


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	The Engineering Test Institute, Public Enterprise Hudcova 424/56b, 621 00 Brno, Czech Republic tel.: 00420 541 120 330 e-mail.: holomek@szutest.cz web: www.szutest.cz
b) name and signature of the person authorised by the testing laboratory to issue the certificate	Milan Holomek Head of Heat and Environment-Friendly Equipment Test Station  2013-12-05
c) date of issue of the certificate together with certificate reference number	Date: 2013-10-31 Nr.: SZUBR028
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)	Lab No/Accreditation Number No. 347/2013 of 2013-06-24 (current), No. 321/2012 of 2012-05-29 (previous) Lab Accreditation Date No. 347/2013 of 2013-06-24 (current), No. 321/2012 of 2012-05-29 (previous)

2. PLANT	
a) name of the plant tested	BioFire
b) model of the plant tested	BioFire 800
c) manufacturer of the plant tested	Herz Energietechnik GmbH Herzstrasse 1 A-7423 Pinkafeld Austria
d) installation capacity of the plant in kilowatts (kW)	800 kW
e) is the plant a manually stoked, natural draught plant? (that is, without a fan providing forced or induced draught)	no, automatic
f) the date the plant was tested	2013.10.11
g) list of all the plants in the type-testing range of plants to which the certificate applies, if any	BioFire 500/600/800/995


3. FUELS	
a) types of fuels used when testing	Wood chips, Wood pellets
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) <i>(based if relevant on classifications from EN14961 or EN303-5)</i>	Wood chips according to EN 303-5:2012: B1 Wood chips according to EN 14961-4: A1, A2, B1 Wood pellets according to EN 303-5:2012: C1 Wood pellets according to EN 14961-4: A1, A2
c) moisture content of the fuel used during testing	Wood chips - 12.90 %, Wood pellets - 6.92 %
d) maximum moisture content of the fuel which can be used so as to ensure that the emission limits are not exceeded	Wood chips – max 35 % Wood pellets – max 12 %

4. TESTS	
a) if the plant is 500kW or lower, and BS EN 303-5:1999 or EN 303-5:2012 applies to it , please confirm: - tests were conducted to whichever standard was current at the time of testing. <i>(please circle the applicable standard)</i>	not applicable
b) if the plant is 500kW or lower, and BS EN 303-5:1999 or BS EN 303-5:2012 do not apply to it , 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.	yes yes
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	yes 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

<p>g) measured emissions of PM in g/GJ net heat input</p>	<p><u>Wood chips:</u></p> <p>Nominal heat output: BioFire 800 – 800kW: 15 g/GJ</p> <p>Part load (42,9%): BioFire 800 – 800kW: 7 g/GJ</p> <p><u>Wood pellets:</u></p> <p>Nominal heat output: BioFire 800 – 800kW: 10 g/GJ</p> <p>Part load (45.4%): BioFire 800 – 800kW: 8 g/GJ</p>
<p>h) measured emissions of NOx in g/GJ net heat input</p>	<p><u>Wood chips:</u></p> <p>Nominal heat output: BioFire 800 – 800kW: 76 g/GJ</p> <p>Part load (42,9%): BioFire 800 – 800kW: 63 g/GJ</p> <p><u>Wood pellets:</u></p> <p>Nominal heat output: BioFire 800 – 800kW: 146 g/GJ</p> <p>Part load (45.4%): BioFire 800 – 800kW: 53 g/GJ</p>



This certificate provides evidence that the tested boiler meets the air quality requirements of the non-domestic Renewable Heat Incentive (RHI) – Reg 5A(3) and Schedule A1. 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	The Engineering Test Institute, Public Enterprise Hudcova 424/56b, 621 00 Brno, Czech Republic tel.: 00420 541 120 330 e-mail.: holomek@szutest.cz web: www.szutest.cz
b) name and signature of the person authorised by the testing laboratory to issue the certificate	Name: Mr. Milan Holomek Head of Heat and Environment Friendly Equipment Test Station
	Signature: 
c) date of issue of this certificate together with certificate reference number *Please see Note A	Date: 05/10/2015
	Ref: SZUBR186
d) if testing laboratory is accredited to BS EN ISO/IEC 17025:2005, date of accreditation and accreditation number <i>(note: if testing conducted after 24 September 2013, the testing laboratory must be BS EN ISO/IEC 17025:2005 accredited)</i>	Date: 16/06/2015
	Accreditation number: 447/2015

2. PLANT <i>Please see Note B</i>	
a) name of the plant tested	BioFire
b) model of the plant tested	BioFire 1000
c) manufacturer of the plant tested	Herz Energietechnik GmbH Herzstrasse 1 A-7423 Pinkafeld Austria
d) installation capacity* of the tested plant in kilowatts (kW) *defined in the RHI Regulations as the total installed peak heat output capacity of the plant	BioFire 1000 – 995 kW

e) is the plant a <u>manually stoked, natural draught</u> plant? (that is, without a fan providing forced or induced draught)	no, automatic
f) (i) the date the plant was tested* (ii) please confirm that NOx and PM have been tested on the same occasion *This is in reference to the emissions testing for PM and NOx, not any wider range of tests. A specific date is required.	30/09/2015 yes
g) list of all the plants in the type-testing range* of plants to which the certificate applies, if any ¹ Please include the installation capacity of each model. *This must follow the ratio rules: <i>If the smallest plant in the range is 500kW or less, the largest plant in the range can't be more than double the smallest.</i> <i>If the smallest plant in the range is over 500kW, the largest plant in the range can't be more than 500kW greater than the smallest.</i>	BioFire 1000

3. FUELS

a) types of fuels used when testing	Wood chips
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 chips – B2 according to BS EN 303-5:2012 (ČSN EN 303-5:2013)
c) moisture content of the fuel used during testing	Wood chips – 40 %
d) maximum moisture content of the fuel which can be used with the certified plant(s) so as to ensure that the RHI emission limits are not exceeded.	Wood chips – max 50 % *)

4. TESTS

Confirm which requirements the emissions of NOx and PM have been tested in accordance with. **Either 4a or 4b should be confirmed, the other should be 'not applicable'**

a) if the testing was carried out in accordance with the provisions relevant to emissions of PM and NOx in either BS EN 303-5:1999 or BS EN 303-5:2012 ² , please confirm: - the test was conducted to whichever standard was current at the time of testing.	BS EN 303-5:2012 (ČSN EN 303-5:2013): yes
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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.

<p>b) if the testing was carried out in accordance with the following requirements, please confirm:</p> <p>(i) testing was carried out in accordance with: - EN 14792:2005 in respect of NOx emissions, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM emissions³; and</p> <p>(ii) emissions of PM represent the average of at least three measurements of emissions of PM, each of at least 30 minutes duration; and</p> <p>(iii) the value for NOx emissions is derived from the average of measurements made throughout the PM emission tests.</p>	not applicable
<p>c) please confirm the plant was tested at $\geq 85\%$ of the installation capacity of the plant</p>	yes ($\geq 85\%$)
<p>d) please confirm the test shows that emissions from the plant were no greater than 30 g/GJ PM and 150 g/GJ NOx</p>	yes
<p>e) measured* emissions of PM in g/GJ net heat input *this value should be from the test confirmed in 4c. Results from partial load tests are not required. This value must be in the specified units.</p>	28 g/GJ
<p>f) measured* emissions of NOx in g/GJ net heat input *this value should be from the test confirmed in 4c. Results from partial load tests are not required. This value must be in the specified units.</p>	84 g/GJ

*) nominal heat output may not be achieved for $w > 25\%$;



Note A: If details from a previously issued certificate are being transferred to this RHI emission certificate template, please note that this document must be **issued by the testing laboratory** as a separate certificate. So the issue date and certificate reference number should be in relation to *this* certificate using the RHI template, not the issue date and reference number of the original certificate.

Note B: If you are including multiple tested plants on one certificate, please ensure that all sections are completed for each tested plant, and are laid out such that it is clear which details relate to which tested plant. If a type-testing range is included as well, please show clearly which type-testing range relates to which tested plant(s), following the type-testing range ratio rules outlined in 2g.



Renewable Heat Incentive

Non-domestic Renewable Heat Incentive Emissions Certificate

1. TEST HOUSE	
a) name and address of testing laboratory	<p>Original Test House = Strojírenský zkušební ústav, s.p. Hudcova 424/56b, 621 00 Brno, Czech Republic</p> <p>Report Reviewer = Exova Catalyst, Unit C6, Emery Court, The Embankment Business Park, Heaton Mersey, Stockport, SK4 3GL</p>
b) name and signature of the person authorised by the testing laboratory to issue the certificate	<p>Name: James Eldridge, Deputy Regional Manager – Stockport, Exova Catalyst</p>  <p>Unit C6, Emery Court The Embankment Business Park Heaton Mersey, Stockport SK4 3GL T: 0161 432 3286 E: info@cat-env.com Company Registration No: SC070429</p> <p>Signature: </p>
c) date of issue of this certificate together with certificate reference number *Please see Note A	Date: 09/11/2015 Ref: CAT-2459
d) if testing laboratory is accredited to BS EN ISO/IEC 17025:2005, date of accreditation and accreditation number <i>(note: if testing conducted after 24 September 2013, the testing laboratory must be BS EN ISO/IEC 17025:2005 accredited)</i>	Date: Accreditation acquired 2002 Testing laboratory number: 1045.1 Czech Accreditation Institute

2. PLANT <i>Please see Note B</i>	
a) name of the plant tested	Herz BioFire 1000
b) model of the plant tested	BioFire 1000
c) manufacturer of the plant tested	Herz Energietechnik GmbH
d) installation capacity* of the tested plant in kilowatts (kW) *defined in the RHI Regulations as the total installed peak heat output capacity of the plant	995kW
e) is the plant a <u>manually stoked, natural draught plant</u> ? (that is, without a fan providing forced or induced draught)	No
f) (i) the date the plant was tested* (ii) please confirm that NOx and PM have been tested on the same occasion *This is in reference to the emissions testing for PM and NOx, not any wider range of tests. A specific date is required.	i) 09/10/2013 – Wood Pellets 11/10/2013 – Wood Chips ii) Yes for both fuels
g) list of all the plants in the type-testing range* of plants to which the certificate applies, if any ¹ Please include the installation capacity of each model. <i>*This must follow the ratio rules: If the smallest plant in the range is 500kW or less, the largest plant in the range can't be more than double the smallest. If the smallest plant in the range is over 500kW, the largest plant in the range can't be more than 500kW greater than the smallest.</i>	BioFire 1000kW BioFire 1250kW BioFire 1495kW

3. FUELS	
a) types of fuels used when testing	Wood Pellets – Category C1 Wood Chips – Category B1
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) <i>(based if relevant on classifications from EN14961 or EN303-5)</i>	Wood Pellets – Category C1 Wood Chips – Category B1
c) moisture content of the fuel used during testing	6.92% - Wood Pellets 12.90% - Wood Chips
d) maximum moisture content* of the fuel which can be used with the certified plant(s) so as to ensure that the RHI emission limits are not exceeded. <i>*This value may be obtained from ranges specified in</i>	35% - Wood Pellets and Wood Chips

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.

4. TESTS	
Confirm which requirements the emissions of NO _x and PM have been tested in accordance with. Either 4a or 4b should be confirmed, the other should be 'not applicable'	
a) if the testing was carried out in accordance with the provisions relevant to emissions of PM and NO_x in either BS EN 303-5:1999 or BS EN 303-5:2012² , please confirm: - the test was conducted to whichever standard was current at the time of testing.	BS EN 303-5:1999: N/A BS EN 303-5:2012: N/A
b) if the testing was carried out in accordance with the following requirements , please confirm: (i) testing was carried out in accordance with: - EN 14792:2005 in respect of NO _x emissions, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM emissions ³ ; and (ii) emissions of PM represent the average of at least three measurements of emissions of PM, each of at least 30 minutes duration; and (iii) the value for NO _x emissions is derived from the average of measurements made throughout the PM emission tests.	N/A Yes Yes
c) please confirm the plant was tested at ≥85% of the installation capacity of the plant	Yes – Wood Chips on Full Load
d) please confirm the test shows that emissions from the plant were no greater than 30 g/GJ PM and 150 g/GJ NO _x	Yes – Wood Pellets Yes – Wood Chips
e) measured* emissions of PM in g/GJ net heat input *this value should be from the test confirmed in 4c. Results from partial load tests are not required. This value must be in the specified units.	29 g/GJ - Wood Pellets 28g/GJ – Wood Chips
f) measured* emissions of NO _x in g/GJ net heat input *this value should be from the test confirmed in 4c. Results from partial load tests are not required. This value must be in the specified units.	117 g/GJ – Wood Pellets 84g/GJ – Wood Chips

² BS EN303-5:1999 and 2012 explain what should be measured and when.

³ These standards explain how to make the PM and NO_x measurements.