

COMMISSION DELEGATED REGULATION (EU) 2015/1187**of 27 April 2015****supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of solid fuel boilers and packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products ⁽¹⁾, and in particular Article 10 thereof,

Whereas:

- (1) Directive 2010/30/EU requires the Commission to adopt delegated acts on the labelling of energy-related products that have a significant potential for energy savings and a wide disparity in the relevant performance levels with equivalent functionality.
- (2) Space heaters with equivalent functionality including solid fuel boilers exhibit a wide disparity in terms of energy efficiency. The energy solid fuel boilers use to provide indoor space heating accounts for a significant share of the total energy demand in the Union. The scope for reducing the energy consumption of solid fuel boilers is significant and includes combining them with appropriate temperature controls and solar devices, and therefore packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices should also be covered by energy labelling requirements.
- (3) Boilers generating heat exclusively for providing hot drinking or sanitary water, boilers for heating gaseous heat transfer media, cogeneration boilers with an electrical capacity of 50 kW or more and non-woody biomass boilers have specific technical characteristics and should therefore be exempted from this Regulation.
- (4) Harmonised provisions on labelling and standard product information regarding the energy efficiency of solid fuel boilers should be laid down in order to provide incentives for manufacturers to improve the energy efficiency of solid fuel boilers, to encourage end-users to purchase energy-efficient products and to contribute to the functioning of the internal market.
- (5) In order to provide consumers with comparable information on solid fuel boilers, a labelling scale should be introduced coherent with Commission Delegated Regulation (EU) No 811/2013 ⁽²⁾. Taking the approach applied in that regulation to renewable energy would not promote energy efficiency in biomass boilers. Taking the approach applied to fossil fuels would for biomass not be consistent with the objective of promoting renewable energy under Directive 2009/28/EC of the European Parliament and of the Council ⁽³⁾. It is therefore appropriate that this Regulation introduces a specific approach for biomass boilers, a 'biomass label factor' set at such a level that class A++ can be reached by condensing biomass boilers.
- (6) The information provided on the label should be obtained through reliable, accurate and reproducible measurement and calculation procedures which take into account recognised state-of-the-art measurement and calculation methods including, where available, harmonised standards adopted by the European standardisation organisations in accordance with the procedures laid down in Regulation (EU) No 1025/2012 of the European Parliament and of the Council ⁽⁴⁾, for the purpose of establishing ecodesign requirements.

⁽¹⁾ OJ L 153, 18.6.2010, p. 1.

⁽²⁾ Commission Delegated Regulation (EU) No 811/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device (OJ L 239, 6.9.2013, p. 1).

⁽³⁾ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources (OJ L 140, 5.6.2009, p. 16).

⁽⁴⁾ Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation (OJ L 316, 14.11.2012, p. 12).

- (7) This Regulation should specify a uniform design and content for the labels for solid fuel boilers.
- (8) In addition, this Regulation should specify requirements for the product and technical documentation for solid fuel boilers.
- (9) Moreover, this Regulation should specify requirements in respect of the information to be provided in case of any form of distance selling of solid fuel boilers and in any advertisements and technical promotional material for solid fuel boilers.
- (10) Where labels and product information are based on product fiches from suppliers it should be ensured that the end-user has easy access to information on the energy performance of packages of a solid fuel boiler combined with supplementary heaters, solar devices and temperature controls.
- (11) It is appropriate to provide for a review of the provisions of this Regulation taking into account technological progress,

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

1. This Regulation establishes requirements for the energy labelling of and the provision of supplementary product information on solid fuel boilers with a rated heat output of 70 kW or less and packages of a solid fuel boiler with a rated heat output of 70 kW or less, supplementary heaters, temperature controls and solar devices.
2. This Regulation shall not apply to:
 - (a) boilers generating heat only for the purpose of providing hot drinking or sanitary water;
 - (b) boilers for heating and distributing gaseous heat transfer media such as vapour or air;
 - (c) solid fuel cogeneration boilers with a maximum electrical capacity of 50 kW or more;
 - (d) non-woody biomass boilers.

Article 2

Definitions

In addition to the definitions set out in Article 2 of Directive 2010/30/EU, the following definitions shall apply for the purposes of this Regulation:

- (1) 'solid fuel boiler' means a device equipped with one or more solid fuel heat generators that provides heat to a water-based central heating system in order to reach and maintain at a desired level the indoor temperature of one or more enclosed spaces, with a heat loss to its surrounding environment of not more than 6 % of rated heat output;
- (2) 'water-based central heating system' means a system using water as a heat transfer medium to distribute centrally generated heat to heat emitting devices for the heating of enclosed spaces within buildings or parts thereof, including block heating or district heating networks;
- (3) 'solid fuel heat generator' means the part of a solid fuel boiler that generates the heat through the combustion of solid fuels;
- (4) 'rated heat output' or ' P_r ' means the declared heat output of a solid fuel boiler when providing heating of enclosed spaces with the preferred fuel, expressed in kW;

- (5) 'solid fuel' means a fuel that is solid at normal indoor room temperatures, including solid biomass and solid fossil fuel;
- (6) 'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste;
- (7) 'woody biomass' means biomass originating from trees, bushes and shrubs, including log wood, chipped wood, compressed wood in the form of pellets, compressed wood in the form of briquettes, and sawdust;
- (8) 'non-woody biomass' means biomass other than woody biomass, including straw, miscanthus, reeds, kernels, grains, olive stones, olive cakes and nut shells;
- (9) 'fossil fuel' means fuel other than biomass, including anthracite, brown coal, coke, bituminous coal; for the purposes of this Regulation it also includes peat;
- (10) 'biomass boiler' means a solid fuel boiler that uses biomass as the preferred fuel;
- (11) 'non-woody biomass boiler' means a biomass boiler that uses non-woody biomass as the preferred fuel and for which woody biomass, fossil fuel or a blend of biomass and fossil fuel are not listed among its other suitable fuels;
- (12) 'preferred fuel' means the single solid fuel which is to be preferably used for the boiler according to the supplier's instructions;
- (13) 'other suitable fuel' means a solid fuel, other than the preferred fuel, which can be used in the solid fuel boiler according to the supplier's instructions and includes any fuel that is mentioned in the instruction manual for installers and end-users, on free access websites of suppliers, in technical promotional material and in advertisements;
- (14) 'solid fuel cogeneration boiler' means a solid fuel boiler capable of simultaneously generating heat and electricity;
- (15) 'supplementary heater' means a secondary boiler or heat pump falling within the scope of Delegated Regulation (EU) No 811/2013 or a secondary solid fuel boiler, which generates extra heat where the heat demand is greater than the rated heat output of the primary solid fuel boiler;
- (16) 'temperature control' means the equipment that interfaces with the end-user regarding the values and timing of the desired indoor temperature, and communicates relevant data to an interface of the solid fuel boiler such as a central processing unit, thus helping to regulate the indoor temperature(s);
- (17) 'solar device' means a solar-only system, a solar collector, a solar hot water storage tank or a pump in the collector loop, which are placed on the market separately;
- (18) 'solar-only system' means a device that is equipped with one or more solar collectors and solar hot water storage tanks and possibly pumps in the collector loop and other parts, which is placed on the market as one unit and is not equipped with any heat generator except possibly one or more back-up immersion heaters;
- (19) 'solar collector' means a device designed to absorb global solar irradiance and to transfer the heat energy so produced to a fluid passing through it;
- (20) 'solar hot water storage tank' means a hot water storage tank storing heat energy produced by one or more solar collectors;
- (21) 'hot water storage tank' means a vessel for storing hot water for water or space heating purposes, including any additives, which is not equipped with any heat generator except possibly one or more back-up immersion heaters;
- (22) 'back-up immersion heater' means a Joule effect electric resistance heater that is part of a hot water storage tank and generates heat only when the external heat source supply is disrupted (including during maintenance periods) or out of order, or that is part of a solar hot water storage tank and provides heat when the solar heat source is not sufficient to satisfy required comfort levels;
- (23) 'package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices' means a package offered to the end-user containing a solid fuel boiler combined with one or more supplementary heaters, one or more temperature controls or one or more solar devices;

- (24) ‘combination boiler’ means a solid fuel boiler that is designed to also provide heat to deliver hot drinking or sanitary water at given temperature levels, quantities and flow rates during given intervals, and is connected to an external supply of drinking or sanitary water.

For the purposes of Annexes II to X, additional definitions are set out in Annex I.

Article 3

Responsibilities of suppliers and timetable

1. From 1 April 2017 suppliers placing solid fuel boilers on the market or putting them into service, including those integrated in packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices, shall ensure that:

- (a) each solid fuel boiler is provided with a printed label in the format and containing the information set out in point 1.1 of Annex III and conforming to the energy efficiency classes set out in Annex II, and each solid fuel boiler intended for use in packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices is provided with a second label in the format and containing the information set out in point 2 of Annex III;
- (b) an electronic label in the format and containing the information set out in point 1.1 of Annex III and conforming to the energy efficiency classes set out in Annex II is made available to dealers for each solid fuel boiler model;
- (c) a product fiche, in accordance with point 1 of Annex IV, is provided for each solid fuel boiler, and a second fiche, in accordance with point 2 of Annex IV, is provided for each solid fuel boiler intended for use in packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices;
- (d) an electronic product fiche, in accordance with point 1 of Annex IV, shall be made available to dealers for each solid fuel boiler model;
- (e) the technical documentation, as set out in point 1 of Annex V, is provided on request to the authorities of the Member States and to the Commission;
- (f) any advertisement related to a specific solid fuel boiler model and containing energy-related information or price includes a reference to the energy efficiency class of that model;
- (g) any technical promotional material concerning a specific solid fuel boiler model and describing its specific technical parameters includes a reference to the energy efficiency class of that model.

2. From 26 September 2019 suppliers placing solid fuel boilers on the market or putting them into service, including those integrated in packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices, shall ensure that:

- (a) each solid fuel boiler is provided with a printed label in the format and containing the information set out in point 1.2 of Annex III and conforming to the energy efficiency classes set out in Annex II;
- (b) an electronic label in the format and containing the information set out in point 1.2 of Annex III and conforming to the energy efficiency classes set out in Annex II is made available to dealers for each solid fuel boiler model.

3. From 1 April 2017 suppliers placing packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices on the market or putting them into service shall ensure that:

- (a) a printed label in the format and containing the information set out in point 2 of Annex III and conforming to the energy efficiency classes set out in Annex II is provided for each package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices;
- (b) an electronic label in the format and containing the information set out in point 2 of Annex III and conforming to the energy efficiency classes set out in Annex II is made available to dealers for each model comprising a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices;
- (c) a product fiche, in accordance with point 2 of Annex IV, is provided for each package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices;

- (d) an electronic product fiche, in accordance with point 2 of Annex IV, is made available to dealers for each model comprising a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices;
- (e) the technical documentation, in accordance with point 2 of Annex V, is provided on request to the authorities of the Member States and to the Commission;
- (f) any advertisement relating to a specific model comprising a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices and which contains energy-related information or price includes a reference to the energy efficiency class for that model;
- (g) any technical promotional material concerning a specific model comprising a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices which describes its specific technical parameters includes a reference to the energy efficiency class for that model.

Article 4

Responsibilities of dealers

1. Dealers in solid fuel boilers shall ensure that:
 - (a) each solid fuel boiler bears, at the point of sale, the label provided by suppliers in accordance with Article 3(1) or 3(2) on the outside of the front of the solid fuel boiler, in such a way as to be clearly visible;
 - (b) solid fuel boilers offered for sale, hire or hire purchase, where the end-user cannot be expected to see the product displayed, are marketed with the information provided by the suppliers in accordance with point 1 of Annex VI, except where the offer is made through the internet, in which case the provisions in Annex VII shall apply;
 - (c) any advertisement for a specific solid fuel boiler model which contains containing energy-related or price information includes a reference to the energy efficiency class of that model;
 - (d) any technical promotional material concerning a specific solid fuel boiler model which describes its specific technical parameters includes a reference to the energy efficiency class of that model.
2. Dealers in packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices shall ensure that:
 - (a) any offer for a specific package includes the energy efficiency class for that package, by displaying on the package the label provided by the supplier in accordance with Article 3(3)(a) and the product fiche provided by the supplier in accordance with Article 3(3)(c), duly filled with the characteristics of that package;
 - (b) packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices offered for sale, hire or hire purchase, where the end-user cannot be expected to see the package displayed, are marketed with the information provided in accordance with point 2 of Annex VI, except where the offer is made through the internet, in which case the provisions in Annex VII shall apply;
 - (c) any advertisement relating to a specific model comprising a package of a solid fuel boiler, supplementary heaters, temperature controls and solar device models and which contains energy-related information or price includes a reference to the energy efficiency class for that model;
 - (d) any technical promotional material concerning a specific model comprising a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices which describes its specific technical parameters includes a reference to the energy efficiency class for that model.

Article 5

Measurement and calculation methods

The information to be provided pursuant to Articles 3 and 4 shall be obtained by reliable, accurate and reproducible measurement and calculation methods which take into account the recognised state-of-the-art measurement and calculation methods, set out in Annex VIII. The energy efficiency index shall be calculated as set out in Annex IX.

*Article 6***Verification procedure for market surveillance purposes**

Member States shall apply the procedure laid down in Annex X when assessing the conformity with this Regulation of the declared energy efficiency class of solid fuel boilers and packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices.

*Article 7***Review**

The Commission shall review this Regulation in the light of technological progress no later than 1 January 2022. In particular, the review shall assess whether it is appropriate to add a water heating efficiency class on the label for combination boilers.

*Article 8***Entry into force**

1. This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.
2. It shall apply from 1 April 2017. However, Article 3(1)(f) and (g), Article 3(3)(f) and (g), Article 4(1)(b), (c) and (d), and Article 4(2)(b), (c) and (d) shall apply from 1 July 2017.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 27 April 2015.

For the Commission
The President
Jean-Claude JUNCKER

ANNEX I

Definitions applicable to Annexes II to X

For the purposes of Annexes II to X the following definitions shall apply:

- (1) 'model identifier' means the code, usually alphanumeric, which distinguishes a specific model comprising a solid fuel boiler or a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices from other models with the same trade mark, supplier's name or dealer's name;
- (2) 'seasonal space heating energy efficiency' or ' η_s ' means the ratio between the space heating demand for a designated heating season, supplied by a solid fuel boiler and the annual energy consumption required to meet this demand, expressed in %;
- (3) 'electrical efficiency' or ' η_{el} ' means the ratio of the electricity output and the total energy input of a solid fuel cogeneration boiler, whereby the total energy input is expressed in terms of GCV or in terms of final energy multiplied by CC;
- (4) 'gross calorific value' or 'GCV' means the total amount of heat released by a unit quantity of fuel containing the appropriate moisture content, when it is burned completely with oxygen, and when the products of combustion are returned to ambient temperature; this quantity includes the condensation heat of the water vapour formed by the combustion of any hydrogen contained in the fuel;
- (5) 'conversion coefficient' or 'CC' means a coefficient reflecting the estimated 40 % average EU generation efficiency referred to in Directive 2012/27/EU of the European Parliament and of the Council ⁽¹⁾; the value of the conversion coefficient is $CC = 2,5$;
- (6) 'temperature control fiche' means the product fiche required to be provided for temperature controls by Article 3(3)(a) of Commission Delegated Regulation (EU) No 811/2013;
- (7) 'boiler fiche' means for solid fuel boilers the product fiche required to be provided by Article 3(1)(c) of this Regulation and for boilers other than solid fuel boilers the product fiche required to be provided for such boilers by Article 3(1)(b) of Commission Delegated Regulation (EU) No 811/2013;
- (8) 'solar device fiche' means the product fiche required to be provided for solar devices by Article 3(4)(a) of Commission Delegated Regulation (EU) No 811/2013;
- (9) 'heat pump fiche' means the product fiche required to be provided for heat pumps by Article 3(1)(b) of Commission Delegated Regulation (EU) No 811/2013;
- (10) 'condensing boiler' means a solid fuel boiler in which, under normal operating conditions and at given operating water temperatures, the water vapour in the combustion products is partially condensed, in order to make use of the latent heat of this water vapour for heating purposes;
- (11) 'other woody biomass' means woody biomass other than: log wood with a moisture content of 25 % or less, chipped wood with a moisture content of 15 % or higher, compressed wood in the form of pellets or briquettes, or sawdust with a moisture content equal or less than 50 %;
- (12) 'moisture content' means the mass of water in the fuel in relation to the total mass of the fuel as used in solid fuel boilers;
- (13) 'other fossil fuel' means fossil fuel other than bituminous coal, brown coal (including briquettes), coke, anthracite or blended fossil fuel briquettes;
- (14) 'electric power requirement at maximum heat output' or ' el_{max} ' means the electric power consumption of the solid fuel boiler at rated heat output, expressed in kW, excluding electricity consumption from a back-up heater and from incorporated secondary emission abatement equipment;
- (15) 'electric power requirement at minimum heat output' or ' el_{min} ' means the electric power consumption of the solid fuel boiler at applicable part load, expressed in kW, excluding electricity consumption from a back-up heater and from incorporated secondary emission abatement equipment;

⁽¹⁾ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012, p. 1).

- (16) 'back-up heater' means a Joule-effect electric resistance element that generates heat only to prevent the solid fuel boiler or the water based central heating system from freezing or when the external heat source supply is disrupted (including during maintenance periods) or out of order;
- (17) 'applicable part load' means for automatically stoked solid fuel boilers, operation at 30 % of rated heat output, and for manually stoked solid fuel boilers that can be operated at 50 % of rated heat output, operation at 50 % of rated heat output;
- (18) 'standby mode power consumption' or ' P_{sb} ' means the power consumption of a solid fuel boiler in standby mode, excluding from incorporated secondary emission abatement equipment, expressed in kW;
- (19) 'standby mode' means a condition where the solid fuel boiler is connected to the mains power source, depends on energy input from the mains power source to work as intended and provides only the following functions, which may persist for an indefinite time: reactivation function, or reactivation function and only an indication of enabled reactivation function, or information or status display;
- (20) 'seasonal space heating energy efficiency in active mode' or ' η_{son} ' means
- (a) for automatically stoked solid fuel boilers, a weighted average of the useful efficiency at rated heat output and the useful efficiency at 30 % of the rated heat output;
 - (b) for manually stoked solid fuel boilers that can be operated at 50 % of the rated heat output in continuous mode, a weighted average of the useful efficiency at rated heat output and the useful efficiency at 50 % of the rated heat output;
 - (c) for manually stoked solid fuel boilers that cannot be operated at 50 % or less of the rated heat output in continuous mode, the useful efficiency at rated heat output;
 - (d) for solid fuel cogeneration boilers, the useful efficiency at rated heat output;
- (21) 'useful efficiency' or ' η ' means the ratio of the useful heat output and the total energy input of a solid fuel boiler, whereby the total energy input is expressed in terms of GCV or in terms of final energy multiplied by CC;
- (22) 'useful heat output' or ' P ' means the heat output of a solid fuel boiler transmitted to the heat carrier, expressed in kW;
- (23) 'fossil fuel boiler' means a solid fuel boiler that has fossil fuel or a blend of biomass and fossil fuel as the preferred fuel;
- (24) 'gross calorific value moisture free' or ' GCV_{mf} ' means the total amount of heat released by a unit quantity of fuel dried of inherent moisture, when it is burned completely with oxygen, and when the products of combustion are returned to ambient temperature; this quantity includes the condensation heat of the water vapour formed by the combustion of any hydrogen contained in the fuel;
- (25) 'equivalent model' means a model placed on the market with the same technical parameters set out in Table 4 of point 1 of Annex V, as another model placed on the market by the same supplier.
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ANNEX II

Energy efficiency classes

The energy efficiency class of a solid fuel boiler shall be determined on the basis of its energy efficiency index as set out in Table 1.

The energy efficiency index of a solid fuel boiler shall be calculated in accordance with Annex IX.

Table 1

Energy efficiency classes of solid fuel boilers

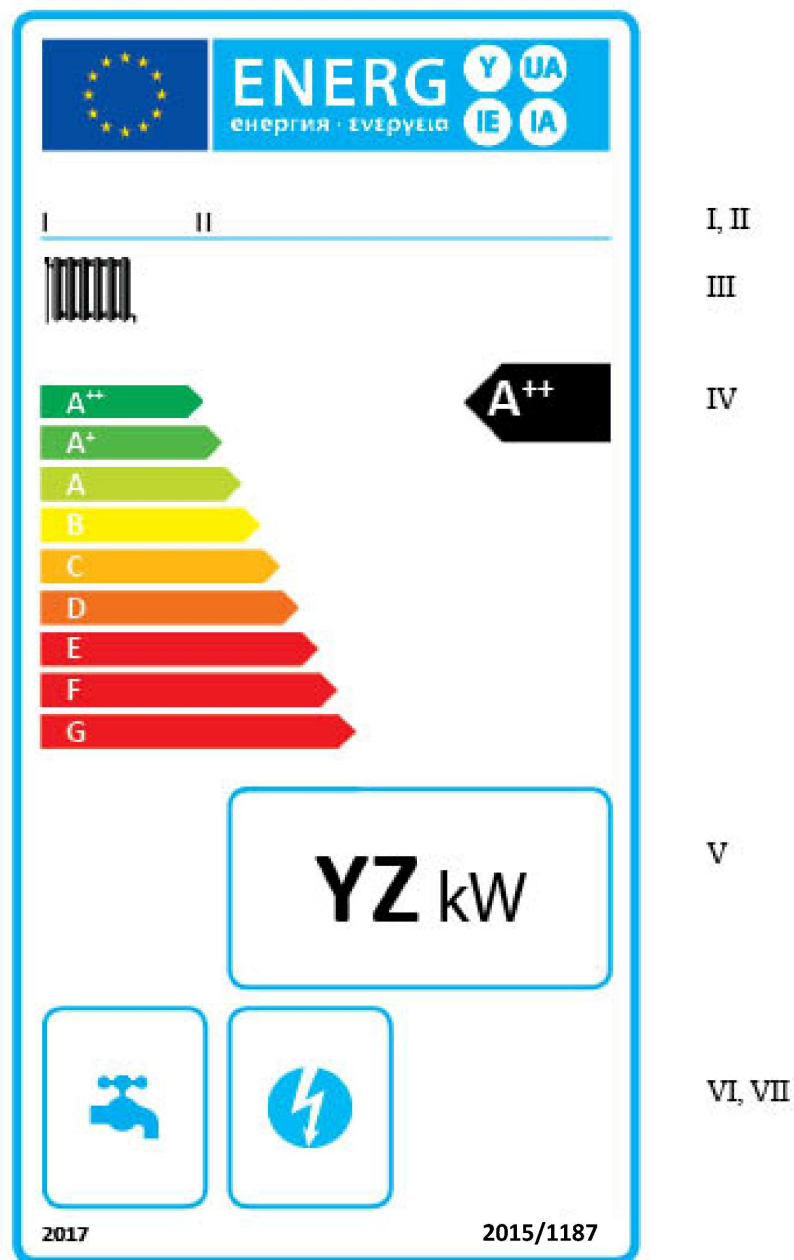
Energy efficiency class	Energy efficiency index (EEI)
A ⁺⁺⁺	$EEI \geq 150$
A ⁺⁺	$125 \leq EEI < 150$
A ⁺	$98 \leq EEI < 125$
A	$90 \leq EEI < 98$
B	$82 \leq EEI < 90$
C	$75 \leq EEI < 82$
D	$36 \leq EEI < 75$
E	$34 \leq EEI < 36$
F	$30 \leq EEI < 34$
G	$EEI < 30$

ANNEX III

The labels

1. SOLID FUEL BOILERS

1.1. Label 1



(a) The following information shall be included in the label:

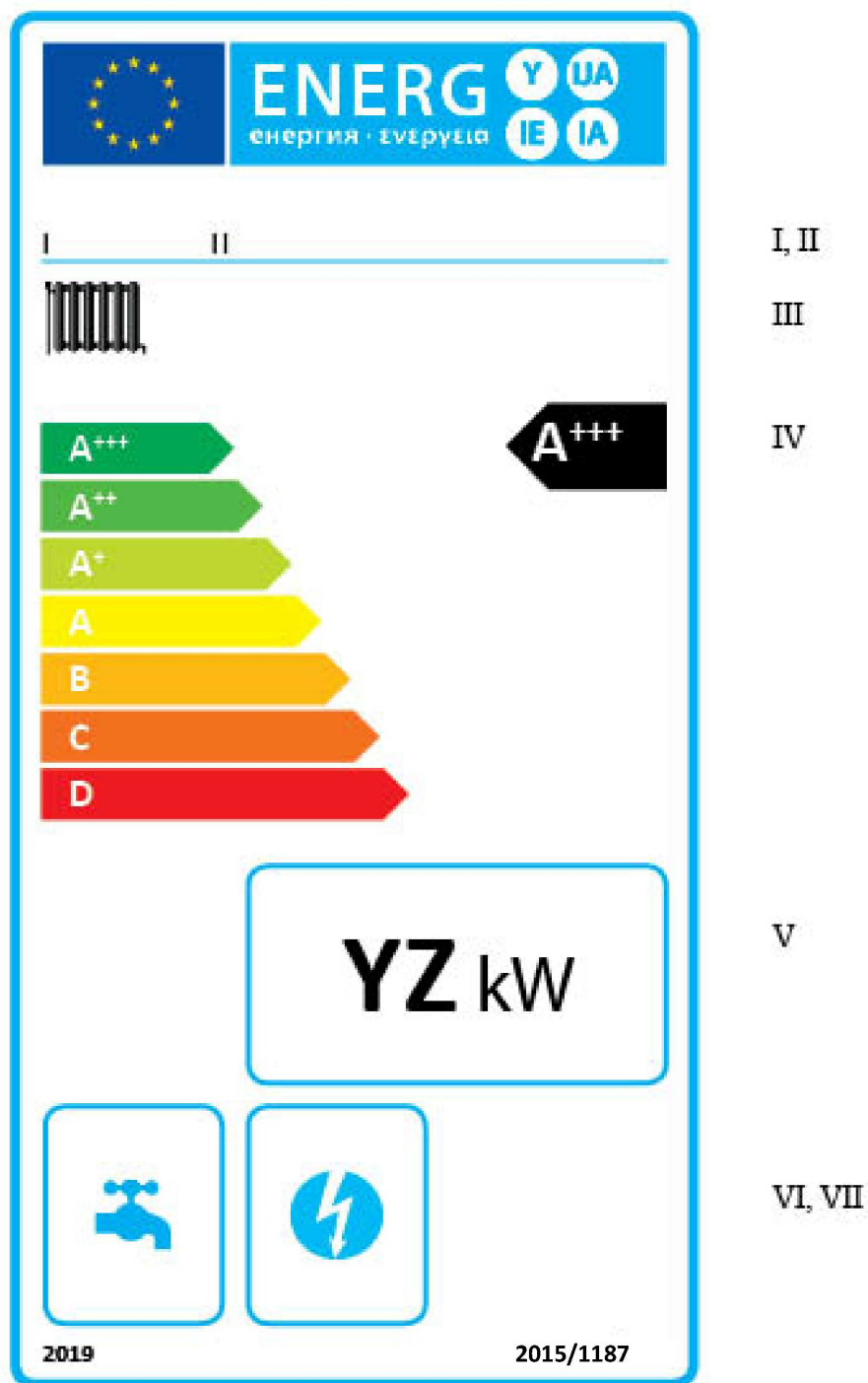
- I. supplier's name or trade mark;
- II. supplier's model identifier;
- III. the space heating function;
- IV. the energy efficiency class, determined in accordance with Annex II; the head of the arrow containing the energy efficiency class of the solid fuel boiler shall be placed at the same height as the head of the relevant energy efficiency class;
- V. the rated heat output in kW, rounded to the nearest integer;

VI. for combination boilers, also the additional water heating function;

VII. for solid fuel cogeneration boilers, also the additional electricity generation function.

- (b) The design aspects of the label for solid fuel boilers shall be in accordance with point 3 of this Annex. By way of exception, where a model has been granted an 'EU Ecolabel' under Regulation (EC) No 66/2010 of the European Parliament and of the Council ⁽¹⁾, a copy of the EU Ecolabel may be added.

1.2. Label 2

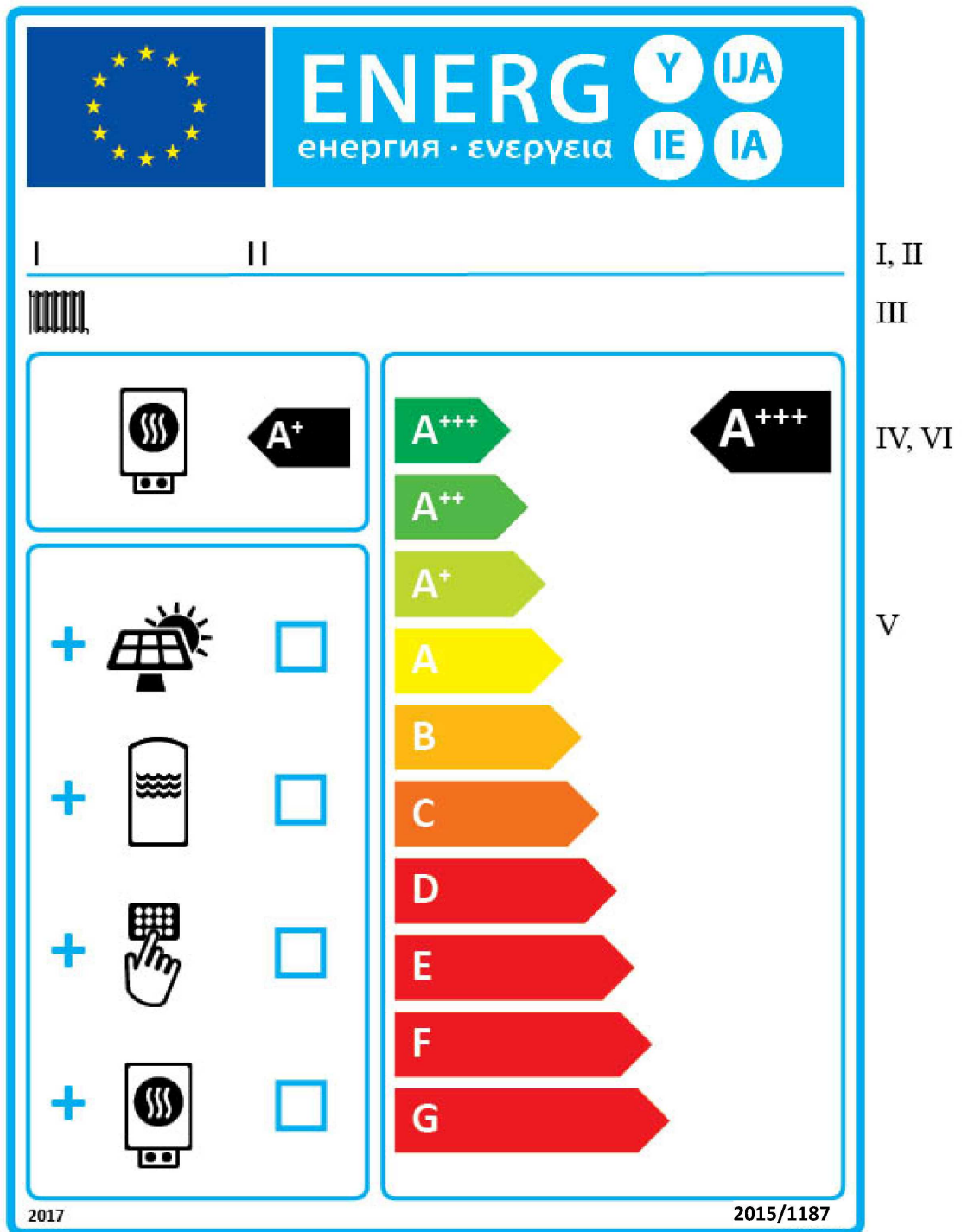


⁽¹⁾ Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel (OJ L 27, 30.1.2010, p. 1).

- (a) The information listed in point 1.1(a) of this Annex shall be included in the label.
- (b) The design aspects of the label for solid fuel boilers shall be in accordance with point 3 of this Annex. By way of exception, where a model has been granted an 'EU Ecolabel' under Regulation (EC) No 66/2010 of the European Parliament and of the Council, a copy of the EU Ecolabel may be added.

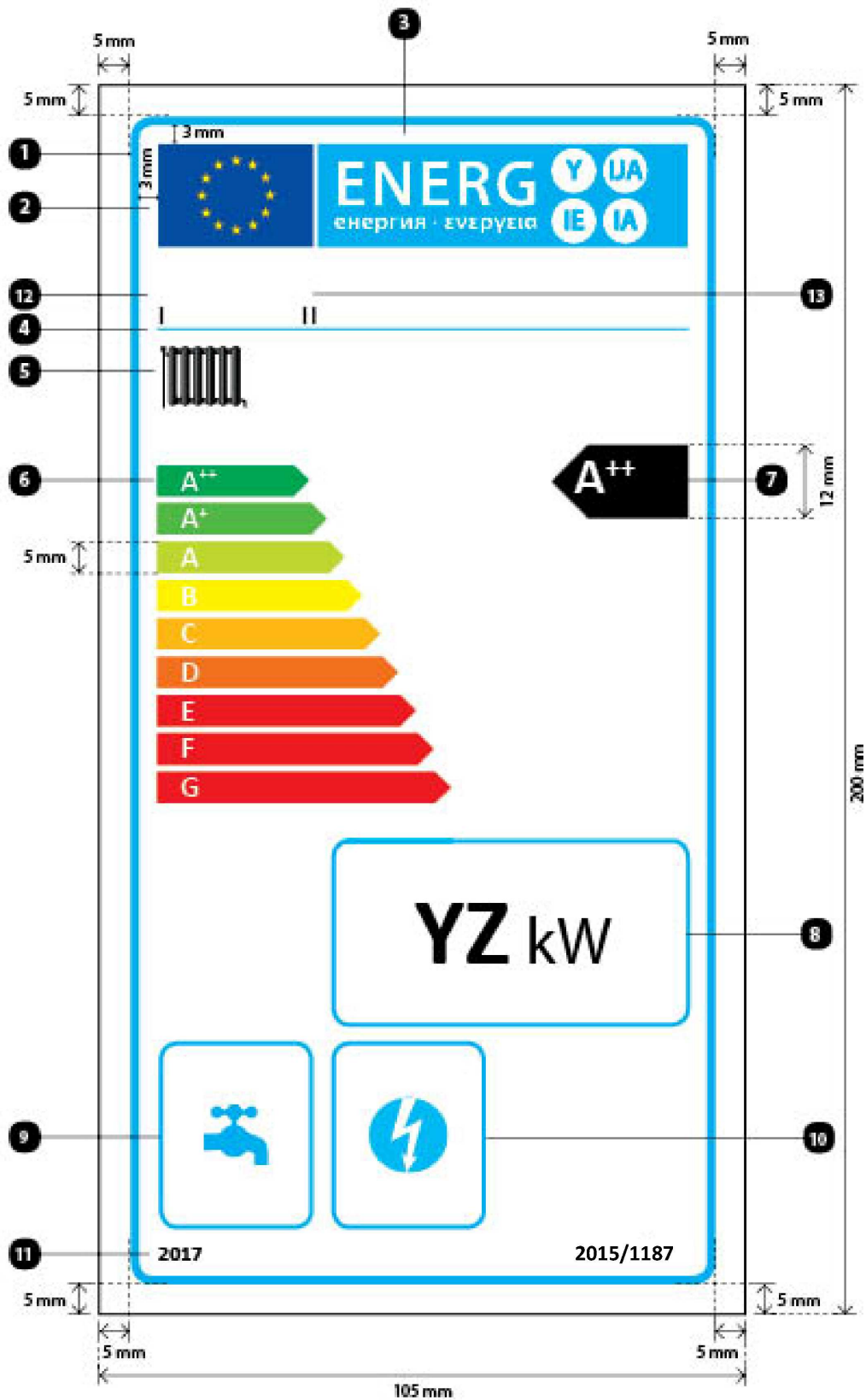
2. PACKAGES OF A SOLID FUEL BOILER, SUPPLEMENTARY HEATERS, TEMPERATURE CONTROLS AND SOLAR DEVICES

Label for packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices in energy efficiency classes A+++ to G



- (a) The following information shall be included in the label:
- I. dealer's or supplier's name or trade mark;
 - II. dealer's or supplier's model(s) identifier;
 - III. the space heating function;
 - IV. the energy efficiency class of the solid fuel boiler, determined in accordance with Annex II;
 - V. indication of whether a solar collector, hot water storage tank, temperature control or supplementary heater may be included in the package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices;
 - VI. the energy efficiency class of the package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices, determined in accordance with point 2 of Annex IV; the head of the arrow containing the energy efficiency class of the package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices shall be placed at the same height as the head of the relevant energy efficiency class.
- (b) The design aspects of the label for packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices shall be in accordance with point 4 of this Annex. For packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices in energy efficiency classes A⁺⁺⁺ to D, the classes E to G in the A⁺⁺⁺ to G scale may be omitted.

3. THE DESIGN OF THE LABEL FOR SOLID FUEL BOILERS SHALL BE THE FOLLOWING:



whereby:

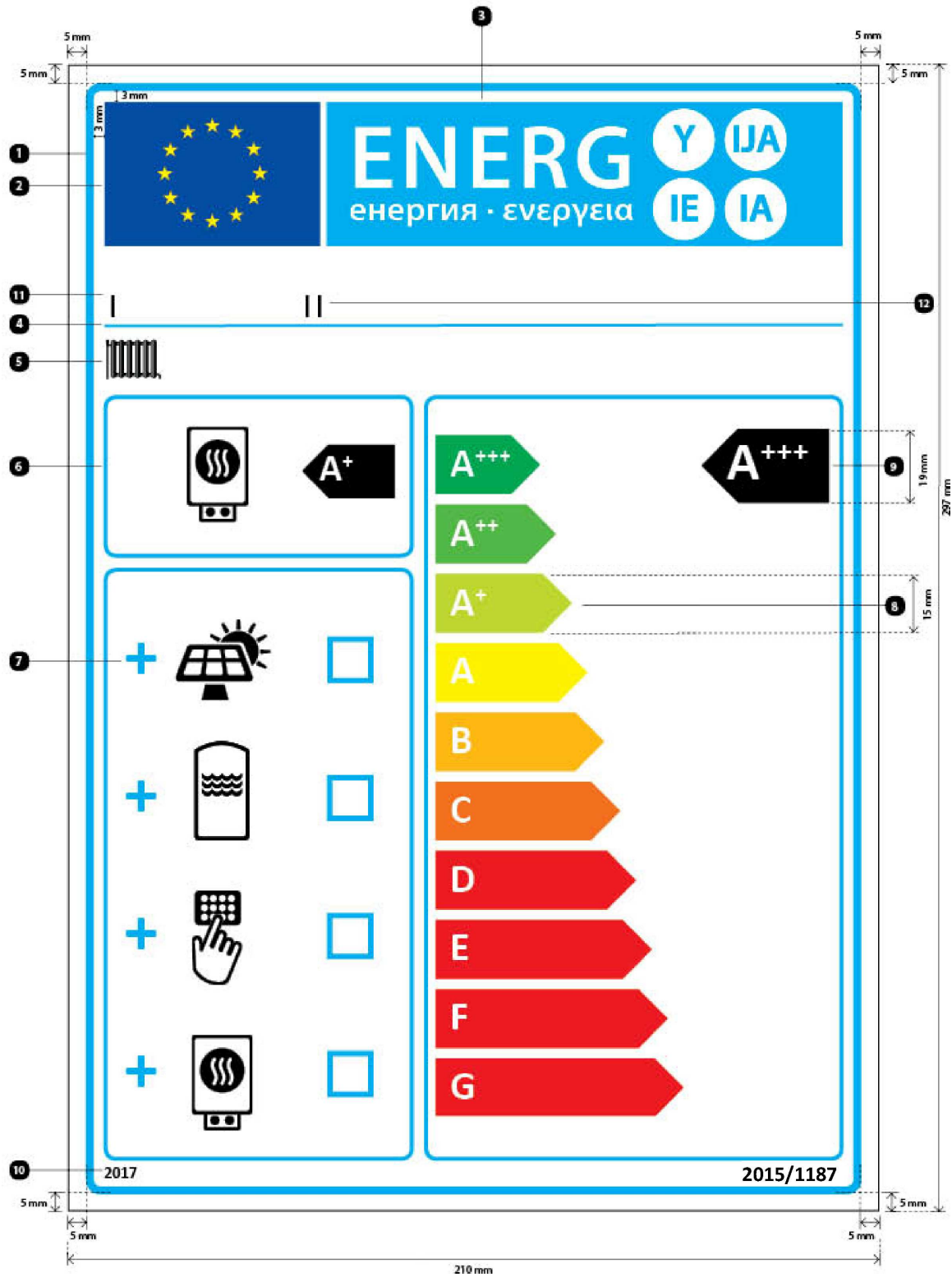
- (a) The label shall be at least 105 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

- (b) The background shall be white.
- (c) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (d) The label shall fulfil all of the following requirements (numbers refer to the figure above):
- ① **EU label border stroke:** 4 pt, colour: cyan 100 %, round corners: 3,5 mm.
 - ② **EU logo:** Colours: X-80-00-00 and 00-00-X-00.
 - ③ **Energy label:** Colour: X-00-00-00. Pictogram as depicted: EU logo + energy label: width: 86 mm, height: 17 mm.
 - ④ **Sub-logos border:** 1 pt, colour: cyan 100 %, length: 86 mm.
 - ⑤ **Space heating function:**
 - **Pictogram** as depicted.
 - ⑥ **A⁺-G and A⁺⁺⁺-D scales, respectively:**
 - **Arrow:** height: 5 mm, gap: 1,3 mm, colours:
 - Highest class: X-00-X-00,
 - Second class: 70-00-X-00,
 - Third class: 30-00-X-00,
 - Fourth class: 00-00-X-00,
 - Fifth class: 00-30-X-00,
 - Sixth class: 00-70-X-00,
 - Seventh class: 00-X-X-00,
 - Eighth class: 00-X-X-00,
 - Last class: 00-X-X-00,
 - **Text:** Calibri bold 14 pt, capitals, white, '+' symbols: superscript, aligned on a single row;
 - **Arrow:** height: 7 mm, gap: 1 mm, colours:
 - Highest class: X-00-X-00,
 - Second class: 70-00-X-00,
 - Third class: 30-00-X-00,
 - Fourth class: 00-00-X-00,
 - Fifth class: 00-30-X-00,
 - Sixth class: 00-70-X-00,
 - Last class: 00-X-X-00,
 - **Text:** Calibri bold 16 pt, capitals, white, '+' symbols: superscript, aligned on a single row.

- ⑦ **Energy efficiency class:**
 - **Arrow:** width: 22 mm, height: 12 mm, 100 % black,
 - **Text:** Calibri bold 24 pt, capitals, white, '+' symbols: superscript, aligned on a single row.
- ⑧ **Rated heat output:**
 - **Border:** 2 pt — colour: cyan 100 % — round corners: 3,5 mm,
 - **Value 'YZ':** Calibri bold 45 pt, 100 % black,
 - **Text 'kW':** Calibri regular 30 pt, 100 % black.
- ⑨ **Water heating function**
 - **Pictogram** as depicted,
 - **Border:** 2 pt, colour: cyan 100 %, round corners: 3,5 mm.
- ⑩ **Electricity function:**
 - **Pictogram** as depicted,
 - **Border:** 2 pt, colour: cyan 100 %, round corners: 3,5 mm.
- ⑪ **Year of label introduction and number of Regulation:**
 - **Text:** Calibri bold 10 pt.
- ⑫ **Supplier's name or trademark.**
- ⑬ **Supplier's model identifier:**

The supplier's name or trade mark and model identifier shall fit in a space of 86 × 12 mm.

4. THE DESIGN OF THE LABEL FOR PACKAGES OF A SOLID FUEL BOILER, SUPPLEMENTARY HEATERS, TEMPERATURE CONTROLS AND SOLAR DEVICES SHALL BE THE FOLLOWING:



whereby:

- (a) The label shall be at least 210 mm wide and 297 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.
- (b) The background shall be white.

- (c) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (d) The label shall fulfil all of the following requirements (numbers refer to the figure above):
- ① **EU label border stroke:** 6 pt, colour: cyan 100 %, round corners: 3,5 mm.
 - ② **EU logo:** Colours: X-80-00-00 and 00-00-X-00.
 - ③ **Energy label:** Colour: X-00-00-00. Pictogram as depicted: EU logo + energy label: width: 191 mm, height: 37 mm.
 - ④ **Sub-logos border:** 2 pt, colour: cyan 100 %, length: 191 mm.
 - ⑤ **Space heating function:**
 - **Pictogram** as depicted.
 - ⑥ **Solid fuel boiler:**
 - **Pictogram** as depicted,
 - Energy efficiency class of solid fuel boiler:
 - Arrow:** width: 24 mm, height: 14 mm, 100 % black;
 - **Text:** Calibri bold 28 pt, capitals, white, '+' symbols: superscript, aligned on a single row,
 - **Border:** 3 pt, colour: cyan 100 %, round corners: 3,5 mm.
 - ⑦ **Package with solar collectors, hot water storage tanks, temperature controls and supplementary heaters:**
 - **Pictograms** as depicted,
 - **'+' symbol:** Calibri bold 50 pt, cyan 100 %,
 - **Boxes:** width: 12 mm, height: 12 mm, border: 4 pt, cyan 100 %,
 - **Border:** 3 pt, colour: cyan 100 %, round corners: 3,5 mm.
 - ⑧ **A⁺⁺⁺-G scale with border:**
 - **Arrow:** height: 15 mm, gap: 3 mm, colours:
 - Highest class: X-00-X-00,
 - Second class: 70-00-X-00,
 - Third class: 30-00-X-00,
 - Fourth class: 00-00-X-00,
 - Fifth class: 00-30-X-00,
 - Sixth class: 00-70-X-00,
 - Seventh class: 00-X-X-00,
 - If applicable, last classes: 00-X-X-00,
 - **Text:** Calibri bold 30 pt, capitals, white, '+' symbols: superscript, aligned on a single row,
 - **Border:** 3 pt, colour: cyan 100 %, round corners: 3,5 mm.
 - ⑨ **Energy efficiency class for the package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices:**
 - **Arrow:** width: 33 mm, height: 19 mm, 100 % black,
 - **Text:** Calibri bold 40 pt, capitals, white, '+' symbols: superscript, aligned on a single row.

10 Year of label introduction and number of Regulation:

— **Text:** Calibri bold 12 pt.

11 Dealer's or supplier's name or trademark.**12 Dealer's or supplier's model identifier:**

The dealer's or supplier's name or trade mark and model identifier shall fit in a space of 191 × 19 mm.

ANNEX IV

Product fiche

1. SOLID FUEL BOILERS

1.1. The information in the product fiche of the solid fuel boiler shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:

- (a) supplier's name or trademark;
- (b) supplier's model identifier;
- (c) the energy efficiency class of the model, determined in accordance with Annex II;
- (d) the rated heat output in kW, rounded to the nearest integer;
- (e) the energy efficiency index, rounded to the nearest integer and calculated in accordance with Annex IX;
- (f) the seasonal space heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with Annex VIII;
- (g) any specific precautions that shall be taken when the solid fuel boiler is assembled, installed or maintained;
- (h) in the case of solid fuel cogeneration boilers the electrical efficiency in %, rounded to the nearest integer;

1.2. One product fiche may cover a number of solid fuel boiler models supplied by the same supplier.

1.3. The information contained in the product fiche may be given in the form of a copy of the label, either in colour or in black and white. Where this is the case, the information listed in point 1.1 not already displayed on the label shall also be provided.

2. PACKAGES OF A SOLID FUEL BOILER, SUPPLEMENTARY HEATERS, TEMPERATURE CONTROLS AND SOLAR DEVICES

The fiche for packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices shall contain the information set out in Figure 1 or Figure 2, as appropriate, for evaluating the energy efficiency index of the package offered, including the following information:

- (a) I: the value of the energy efficiency index of the primary solid fuel boiler;
- (b) II: the factor for weighting the heat output of primary solid fuel boiler and supplementary heaters of a package as set out in Tables 2 and 3 of this Annex, as appropriate;
- (c) III: the value of the mathematical expression: $294/(11 \cdot Pr)$, whereby Pr refers to the primary solid fuel boiler;
- (d) IV: the value of the mathematical expression $115/(11 \cdot Pr)$, whereby Pr refers to the primary solid fuel boiler.

Table 2

Weighting of primary solid fuel boiler and supplementary heater, for the purposes of Figure 1 of this Annex ⁽¹⁾

$P_{sup}/(Pr + P_{sup})$ (*)	II, package without hot water storage tank	II, package with hot water storage tank
0	0	0
0,1	0,30	0,37

⁽¹⁾ The intermediate values are calculated by linear interpolation between the two adjacent values.

$P_{sup}/(P_r + P_{sup})$ (*)	II, package without hot water storage tank	II, package with hot water storage tank
0,2	0,55	0,70
0,3	0,75	0,85
0,4	0,85	0,94
0,5	0,95	0,98
0,6	0,98	1,00
$\geq 0,7$	1,00	1,00

(*) P_r refers to the primary solid fuel boiler.

Table 3

Weighting of primary cogeneration solid fuel boiler and supplementary heater, for the purposes of Figure 2 of this Annex ⁽¹⁾

$P_r/(P_r + P_{sup})$ (*)	II, package without hot water storage tank	II, package with hot water storage tank
0	1,00	1,00
0,1	0,70	0,63
0,2	0,45	0,30
0,3	0,25	0,15
0,4	0,15	0,06
0,5	0,05	0,02
0,6	0,02	0
$\geq 0,7$	0	0

(*) P_r refers to the primary solid fuel boiler.

⁽¹⁾ The intermediate values are calculated by linear interpolation between the two adjacent values.

Figure 1

For primary solid fuel boilers, information to be given on the product fiche for a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices, indicating the energy efficiency index of the package offered

Energy efficiency index of solid fuel boiler		1																														
		'I'																														
Temperature control		2																														
<i>From temperature control fiche</i>	Class I = 1, Class II = 2, Class III = 1.5, Class IV = 2, Class V = 3, Class VI = 4, Class VII = 3.5, Class VIII = 5	+																														
Supplementary boiler		3																														
<i>From boiler fiche</i>	Seasonal space heating energy efficiency (in %) or energy efficiency index																															
	([] - 'I') x 0.1 =	± []																														
Solar contribution		4																														
<i>From solar device fiche</i>	Collector size (in m ²) Tank volume (in m ³) Collector efficiency (in %) Tank rating A* = 0.95, A = 0.91, B = 0.86, C = 0.83, D-G = 0.81																															
	('III' x [] + 'IV' x []) x 0.9 x ([] / 100) x [] =	+ []																														
Supplementary heat pump		5																														
<i>From heat pump fiche</i>	Seasonal space heating energy efficiency (in %)																															
	([] - 'I') x 'II' =	+ []																														
Solar contribution AND supplementary heat pump		6																														
<i>Select smaller value</i>	0.5 x [] OR 0.5 x [] =	- []																														
Energy efficiency index of package		7																														
		[]																														
Energy efficiency class of package																																
	<table border="1"> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>G</td> <td>F</td> <td>E</td> <td>D</td> <td>C</td> <td>B</td> <td>A</td> <td>A*</td> <td>A**</td> <td>A***</td> </tr> <tr> <td><30</td> <td>≥30</td> <td>≥34</td> <td>≥36</td> <td>≥75</td> <td>≥82</td> <td>≥90</td> <td>≥98</td> <td>≥125</td> <td>≥150</td> </tr> </tbody> </table>	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	G	F	E	D	C	B	A	A*	A**	A***	<30	≥30	≥34	≥36	≥75	≥82	≥90	≥98	≥125	≥150	
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																							
G	F	E	D	C	B	A	A*	A**	A***																							
<30	≥30	≥34	≥36	≥75	≥82	≥90	≥98	≥125	≥150																							

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Figure 2

For primary solid fuel cogeneration boilers, information to be given on the product fiche for a package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices, indicating the energy efficiency index of the package offered

Energy efficiency index of solid fuel cogeneration boiler ①

Temperature control ②
From temperature control fiche Class I = 1, Class II = 2, Class III = 1.5, Class IV = 2, Class V = 3, Class VI = 4, Class VII = 3.5, Class VIII = 5 +

Supplementary boiler ③
From boiler fiche Seasonal space heating energy efficiency (in %) or energy efficiency index
 - 'I') x 'II' = -

Solar contribution ④
From solar device fiche

Collector size (in m²)

Tank volume (in m³)

Collector efficiency (in %)

Tank rating
A⁺ = 0.95, A = 0.91,
B = 0.86, C = 0.83,
D-G = 0.81

('III' x + 'IV' x) x 0.7 x (/ 100) x = +

Energy efficiency index of package ⑤

Energy efficiency class of package

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
<30	≥30	≥34	≥36	≥75	≥82	≥90	≥98	≥125	≥150

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

ANNEX V

Technical documentation

1. SOLID FUEL BOILERS

For solid fuel boilers, the technical documentation referred to in Article 3(1)(e) shall include:

- (a) the name and address of the supplier;
- (b) the model identifier;
- (c) where appropriate, the references of the harmonised standards applied;
- (d) where the preferred fuel is other woody biomass, non-woody biomass, other fossil fuel or other blend of biomass and fossil fuel as referred to in Table 4, a description of the fuel sufficient for its unambiguous identification and the technical standard or specification of the fuel, including the measured moisture content and the measured ash content, and for other fossil fuel also the measured volatile content of the fuel;
- (e) where appropriate, the other technical standards and specifications used;
- (f) the name and signature of the person empowered to bind the supplier;
- (g) the information included in Table 4, with its technical parameters measured and calculated in accordance with Annex VIII and IX;
- (h) reports of tests undertaken by suppliers or on their behalf, including the name and address of the body that conducted the test;
- (i) any specific precautions that must be taken when the solid fuel boiler is assembled, installed or maintained;
- (j) a list of equivalent models, if applicable.

This information may be merged with the technical documentation provided in accordance with measures under Directive 2009/125/EC of the European Parliament and of the Council ⁽¹⁾.

Table 4

Technical parameters for solid fuel boilers and solid fuel cogeneration boilers

Model identifier

Stoking mode: [Manual: the boiler should be operated with a hot water storage tank of a volume of at least x (*) litre/Automatic: it is recommended that the boiler be operated with a hot water storage tank of a volume of at least x (**) litre]

Condensing boiler: [yes/no]

Solid fuel cogeneration boiler: [yes/no]

Combination boiler: [yes/no]

Fuel	Preferred fuel (only one):	Other suitable fuel(s):
Log wood, moisture content ≤ 25 %	[yes/no]	[yes/no]
Chipped wood, moisture content 15-35 %	[yes/no]	[yes/no]
Chipped wood, moisture content > 35 %	[yes/no]	[yes/no]
Compressed wood in the form of pellets or briquettes	[yes/no]	[yes/no]
Sawdust, moisture content ≤ 50 %	[yes/no]	[yes/no]

⁽¹⁾ Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (OJ L 285, 31.10.2009, p. 10).

Other woody biomass	[yes/no]	[yes/no]
Non-woody biomass	[yes/no]	[yes/no]
Bituminous coal	[yes/no]	[yes/no]
Brown coal (including briquettes)	[yes/no]	[yes/no]
Coke	[yes/no]	[yes/no]
Anthracite	[yes/no]	[yes/no]
Blended fossil fuel briquettes	[yes/no]	[yes/no]
Other fossil fuel	[yes/no]	[yes/no]
Blended biomass (30-70 %) and fossil fuel briquettes	[yes/no]	[yes/no]
Other blend of biomass and fossil fuel	[yes/no]	[yes/no]

Characteristics when operating with the preferred fuel:

Seasonal space heating energy efficiency η_s [%]:

Energy efficiency index *EEI*:

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Useful heat output				Useful efficiency			
At rated heat output	P_n (***)	x,x	kW	At rated heat output	η_n	x,x	%
At [30 %/50 %] of rated heat output, if applicable	P_p	[x,x/ N.A.]	kW	At [30 %/50 %] of rated heat output, if applicable	η_p	[x,x/ N.A.]	%
For solid fuel cogeneration boilers: Electrical efficiency				Auxiliary electricity consumption			
				At rated heat output	el_{max}	x,xxx	kW
				At [30 %/50 %] of rated heat output, if applicable	el_{min}	[x,xxx/ N.A.]	kW
At rated heat output	$\eta_{el,n}$	x,x	%	Of incorporated secondary emission abatement equipment, if applicable		[x,xxx/ N.A.]	kW
				In standby mode	P_{SB}	x,xxx	kW

Contact details	Name and address of the supplier
-----------------	----------------------------------

(*) Tank volume = $45 \times P_r \times (1 - 2,7/P_r)$ or 300 litres whichever is higher, with P_r indicated in kW

(**) Tank volume = $20 \times P_r$ with P_r indicated in kW

(***) For the preferred fuel P_n equals P_r

2. PACKAGES OF A SOLID FUEL BOILER, SUPPLEMENTARY HEATERS, TEMPERATURE CONTROLS AND SOLAR DEVICES

For packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices, the technical documentation referred to in Article 3(3)(e) shall include:

- (a) the name and address of the supplier;
 - (b) a description of the model comprising the package of a solid fuel boiler, supplementary heaters, temperatures control and solar devices sufficient for its unambiguous identification;
 - (c) where appropriate, the references of the harmonised standards applied;
 - (d) where appropriate, the other technical standards and specifications used;
 - (e) the name and signature of the person empowered to bind the supplier;
 - (f) technical parameters:
 - (1) the energy efficiency index, rounded to the nearest integer;
 - (2) the technical parameters set out in point 1 of this Annex and, where appropriate, the technical parameters set out in point 1 of Annex V of Commission Delegated Regulation (EU) No 811/2013;
 - (3) the technical parameters set out in points 3 and 4 of Annex V of Commission Delegated Regulation (EU) No 811/2013;
 - (g) any specific precautions that must be taken when the package of a solid fuel boiler, supplementary heaters, temperature controls and solar devices is assembled, installed or maintained.
-

ANNEX VI

Information to be provided in cases where end-users cannot be expected to see the product displayed, except on the internet

1. SOLID FUEL BOILERS
 - 1.1. The information referred to in Article 4(1)(b) shall be provided in the following order:
 - (a) the energy efficiency class of the model, determined in accordance with Annex II;
 - (b) the rated heat output in kW, rounded to the nearest integer;
 - (c) the energy efficiency index, rounded to the nearest integer and calculated in accordance with Annex IX;
 - (d) in the case of solid fuel cogeneration boilers the electrical efficiency in %, rounded to the nearest integer.
 - 1.2. The size and font in which the information referred in point 1.1 is printed or shown shall be legible.
2. PACKAGES OF A SOLID FUEL BOILER, SUPPLEMENTARY HEATERS, TEMPERATURE CONTROLS AND SOLAR DEVICES
 - 2.1. The information referred to in Article 4(2)(b) shall be provided in the following order:
 - (a) the energy efficiency class of the model, determined in accordance with Annex II;
 - (b) the energy efficiency index, rounded to the nearest integer;
 - (c) the information set out in Figure 1 and Figure 2 of Annex IV, as appropriate.
 - 2.2. The size and font in which the information referred in point 2.1 is printed or shown shall be legible.

ANNEX VII

Information to be provided in the case of sale, hire or hire-purchase through the internet

1. For the purpose of points 2 to 5 of this Annex the following definitions shall apply:
 - (a) 'display mechanism' means any screen, including tactile screen, or other visual technology used for displaying internet content to users;
 - (b) 'nested display' means visual interface where an image or data set is accessed by a mouse click, mouse roll-over or tactile screen expansion of another image or data set;
 - (c) 'tactile screen' means a screen responding to touch, such as that of a tablet computer, slate computer or a smartphone;
 - (d) 'alternative text' means text provided as an alternative to a graphic allowing information to be presented in non-graphical form where display devices cannot render the graphic or as an aid to accessibility such as input to voice synthesis applications.
2. The appropriate label made available by suppliers in accordance with Article 3 or in the case of a package where appropriate duly filled in based on the label and fiches provided by suppliers in accordance with Article 3, shall be shown on the display mechanism in proximity to the price of the product or package in accordance with the timetable set out in Article 3. If both a product and a package are shown, but with a price indicated only for the package, only the package label shall be displayed. The size shall be such that the label is clearly visible and legible and shall be proportionate to the size specified in Annex III. The label may be displayed using a nested display, in which case the image used for accessing the label shall comply with the specifications laid down in point 3 of this Annex. If nested display is applied, the label shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the image.
3. The image used for accessing the label in the case of nested display shall:
 - (a) be an arrow in the colour corresponding to the energy efficiency class of the product or package on the label;
 - (b) indicate on the arrow the energy efficiency class of the product or package in white in a font size equivalent to that of the price; and
 - (c) have one of the following two formats:



4. In the case of nested display, the sequence of display of the label shall be as follows:
 - (a) the image referred to in point 3 of this Annex shall be shown on the display mechanism in proximity to the price of the product or package;
 - (b) the image shall link to the label;
 - (c) the label shall be displayed after a mouse click, mouse roll-over or tactile screen expansion on the image;
 - (d) the label shall be displayed by pop-up, new tab, new page or inset screen display;
 - (e) for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply;
 - (f) the label shall cease to be displayed by means of a close option or other standard closing mechanism;
 - (g) the alternative text for the graphic, to be displayed on failure to display the label, shall be the energy efficiency class of the product or package in a font size equivalent to that of the price.

5. The appropriate product fiche made available by suppliers in accordance with Article 3 shall be shown on the display mechanism in proximity to the price of the product or package. The size shall be such that the product fiche is clearly visible and legible. The product fiche may be displayed using a nested display, in which case the link used for accessing the fiche shall clearly and legibly indicate 'Product fiche'. If nested display is used, the product fiche shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the link.
-

ANNEX VIII

Measurements and calculations

1. For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published for this purpose in the *Official Journal of the European Union*, or using other reliable, accurate and reproducible methods that take into account the generally recognised state-of-the-art methods. They shall meet the conditions and technical parameters set out in points 2 to 5.
2. General conditions for measurements and calculations
 - (a) Solid fuel boilers shall be tested with the preferred fuel.
 - (b) The declared value for the seasonal space heating energy efficiency shall be rounded to the nearest integer.
3. General conditions for the seasonal space heating energy efficiency of solid fuel boilers
 - (a) The useful efficiency values η_n , η_p and the useful heat output values P_n , P_p shall be measured, as appropriate. For solid fuel cogeneration boilers the electrical efficiency value $\eta_{el,n}$ is also measured.
 - (b) The seasonal space heating energy efficiency η_s shall be calculated as the seasonal space heating energy efficiency in active mode η_{son} , corrected by contributions accounting for temperature controls, auxiliary electricity consumption, and, for solid fuel cogeneration boilers, by adding the electrical efficiency multiplied by a conversion coefficient CC of 2,5;
 - (c) The consumption of electricity shall be multiplied by a conversion coefficient CC of 2,5.
4. Specific conditions for the seasonal space heating energy efficiency of solid fuel boilers
 - (a) Seasonal space heating energy efficiency η_s is defined as:

$$\eta_s = \eta_{son} - F(1) - F(2) + F(3)$$

where:

- (1) η_{son} is the seasonal space heating energy efficiency in active mode, expressed as a percentage, calculated as set out in point 4(b);
- (2) $F(1)$ accounts for a loss of seasonal space heating energy efficiency due to adjusted contributions of temperature controls; $F(1) = 3 \%$;
- (3) $F(2)$ accounts for a negative contribution to the seasonal space heating energy efficiency by auxiliary electricity consumption, expressed as a percentage, and is calculated as set out in point 4(c);
- (4) $F(3)$ accounts for a positive contribution to the seasonal space heating energy efficiency by the electrical efficiency of solid fuel cogeneration boilers, expressed as a percentage, and is calculated as follows:

$$F(3) = 2,5 \times \eta_{el,n}$$

- (b) the seasonal space heating energy efficiency in active mode, η_{son} , is calculated as follows:

- (1) for manually stoked solid fuel boilers that can be operated at 50 % of the rated heat output in continuous mode, and for automatically stoked solid fuel boilers:

$$\eta_{son} = 0,85 \times \eta_p + 0,15 \times \eta_n$$

- (2) for manually stoked solid fuel boilers that cannot be operated at 50 % or less of the rated heat output in continuous mode, and for solid fuel cogeneration boilers:

$$\eta_{son} = \eta_n$$

(c) $F(2)$ is calculated as follows:

- (1) for manually stoked solid fuel boilers that can be operated at 50 % of the rated heat output in continuous mode, and for automatically stoked solid fuel boilers:

$$F(2) = 2,5 \times (0,15 \times el_{max} + 0,85 \times el_{min} + 1,3 \times P_{SB}) / (0,15 \times P_n + 0,85 \times P_p)$$

- (2) for manually stoked solid fuel boilers that cannot be operated at 50 % or less of the rated heat output in continuous mode, and for solid fuel cogeneration boilers:

$$F(2) = 2,5 \times (el_{max} + 1,3 \times P_{SB}) / P_n$$

5. CALCULATION OF GROSS CALORIFIC VALUE

The gross calorific value (GCV) shall be obtained from the gross calorific value moisture free (GCV_{mf}) by applying the following conversion:

$$GCV = GCV_{mf} \times (1 - M)$$

where:

- (a) GCV and GCV_{mf} are expressed in megajoules per kilogram;
(b) M is the moisture content of the fuel, expressed as a proportion.
-

ANNEX IX

Method for calculating the Energy Efficiency Index

1. The Energy Efficiency Index (*EEI*) of solid fuel boilers shall be calculated for the preferred fuel and rounded to the nearest integer as:

$$EEI = \eta_{\text{son}} \times 100 \times BLF - F(1) - F(2) \times 100 + F(3) \times 100$$

where:

- (a) η_{son} is the seasonal space heating energy efficiency in active mode, calculated as set out in point 4(b) of Annex VIII;
- (b) *BLF* is the biomass label factor, which is 1,45 for biomass boilers and 1 for fossil fuel boilers;
- (c) *F(1)* accounts for a negative contribution to the energy efficiency index due to adjusted contributions of temperature controls; $F(1) = 3$;
- (d) *F(2)* accounts for a negative contribution to the energy efficiency index by auxiliary electricity consumption, and is calculated as set out in point 4(c) of Annex VIII;
- (e) *F(3)* accounts for a positive contribution to the energy efficiency index by the electrical efficiency of solid fuel cogeneration boilers, and is calculated as follows:

$$F(3) = 2,5 \times \eta_{\text{el,n}}$$

2. The Energy Efficiency Index (*EEI*) of packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices shall determined in accordance with point 2 of Annex IV.
-

ANNEX X

Verification procedure for market surveillance purposes

For the purposes of assessing conformity with the requirements laid down in Articles 3 and 4, the authorities of the Member States shall apply the following verification procedure:

1. The Member State authorities shall test one single unit of the model. The unit shall be tested with a fuel with characteristics in the same range as the fuel that was used by the supplier to perform measurements according to Annex VIII.
2. The model shall be considered to comply with the applicable requirements if:
 - (a) the values and classes on the label and in the product fiche correspond to the values in the technical documentation; and
 - (b) the energy efficiency index is not more than 6 % lower than the declared value of the unit.
3. If the result referred to in point 2(a) is not achieved, the model and all other equivalent models shall be considered not to comply with this Regulation. If the result referred to in point 2(b) is not achieved, the Member State authorities shall randomly select three additional units of the same model for testing. As alternative, the three additional units selected may be of one or more equivalent models which have been listed as equivalent product in the supplier's technical documentation.
4. The model shall be considered to comply with the applicable requirements if the average of the three additional units for the energy efficiency index is not more than 6 % lower than the declared value of the unit.
5. If the results referred to in point 4 are not achieved, the model and all other equivalent models shall be considered not to comply with this Regulation. The Member State authorities shall provide the test results and other relevant information to the authorities of the other Member States and to the Commission within one month of taking the decision on non-compliance of the model.

Member State authorities shall use the measurement and calculation methods set out in Annex VIII and IX.

The verification tolerances set out in point 2(b) and point 4 of this Annex relate only to the verification of the measured parameters by Member State authorities and shall not be used by the supplier as an allowed tolerance to establish the values in the technical documentation. The values and classes on the label or in the product fiche shall not be more favourable for the supplier than the values reported in the technical documentation.
