



**ACS.CORT1  
SAFETY ASSESSMENT CRITERIA  
INITIAL  
NON-DOMESTIC.NATURAL GAS & LPG  
OVERHEAD RADIANT PLAQUE AND TUBE  
HEATERS**

**CORT1 INITIAL****Introduction**

Tests the gas safety competence of an operative in the work of install, commission, service, repair and break down of non-domestic overhead luminous radiant plaque and radiant tube heaters.

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**

Overhead radiant luminous plaque heaters and Type A (flueless) and Type B (flued) overhead radiant tube heaters.

**Pre-requisites**

COCN1 or  
CCN1 + CoDNCO1 or  
CCLP1 + CoDNCO1 or  
QCF or S/NVQ  
+  
ICPN 1 if pipework exceeds 50 mm diameter

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

**Exclusions**

Design or positioning of overhead radiant heaters, building, penetrating or making good of walls, roofs or ceilings, application of pipework protection, welding of steel joints, installation of main equipotential earth bonding, electrical work and portable or transportable heaters.

**References and normative documents**

MIs.

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

- HSL56
- HSEH40
- GIUSP
- BS 6896
- BS 7186
- BS 7967-5
- BS EN 13410
- IGEM/UP/10 Edition 4.

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

**Abbreviations**

AC. Assessment Centre  
CB. Certification Body  
FSD. Flame supervision device  
I. Initial  
MIs. Manufacturer's/manufacturers' instructions  
R. Re-assessment

PERFORMANCE CRITERIA	REF	I
1. check gas supply is of adequate size		√
2. check appliance is sited to MIs		√
3. check suspend appliance at a suitable height to MIs		√
4. check appliance assembly is complete and fit for use and purpose		√
5. check gas pipework, fittings, isolation valve and flexible metallic hose conform		√
6. isolate gas and electrical supplies prior to work		√
7. fit isolation valve to existing gas point		√
8. install appliance gas regulator, if appropriate		√
9. use pipework or flexible hose to connect appliance to isolation valve		√
10. connect flue to radiant tube heater		√
11. re-establish gas and electrical supplies		√
12. check work carried out is gas tight		√
13. dismantle and clean appliance operational gas safety components, using appropriate cleaning methods and agents e.g. isolation valves, gas regulators, FSDs, combustion chambers, refractory plaques, ignition devices, solenoids and fan flow switches		√
<b>14. commission appliance:</b>		
(i) purge appliance of air		√
(ii) check operating pressures at appliance is to MIs. Adjust regulator, if required		√
(iii) check burner flame pictures, stability, ignition are correct (combustion ratio for radiant tube heaters to MIs)		√
(iv) check ventilation is to MIs. Demonstrate a CO <sub>2</sub> atmosphere test (see 17. below)		√
(v) check safety control devices are operating correctly		√
(vi) check user controls are operating correctly		√
(vi)		
(vii) check thermostat is operating correctly, if applicable		√
15. identify defects on gas safety components		√
16. explain safe operation and use of appliance		√
<b>17. measure CO<sub>2</sub> in ambient air:</b>		
(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 <sub>2</sub> reading outdoors		√
(e) with fuel burning appliances turned off, ventilate enclosed area until CO <sub>2</sub> levels fall to approx. those outdoors		√
(f) close external doors, windows and customer – adjustable ventilation		√
(g) inspect appliances for obvious defects. Take a CO <sub>2</sub> sample at centre of area		√
(h) turn on one test appliance and carry out a CO <sub>2</sub> build up test		√
(i) sample CO <sub>2</sub> readings for at least 15 minutes		√
(j) record results		√
<b>KNOWLEDGE &amp; UNDERSTANDING</b>		
1.		
2. identify the 3 methods of ventilation for flueless appliances		√
3. positioning of vents and grilles to provide ventilation for flued and unflued appliances		√
4. additional building ventilation to be considered when installing unflued appliances		√
5. identification of location and position of exhaust air openings for flueless appliances		√
6. siting locations and requirements for flued and flueless appliances		√
7. types of tube supports, clips and fixings for supporting appliances		√
8. types and selection of manual isolation valves used with flexible pipe assemblies for both LPG and NG, for connecting appliances		√
9. protection of combustible material within vicinity of appliance and its flue		√
10. flues for appliances		√
11.		
12. operation of system and gas safety control devices		√
13.		
14. termination for appliances of rated heat input less than 70 kW net		√
15. maintenance		√
16. ventilation when vapours/gases present in air degrade to potentially harmful gases		√
<b>17. ambient CO<sub>2</sub> readings:</b>		
(i) effect of increasing levels of CO <sub>2</sub> on appliance combustion		√

(ii)	causes of increasing levels of CO <sub>2</sub>		√
(iii)	where to take CO <sub>2</sub> readings		√
(iv)	evacuation of personnel from test area		√
(v)	judging acceptability of ambient CO <sub>2</sub> readings		√
(vi)	actions when ambient CO <sub>2</sub> levels are excessive: <ul style="list-style-type: none"> <li>• risk assessment</li> <li>• turning off appliances and isolation</li> <li>• evacuation of occupants</li> <li>• opening windows etc.</li> <li>• advising responsible person</li> <li>• GIUSP 11</li> </ul>		√ √
(vii)	re-entry to area under test		√
18.	<b>ambient CO readings:</b>		
	Differences compared to CO <sub>2</sub> sampling; <ul style="list-style-type: none"> <li>- toxicity</li> <li>- excessive CO levels</li> </ul>		√