Strategic Management Board

ACS.CDGA1
SAFETY ASSESSMENT CRITERIA
INITIAL
NON-DOMESTIC NATURAL GAS & LPG DIRECT FIRED HEATING APPLIANCES AND EQUIPMENT

CDGA1	INITIAL

Introduction

Tests the gas safety competence of an operative in the work of install, commission, service, repair and break down of direct gas fired heating appliances and equipment.

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.

Range

All direct fired forced convection non-domestic heating equipment with either 100% fresh air supply or re-circulated air with forced draught or atmospheric burners.

Many of the criteria contained in this assessment will be valid for operatives wishing to work on kilns in non-domestic establishments (notably educational establishments) that are covered by GSIUR. While there are no criteria specific to kilns (as they are out of scope as given in the first paragraph) operatives wishing to carry out such work should be are of IGEM/UP/11 which contains specific requirements for ventilation and CO detection system.

These assessments do not include tightness testing or purging (see TPCP1A and TPCP1).

Pre-requisites

COCN1 or
CCN1 + CoDNCO1 or
CCLP1 + CoDNCO1 or
QCF or S/NVQ
+
ICPN1 if pipework diameter > 50 mm.

Exclusions
Electrical or building, use of any mechanical lifting aids to position appliance, design of system requirements, installation and design of any ductwork for hot air transmission or ventilation and penetration of any structures for flueing, pipework etc.

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

- HSL56
- GIUSP
- BS 6230
- BS 5990
- BS 5440 - 1 & 2
- BS 7967-5
- EH40
- IGEM/UP/10 Edition 4.

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

Abbreviations
AC. Assessment Centre
CB. Certification Body
FSD. Flame supervision device
GSIUR. Gas Safety (Installation and Use) Regulations
I. Initial
OP. Operating pressure
R. Re-assessment
Ref. Reference.

PERFORMANCE CRITERIA		REF	I
1.	check gas supply is of adequate size		✓
2.	check site appliance to MIs and, if wall mounted, correctly supported		✓
3.	check appliance assembly is complete and fit for use and purpose		✓
4.	check gas pipework, fittings and isolation valve for appliance connection conform		✓
5.	isolate gas and electrical supply prior to work		✓
6.	secure appliance correctly to ductwork (if applicable)		✓
7.	re-establish gas and electrical supplies		✓
8.	check work carried out is gas tight		✓
9.	dismantle and clean appliance operational gas safety components, using appropriate cleaning methods and agents e.g. isolation valves, gas regulators, FSDs, combustion chambers, thermostats, solenoids, filters and fan flow switches		✓
10.	**commission appliance:**		
(i)	purge appliance of air		✓
(ii)	check OP at appliance to MIs (adjust regulator, if required)		✓
(iii)	check burner flame picture, stability, ignition are correct		✓
(iv)	check ventilation for both appliance and building are to MIs		✓
(v)	sample products of combustion. Demonstrate a CO_2 atmosphere test		✓
(vi)	check safety control devices are operating correctly		✓
(vii)	check user controls are operating correctly		✓
(viii)	check thermostats are operating correctly, inc. high limit and fan thermostats		✓
11.	identify defects on gas safety components		✓
12.	explain safe operation and use of appliances		✓
13.	**Measure CO_2 in ambient air:**		
(a)	check analyser is suitable, correctly assembled and calibrated (BS 8494 analyser)		✓
(b)	zero and purge analysers to MIs, outdoors		✓
(c)	assemble sample lines and probes and ensure all are free from leaks/damage		✓
(d)	take CO_2 reading outdoors		✓
(e)	with fuel burning appliances turned off, ventilate enclosed area until CO_2 levels fall to approx. those outdoors		✓
(f)	close external doors, windows and customer – adjustable ventilation		✓
(g)	inspect appliances for obvious defects. Take a CO_2 sample at centre of area		✓
(h)	turn on one test appliance and carry out a CO_2 build up test		✓
(i)	sample CO_2 readings for at least 15 minutes		✓
(j)	record results		✓
KNOWLEDGE & UNDERSTANDING			
1.	siting of direct fired air heaters		✓
2.	ventilation for direct heating appliances where it is likely to be inhaled		✓
3.	air changes for buildings fitted with direct fired air heaters		✓
4.	restrictions on use of direct fired air heaters		✓
5.	restrictions on use of high and low temperature direct fired fixed air heaters		✓
6.			
7.	operation of mechanical and electrical system and gas safety control devices		✓
8.	clearances - proximity of combustible materials		✓
9.	diagnosis of gas safety faults		✓
10.	ventilation when vapours/gases present in air degrade to potentially harmful gases		✓
11.	**ambient CO_2 readings:**		
(i)	effect of increasing levels of CO_2 on appliance combustion		✓
(ii)	causes of increasing levels of CO_2		✓
(iii)	where to take CO_2 readings		✓
(iv)	evacuation of personnel from test area		✓
(v)	judging acceptability of ambient CO_2 readings		✓
(vi)	actions when ambient CO_2 levels are excessive: • risk assessment • turning off appliances and isolation • evacuation of occupants • opening windows etc. • advising responsible person • GIUSP 11		✓
(vii)	re-entry to area under test		✓
12.	**ambient CO readings:**		

Differences compared to CO_2 sampling; - toxicity - excessive CO levels		✓