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Renewable Heat Incentive

Non-domestic Renewable Heat Incentive Emissions Certificate

This certificate provides evidence that the tested boiler meets the air quality requirements of the non-domestic Renewable Heat Incentive (RHI). It must be issued by a testing laboratory. Applicants applying for the RHI with biomass boilers must submit a certificate with their application, or alternatively, an environmental permit.

1. TEST HOUSE	
a) name and address of testing laboratory	SP Technical Research Institute of Sweden, Box 857, SE-501 15 Borås, Sweden
b) name and signature of the person authorised by the testing laboratory to issue the certificate	Henrik Persson
c) date of issue of the certificate together with certificate reference number	Date: 2013-10-01 Certificate: 355903
d) if testing laboratory is accredited to ISO 17025, date of accreditation and accreditation number *(note: if testing conducted after 24 September 2013, the testing laboratory must be ISO 17025 accredited)*	2009/12/01, 1002

2. PLANT	
a) name of the plant tested	Effecta Lambda
b) model of the plant tested	Effecta Lambda 60 kW
c) manufacturer of the plant tested	Effecta Energy Solutions, Västra Rågdalsvägen 21, SE-434 99 Kungsbacka, Sweden
d) installation capacity of the plant in kilowatts (kW)	60 kW
e) is the plant a manually stoked, natural draught plant? (that is, without a fan providing forced or induced draught)	no
f) the date the plant was tested	2011/02/16

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g) list of all the plants in the type-testing range of plants to which the certificate applies, if any[1]	Effecta Lambda 60 kW

3. FUELS	
a) types of fuels used when testing	Wood logs
b) based on the testing, list the range of fuels that can be used in compliance with the emission limits of 30 grams per gigajoule (g/GJ) net heat input for particulate matter (PM), and 150 g/GJ net heat input for oxides of nitrogen (NOx) *(based if relevant on classifications from EN14961 or EN303-5)*	Wood logs
c) moisture content of the fuel used during testing	16,5 %
d) maximum moisture content of the fuel which can be used so as to ensure that the emission limits are not exceeded	20 %

4. TESTS	
a) **if the plant is 500kW or lower, and BS EN 303-5:1999 or EN 303-5:2012[2] applies to it,** please confirm: - tests were conducted to whichever standard was current at the time of testing. *(please circle the applicable standard)*	BS EN 303-5:1999: yes BS EN 303-5:2012: no
b) **if the plant is 500kW or lower, and BS EN 303-5:1999 or BS EN 303-5:2012 <u>do not apply to it</u>,** please confirm: - emissions of PM represent the average of at least three measurements, each of at least 30 minutes duration and; - the value for NOx emissions is derived from the mean of measurements made throughout the PM tests.	 not applicable not applicable
c) **if the plant is 500kW or higher**, please confirm: - emissions of PM represent the average of at least three measurements, each of at least 30 minutes duration and; - the value for NOx emissions is derived from the mean of PM measurements made throughout the PM tests.	 not applicable not applicable
d) please confirm the tests were conducted to: - EN 14792:2005 in respect of NOx, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM[3]	 yes (and CEN TS 15883:2009) yes
e) please confirm the plant tested at ≥85% of its rated output	yes
f) please confirm the tests show that emissions were no greater than 30 g/GJ PM and 150 g/GJ NOx	yes

[1] The type-testing approach enables testing laboratories to provide assurance that all boilers in a given range meet the air quality requirements, without needing to specifically test each boiler.
[2] BS EN303-5:1999 and 2012 explain what should be measured and when.
[3] These standards explain how to make the PM and NOx measurements.

g) measured emissions of PM in g/GJ net heat input[4]	19
h) measured emissions of NOx in g/GJ net heat input	80

[4] The measured emission of PM is determined from 4 separate measured values.