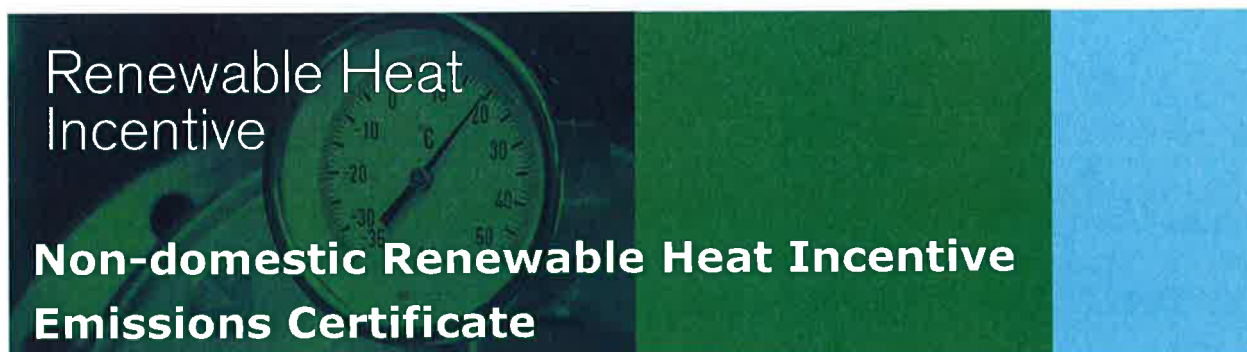




This certificate provides evidence that the tested boiler meets the air quality requirements of the non-domestic Renewable Heat Incentive (RHI). It must be issued by a testing laboratory. Applicants applying for the RHI with biomass boilers must submit a certificate with their application, or alternatively,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

1. TEST HOUSE	
a) name, address and logo of testing laboratory	TÜV AUSTRIA SERVICES GMBH Am Thalbach 15 A-4600 Thalheim/Wels 
b) name and signature of the person authorised by the testing laboratory to issue the certificate	Schrögenderfer Gerald 
c) date of issue of the certificate together with certificate reference number	Date of issue: 16/12/2013 Certificate reference number: 13-UW/Wels-EX-055, RHI Cert Fröling_ TÜV Austria_TX 150-200_131216
d) if testing laboratory is accredited to ISO 17025, date of accreditation and accreditation number <i>(note: if testing conducted after 24 September 2013, the testing laboratory must be ISO 17025 accredited)</i>	TÜV AUSTRIA SERVICES GMBH 01/07/2007, Id.No 274 (before 01/07/2007: TÜV Austria, Id.No. 10)

2. PLANT	
a) name of the plant tested (family of design)	TX
b) model of the plant tested	TX 150
c) manufacturer of the plant tested	Fröling Heizkessel- und Behälterbau GesmbH
d) installation capacity of the plant in kilowatts (kW, nominal heat output)	150
e) is the plant a <u>manually stoked, natural draught</u> plant? (that is, without a fan providing forced or induced draught)	No
f) the date the plant was tested Emission tests (NOx, dust,...) at nominal heat output	Fuel wood pellets: 15/03/2010 Fuel chipped wood: 17/03/2010
g) list of all the plants in the type-testing range of plants to which the certificate applies, if any ¹	TX 150 (150 kW), TX 200 (199 kW)

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.

3. FUELS	
a) types of fuels used when testing	Wood pellets and 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 (NO _x) (based if relevant on classifications from EN14961 or EN303-5)	Wood pellets: EN 14961-2, class A1 Wood chips: EN 14961-4, class A2
c) moisture content of the fuel used during testing	Wood pellets: w = 7 % Wood chips: w = 27 %
d) maximum moisture content of the fuel which can be used so as to ensure that the emission limits are not exceeded	Wood pellets: w = 10 % Wood chips: w = 35 %

4. TESTS	
a) if the plant is 500kW or lower, and BS EN 303-5:1999 or EN 303-5:2012² 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: <u>yes</u> /no BS EN 303-5:2012: yes/no 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 NO _x emissions is derived from the mean of measurements made throughout the PM tests.	<u>yes/no/</u> <u>not applicable</u> <u>yes/no/</u> <u>not applicable</u>
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 NO _x emissions is derived from the mean of PM measurements made throughout the PM tests.	<u>yes/no/</u> <u>not applicable</u> <u>yes/no/</u> <u>not applicable</u>
d) please confirm the tests were conducted to: - EN 14792:2005 in respect of NO _x , and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM ³	yes yes (in combination with annex A of EN 303-5:2012)
e) please confirm the plant tested at ≥85% of its rated output	<u>yes</u> /no
f) please confirm the tests show that emissions were no greater than 30 g/GJ PM and 150 g/GJ NO _x	<u>yes</u> /no
g) measured emissions of PM in g/GJ net heat input ⁴	Wood pellets: 24 Wood chips: 23
h) measured emissions of NO _x in g/GJ net heat input ⁴	Wood pellets: 64 Wood chips: 78

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.

⁴ Emission data given in point 4g and 4 h determined at nominal heat output



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, address and logo of testing laboratory	TÜV AUSTRIA SERVICES GMBH Am Thalbach 15 A-4600 Thalheim/Wels 
b) name and signature of the person authorised by the testing laboratory to issue the certificate	Schrögender Gerald 
c) date of issue of the certificate together with certificate reference number	Date of issue: 16/12/2013 Certificate reference number: 13-UW/Wels-EX-055, RHI Cert Fröling_ TÜV Austria_TX 200-250_131216
d) if testing laboratory is accredited to ISO 17025, date of accreditation and accreditation number <i>(note: if testing conducted after 24 September 2013, the testing laboratory must be ISO 17025 accredited)</i>	TÜV AUSTRIA SERVICES GMBH 01/07/2007, Id.No 274 (before 01/07/2007: TÜV Austria, Id.No. 10)

2. PLANT	
a) name of the plant tested (family of design)	TX
b) model of the plant tested	TX 250
c) manufacturer of the plant tested	Fröling Heizkessel- und Behälterbau GesmbH
d) installation capacity of the plant in kilowatts (kW, nominal heat output)	250
e) is the plant a <u>manually stoked, natural draught</u> plant? (that is, without a fan providing forced or induced draught)	No
f) the date the plant was tested Emission tests (NOx, dust,...) at nominal heat output	Fuel wood pellets: 18/07/2011 Fuel chipped wood: 19/07/2011
g) list of all the plants in the type-testing range of plants to which the certificate applies, if any ¹	TX 200 (199 kW), TX 250 (250 kW)

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.

3. FUELS	
a) types of fuels used when testing	Wood pellets and 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 pellets: EN 14961-2, class A1 Wood chips: EN 14961-4, class A2
c) moisture content of the fuel used during testing	Wood pellets: w = 7 % Wood chips: w = 30 %
d) maximum moisture content of the fuel which can be used so as to ensure that the emission limits are not exceeded	Wood pellets: w = 10 % Wood chips: w = 35 %

4. TESTS	
a) if the plant is 500kW or lower, and BS EN 303-5:1999 or EN 303-5:2012² 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: <u>yes</u> /no BS EN 303-5:2012: yes/no 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.	<u>yes/no/</u> <u>not applicable</u> <u>yes/no/</u> <u>not applicable</u>
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.	<u>yes/no/</u> <u>not applicable</u> <u>yes/no/</u> <u>not applicable</u>
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 yes (in combination with annex A of EN 303-5:2012)
e) please confirm the plant tested at ≥85% of its rated output	<u>yes</u> /no
f) please confirm the tests show that emissions were no greater than 30 g/GJ PM and 150 g/GJ NOx	<u>yes</u> /no
g) measured emissions of PM in g/GJ net heat input ⁴	Wood pellets: 11 Wood chips: 17
h) measured emissions of NOx in g/GJ net heat input ⁴	Wood pellets: 70 Wood chips: 69

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.

⁴ Emission data given in point 4g and 4 h determined at nominal heat output