted flues 9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/II) 21. Requirements for flue Installation data plates 22. Identify acceptable and unacceptable materials used in flue types				
9. appreciation of fan sizing for mechanically assisted flues 10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 12. Identify acceptable and unacceptable materials used in flue types	7.	flueing for balanced compartments		✓
10. flue dampers and stabilisers 11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 10. Identify acceptable and unacceptable materials used in flue types 11. Identify acceptable and unacceptable materials used in flue types	8.	gas safety controls for mechanically assisted flues		✓
11. 12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (IGEM) (IP/10) Ed 4 8.1.4 (IGEM) (IP/10) Ed 4 8.1.4 (IGEM) (IP/10) Ed 4 8.1.9 (IGEM) (IP/10) Ed 4 8.1.9 (IGEM) (IP/10) (IGEM) (IP/10) (IGEM) (IP/10) (IGEM) (IGEM) (IGEM) (IRM) (IGEM) (IRM) (IGEM) (IGEM) (IRM) (IGEM) (IRM) (IGEM) (IRM) (IGEM) (IRM) (IRM	9.	appreciation of fan sizing for mechanically assisted flues		✓
12. fan diluted flues: (i) discharge points (ii) CO ₂ values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 12. Identify acceptable and unacceptable materials used in flue types 13. Identify acceptable and unacceptable materials used in flue types 14. Identify acceptable and unacceptable materials used in flue types	10.	flue dampers and stabilisers		✓
(ii) discharge points (iii) CO2 values for discharge points (iv) dilution air intakes (v) gas safety controls (vi) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 19. Identify acceptable and unacceptable materials used in flue types 19. Identify acceptable and unacceptable materials used in flue types	11.			
(ii) CO2 values for discharge points (iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 16EM/UP/10 16EM/UP/10 16EM/UP/10 16 4 8.1.9 16EM/UP/10 16 4 4 8.1.1	12.	fan diluted flues:		
(iii) dilution air intakes (iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 12. Identify acceptable and unacceptable materials used in flue types 13. v 14. v 15. v 16. v 17. v 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 12. Identify acceptable and unacceptable materials used in flue types	(i)	discharge points		✓
(iv) dampers (v) gas safety controls (vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 12. Identify acceptable and unacceptable materials used in flue types 13.	(ii)	CO ₂ values for discharge points		✓
(v) gas safety controls ✓ (vi) sizing fan and ductwork ✓ 13. common flue/chimney construction - suitable materials for large chimneys ✓ 14. insulation for large chimneys ✓ 15. condensation provisions for large chimneys ✓ 16. testing natural draught and pressurized flue systems ✓ 17. HSL56: ✓ (i) Reg.27 Flues 27(1) to (5) inclusive ✓ (ii) Reg.32 Flue Dampers 32 (1) ✓ 18. suitable materials and construction for appliance chimneys ✓ 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility ✓ 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) ✓ 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.9 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.2.1.1	(iii)	dilution air intakes		✓
(vi) sizing fan and ductwork 13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) IGEM/UP/10 Ed 4 8.1.4 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.2.1.1	(iv)	dampers		✓
13. common flue/chimney construction - suitable materials for large chimneys 14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 22. Identify acceptable and unacceptable materials used in flue types	(v)	gas safety controls		✓
14. insulation for large chimneys 15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 1 IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types 1 IGEM/UP/10 Ed 4 8.1.9 1 IGEM/UP/10 Ed 4 8.1.9 1 IGEM/UP/10 Ed 4 8.1.9	(vi)			✓
15. condensation provisions for large chimneys 16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types	13.	common flue/chimney construction - suitable materials for large chimneys		✓
16. testing natural draught and pressurized flue systems 17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.9 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.1.9				✓
17. HSL56: (i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 IGEM/UP/10 Ed 4 8.1.9				
(i) Reg.27 Flues 27(1) to (5) inclusive (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates Equirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 IGEM/UP/10 IGEM/UP/10 IGEM/UP/10 IGEM/UP/10 Ed 4 8.1.9	16.			✓
 (ii) Reg.32 Flue Dampers 32 (1) 18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.1.9 IGEM/UP/10 Ed 4 8.1.9 				
18. suitable materials and construction for appliance chimneys 19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.1.9 IGEM/UP/10 Ed 4 8.1.9				
19. identify unsafe situation of room sealed flue systems installed within an enclosure without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4				
without sufficient means of inspection facility 20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.1.4 IGEM/UP/10 Ed 4 8.1.9 IGEM/UP/10 Ed 4 8.1.9				
20. Addition advice for flue systems when installed in Education Establishments (reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.1.9 IGEM/UP/10 Ed 4 8.1.9	19.			✓
(reference to IGEM/UP/11) 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.4			10514	
(reference to IGEM/UP/11) Ed 4 8.1.4 21. Requirements for flue Installation data plates IGEM/UP/10 Ed 4 8.1.9 22. Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.1.9 Identify acceptable and unacceptable materials used in flue types IGEM/UP/10 Ed 4 8.2.1.1	20.			✓
21. Requirements for fide installation data plates UP/10 Ed 4 8.1.9 22. Identify acceptable and unacceptable materials used in flue types IGEM/ UP/10 Ed 4 8.1.9 ✓ REQUIREMENTS FOR FIGE A 8.1.1			Ed 4 8.1.4	
UP/10 Ed 4 8.2.1.1	21.	Requirements for flue Installation data plates	UP/10	√
67,10 Ed 4 8.2.1.1	22.	Identify acceptable and unacceptable materials used in flue types	IGEM/	✓
		•	Ed 4	