

Gas Fired Fuel Cells (Non-Accredited)

Introduction:

Tests gas safety competence to carry out gas work on Domestic Scale Gas Steam Reforming Fuel Cells

Range:

- Domestic Gas Steam Reforming SOFC & PEM Fuel Cells

Exclusions:

- Central Heating And Water Heating Appliances covered by CENWAT

Pre-requisites:

- CCN1/CCLP1 for Domestic Properties plus CPA1 if CCN1/CCLP1 taken before 1st April 2012

Practical Provisions

Provisions:

1	Gas Steam Reforming fuel cell system
2	Complete flue assembly
3	Manufacturers installation instructions
4	Manufacturers servicing/maintenance instructions
5	Manufacturers commissioning completion checklist.
6	Appliance control module (Laptop)
7	Flue gas analyser to EN 50379 (PEM fuel cells only)
8	Electronic flammable gas detector detects CO/H ₂ /NG
9	Electrical test meter
10	Electrical minor works certificate

Enable demonstration of:

1	Installation procedures
2	Commissioning procedures
3	Servicing procedures
4	Identifying defects

Performance Criteria

1	Pre – Installation Checks
i	Appliance siting requirements (clearances, flueing options)
ii	Appliance assembly complete & fit for purpose
iii	Gas supply size is confirmed as correct and isolated prior to work commencing
iv	Electrical supply with lockable AC isolator is installed within 1.5m of proposed appliance location
v	Electrical certification for this new electrical circuit is present
2	Install Appliance
i	Appliance is located correctly, level & stable
ii	Gas supply and electrical supply is re-established
iii	Work carried out is gas tight
iv	Flue system is connected correctly

v	Verify correct connection of cogeneration/heat recovery system (if installed)
vi	Cogeneration isolation valves are on (if installed)
3	Commission Appliance
i	Gas supply is purged of air
ii	Appliance electrical connection correct
iii	Appliance control module connected (laptop)
iv	Appliance control program started
v	Confirm appliance in "idle" mode (* breaker position)
vi	Appliance start sequence initiated
vii	Appliance sequences are verified
viii	Correct flue gas analyser is selected and connected to sampling point (PEM)
ix	Measured combustion performance is in line with manufacturer's instructions (PEM)
x	Verify commissioning checks have been completed
xi	Ensure safety device operational (* thermal management engaged) (PEM)
xii	Check gas rate is correct
4	Service and Identify Defects on an Appliance
i	Observe appliance safety procedures
ii	Appliance maintenance sequence initiated
iii	Carry out maintenance activities as specified by manufacturer (exchange/clean filters as required)
iv	Correct Electronic flammable gas detector is selected (PEM)
v	Correct flue gas analyser is selected and connected to sampling point (PEM)
vi	Measured combustion performance is in line with manufacturer's instructions (PEM)
vii	Defects on appliance are identified
Knowledge & Understanding	
1	Appliance suitability & site selection
2	Electrical connection and certification
3	Flue routing and termination
4	Essential yearly maintenance
5	Characteristics of reformed gas & Fuel Cell System
6	Correct condensate and waste water removal operation
7	Identification of unsafe conditions/safe working practices
8	Awareness of different types of steam reforming fuel cells.