




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 | |
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| a) name and address of testing laboratory | Technický skúšobný ústav Piešťany, š.p. Krajinská cesta 2929/9 921 01 Piešťany Slovak Republik |
| b) name and signature of the person authorised by the testing laboratory to issue the certificate | Name: Peter Summer <i>Technical Head of Testing Laboratory</i> Signature:  |
| c) date of issue of this certificate together with certificate reference number *Please see Note A | Date: 19 th June 2014 |
| | Ref: 007/104/2014/RHI |
| 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: 23. January 2014 |
| | Accreditation number: S-047 |

| 2. PLANT <i>Please see Note B</i> | |
|---|--|
| a) name of the plant tested | steel hot-water boiler "BIOPEL" with pellet burner |
| b) model of the plant tested | BIOPEL 10 with burner BIOPEL BURNER 10 BIOPEL 15 with burner BIOPEL BURNER 15 BIOPEL 20 with burner BIOPEL BURNER 20 BIOPEL 30 with burner BIOPEL BURNER 30 BIOPEL 40 with burner BIOPEL BURNER 40 BIOPEL 60 with burner BIOPEL BURNER 60 BIOPEL 80 with burner BIOPEL BURNER 80 BIOPEL 100 with burner BIOPEL BURNER80÷100 BIOPEL 150 with burner BIOPEL BURNER150÷200 BIOPEL 200 with burner BIOPEL BURNER150÷200 |

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|---|---|
| c) manufacturer of the plant tested | OPOP s. r. o. Zašovská 750 757 01 Valašské Meziříčí Czech Republik |
| d) installation capacity* of the tested plant in kilowatts (kW) <i>*defined in the RHI Regulations as the total installed peak heat output capacity of the plant</i> | BIOPEL 10 – 10 kW BIOPEL 15 – 15 kW BIOPEL 20 – 20 kW BIOPEL 30 – 30kW BIOPEL 40 – 40 kW BIOPEL 60 – 60 kW BIOPEL 80 – 80 kW BIOPEL 100 – 100 kW BIOPEL 150 – 150 kW BIOPEL 200 – 200 kW |
| e) is the plant a <u>manually stoked, natural draught</u> plant? (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 <i>*This is in reference to the emissions testing for PM and NOx, not any wider range of tests. A specific date is required.</i> | BIOPEL 10 – 27. March 2014 Yes BIOPEL 20 – 9. June 2014 Yes BIOPEL 40 – 25. March 2014 Yes BIOPEL 80 – 2. April 2014 Yes BIOPEL 100 – 13. February 2014 Yes BIOPEL 200 – 18. March 2014 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. <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> | BIOPEL 10 – 10 kW BIOPEL 15 – 15 kW BIOPEL 20 – 20 kW BIOPEL 30 – 30kW BIOPEL 40 – 40 kW BIOPEL 60 – 60 kW BIOPEL 80 – 80 kW BIOPEL 100 – 100 kW BIOPEL 150 – 150 kW BIOPEL 200 – 200 kW |

3. FUELS

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|---|---|
| a) types of fuels used when testing | 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 pellets based on compressed wood (category C) classification from EN 303-5 |
| c) moisture content of the fuel used during testing | 7,15% for BIOPEL 10÷80 8,30% for BIOPEL 100÷200 |
| 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 EN 303-5 based on the fuel type(s) tested</i> | 12,0% |

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

| | |
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| <p>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 303-5:2012², please confirm: - the test was conducted to whichever standard was current at the time of testing.</p> | <p>EN 303-5:2012: yes</p> |
| <p>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 NOx emissions, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM emissions³; 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 NOx emissions is derived from the average of measurements made throughout the PM emission tests.</p> | <p>not applicable</p> |
| <p>c) please confirm the plant was tested at $\geq 85\%$ of the installation capacity of the plant</p> | <p>yes</p> |
| <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> | <p>yes</p> |
| <p>e) measured* emissions of PM in g/GJ net heat input <i>*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.</i></p> | <p>BIOPEL 10 - 7,7 g/GJ BIOPEL 15 - 10,6 g/GJ BIOPEL 20 - 11,6 g/GJ BIOPEL 30 - 8,2 g/GJ BIOPEL 40 - 6,3 g/GJ BIOPEL 60 - 8,2 g/GJ BIOPEL 80 - 10,6 g/GJ BIOPEL 100 - 9,2 g/GJ BIOPEL 150 - 10,6 g/GJ BIOPEL 200 - 12,6 g/GJ</p> |
| <p>f) measured* emissions of NOx in g/GJ net heat input <i>*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.</i></p> | <p>BIOPEL 10 - 5,5 g/GJ BIOPEL 15 - 27,2 g/GJ BIOPEL 20 - 28,1 g/GJ BIOPEL 30 - 45,4 g/GJ BIOPEL 40 - 43,2g/GJ BIOPEL 60 - 38,7 g/GJ BIOPEL 80 - 58,4 g/GJ BIOPEL 100 - 80,1 g/GJ BIOPEL 150 - 82,4 g/GJ BIOPEL 200 - 81,1 g/GJ</p> |

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.

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.