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COMMISSION REGULATION (EU) …/…

of XXX

implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines and household washer-dryers

repealing
Regulation (EU) No 1015/2010 with regard to ecodesign requirements for household washing machines

and,
amending
Regulation (EC) No 1275/2008

(Text with EEA relevance)

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(Text with EEA relevance)

THE EUROPEAN COMMISSION,

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

Having regard to 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[1], and in particular Article 15(1) thereof,

[After consulting the Ecodesign Consultation Forum referred to in Article 18 of Directive 2009/125/EC,]

Whereas,

(1) Under Directive 2009/125/EC ecodesign requirements should be set by the Commission for energy-related products representing significant volumes of sales and trade, having significant environmental impact and presenting significant potential for improvement in terms of their environmental impact without entailing excessive costs.

(2) Article 16(2)(a) of Directive 2009/125/EC provides that the Commission, in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2), and after consulting the Consultation Forum, shall, as appropriate, introduce implementing measures for domestic appliances.

(3) This regulation covers products designed for washing, and for combined washing and drying of household laundry. The ecodesign requirements for household washing machines were laid down in Regulation 1015/2010/EU implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines[2].

[1] OJ L 285, 31.10.2009, p. 10
[2] OJ L 293, 11.11.2010, p. 21

(4) Regulation 1015/2010/EU was to be reviewed no later than 4 years after its entry into force.

(5) Regulation 1015/2010/EU recommended that combined washer-dryers be addressed in an implementing measure of Directive 2009/125/EC.

(6) The Commission has reviewed Regulation 1015/2010/EU in the light of technological progress and in view of possible scope extension to cover washer-dryers. The review study analysed technical, environmental and economic aspects of household washing machines and household washer-dryers as well as the real-life user behaviour. The study was developed in consultation with stakeholders and interested parties from the European Union and third countries. The results of the study have been made publicly available and presented to the Consultation Forum established by Article 18 of Directive 2009/125/EC.

(7) The study concluded that there was a need for the introduction of a revised set of ecodesign requirements for household washing machines, also applicable to the washing function of washer-dryers and an additional revised set of eco-design requirements for washer-dryers. Consequently, the defined product scope of the Regulation should comprise household washing machines and household washer-dryers.

(8) Non-household washing machines and non-household washer-dryers have distinct characteristics and uses, and should therefore not be included in the scope of this Regulation.

(9) The annual electricity and water consumption of household washing machines and household washer-dryers subject to this Regulation was estimated to have been 39.2 TWh and 1681 million m^3, respectively, in the Union in 2015. Unless specific measures are taken, annual electricity of household washing machines and household washer-dryers is estimated to decrease to 31.24 TWh and the water consumption to increase to 2200 million m^3 in 2030.

(10) The review study has shown that the electricity and water consumption of the products subject to this Regulation can be further cost-effectively reduced by implementing ecodesign measures focusing on the most energy-efficient programmes offered by manufacturers and subsequently increased selection of these programmes by consumers.

(11) Considering the EU action plan on Circular Economy[3] and given the importance of resource efficiency, the Regulation should also address the repair and end-of-life aspects of household washing machines and household washer-dryers. These requirements should apply in addition to EU legislation applicable to these products, their materials and components, in particular the requirements of Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), and Regulation 517/2014/EU of the European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases.

(12) Improvements of household washing machines and household washer-drers are achievable by applying existing non-proprietary, cost-effective technologies, in line with the provisions of the Directive 2009/125/EC.

[3] Commission Communication „Closing the loop - An EU action plan for the Circular Economy“, COM(2015) 614 final, 2.12.2015

(13) The ecodesign requirements should be introduced gradually to provide sufficient time to manufacturers to redesign products that are subject to this Regulation. The timing should be such as to avoid negative impacts on the functionalities of equipment already on the market, and to take into account cost impacts for end-users and manufacturers, in particular small and medium-sized enterprises, while ensuring timely achievement of the objectives of this Regulation.

(14) Measurements of the relevant product parameters should be performed using reliable, accurate and reproducible measurement methods, which take into account the recognised state-of-the-art measurement methods including, where available, harmonised standards adopted by the European standardisation organisations, as listed in Annex I to Regulation (EU) 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation[4].

(15) In conformity with Article 8 of Directive 2009/125/EC, this Regulation should specify the applicable conformity assessment procedures.

(16) To facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC in so far as this information relates to the requirements laid down in this Regulation.

(17) In addition to the legally binding requirements laid down in this Regulation, indicative benchmarks for best available technologies should be identified. This will help to ensure the wide availability and easy accessibility of information on the environmental performance of products subject to this Regulation, in particular for small and medium-sized enterprises, which will further facilitate the integration of best design technologies and the development of more energy-, water- and material efficient products.

(18) [The measures provided for in this Regulation are in accordance with the opinion of the Committee referred to in Article 19(1) of Directive 2009/125/EC,]

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

1. This Regulation establishes ecodesign requirements for the placing on the market of electric mains-operated household washing machines and household washer-dryers, and electric mains-operated washing machines and household washer-dryers that can also be powered by batteries, including built-in household washing machines and washer-dryers.
2. This Regulation shall not apply to non-household washing machines and non-household washer-dryers.

Article 2

Definitions

In addition to the definitions laid down in Article 2 of Directive 2009/125/EC, the following definitions shall apply for the purpose of this Regulation:

[4] OJ L 316, 14.11.2012, p. 12

(1) ‘household washing machine’ means an automatic washing machine which cleans and rinses household laundry by using water, chemical, mechanical, thermal and electric means; which also has a spin extraction function and which is designed for domestic use, complying with the Low Voltage Directive 2014/35/EU as stated by the manufacturer in the Declaration of Conformity (DoC);

(2) ‘household washer-dryer’ means a household washing machine which, in addition to the functions of an automatic washing machine, in the same drum includes both a spin extraction function and a means for drying the textiles by heating and tumbling, and which is designed for domestic use, complying with the Low Voltage Directive 2014/35/EU as stated by the manufacturer in the Declaration of Conformity (DoC);

(3) ‘built-in household washing machine or built-in household washer-dryer’ means a household washing machine or household washer-dryer intended to be installed in a cabinet, a prepared recess in a wall or a similar location, requiring furniture finishing;

(4) 'non-household washing machine' means a washing machine used in an environment other than in an individual household or not complying with any other aspect of the definition of a household washing machine;

(5) 'non-household washer-dryer' means a washer-dryer used in an environment other than in an individual household or not complying with any other aspect of the definition of a household washer-dryer;

(6) 'multi-drum washing machine' means a washing machine equipped with more than one drum, whether in separate units or in the same casing;

(7) ‘automatic washing machine’ means a washing machine where the load is fully treated by the machine without the need for user intervention at any point during the programme;

(8) ‘programme’ means a series of operations that are pre-defined and which are declared by the manufacturer as suitable for washing, drying or continuously washing and drying certain types of textile;

(9) ‘washing cycle’ means a complete washing process as defined by the selected programme, consisting of a series of different operations including washing, rinsing, and spinning;

(10) ‘drying cycle’ means a complete drying process as defined by the required programme, consisting of a series of different operations including heating and spinning. If the textile load is split up into partial loads, the drying cycle comprises drying of all partial loads;

(11) ‘complete operation cycle’ means a washing and drying process, consisting of a washing and a drying cycle;

(12) ‘continuous operation cycle’ means a complete operation cycle without interruption of the process or additional action by an operator;

(13) ‘interrupted operation cycle’ means a complete operation cycle where intermediate action by an operator is necessary during the cycle, and the washing cycle and drying cycle operate with different loads;

(14) ‘programme time’ means the time that elapses from the initiation of the programme until the completion of the programme excluding any end-user programmed delay;

(15) ‘rated capacity’ means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be treated in one complete cycle of a household washing machine or a household washer-dryer respectively on the selected programme, when loaded in accordance with the manufacturer’s instructions;

(16) ‘rated washing capacity’ means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be washed in one complete cycle of a household washing machine on the selected programme, when loaded in accordance with the manufacturer’s instructions;

(17) ‘rated drying capacity’ means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be dried in one complete drying cycle of a household washer-dryer on the selected programme, when loaded in accordance with the manufacturer’s instructions;

(18) ‘rated washing-drying capacity’ means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be washed and dried in one continuous operation cycle of a household washer-dryer on the selected programme, when loaded in accordance with the manufacturer’s instructions;

(19) ‘partial load’ means part of the full rated capacity of a household washing machine or washer-dryer for a given programme, such as one half, one third or one quarter;

(20) 'half load' means a textile load of a household washing machine or washer-dryer for a given cycle which is half of the rated capacity;

(21) 'quarter load' means a textile load of a household washing machine or washer-dryer for a given cycle which is a quarter of the rated capacity;

(22) ‘remaining moisture content’ means the amount of moisture contained in the load at the end of a cycle, either the end of the washing cycle for a washing machine, or the end of the drying cycle for a washer-dryer;

(23) ‘delay start mode’ means a condition where the household washing machine or the household washer dryer automatically starts the washing cycle or drying cycle at a later time;

(24) ‘standby mode’ is defined as in Regulation (EC) No 1275/2008;

(25) ‘networked standby mode' is defined as in Regulation (EU) No 801/2013;

(26) ‘off-mode’ means a condition where the machine is switched off using appliance controls or switches accessible to and intended for operation by the user during normal use to attain the lowest power consumption that may persist for an indefinite time while the machine is connected to a mains power source and used in accordance with the manufacturer’s instructions; where there are no controls or switches accessible to the user, ‘off-mode’ means the condition reached after the machine reverts to a steady-state power consumption on its own;

(27) ‘left-on mode’ means the lowest power consumption mode that may persist for an indefinite time after completion of the programme and unloading of the machine without any further intervention of the user;

(28) ‘equivalent washing machine’ means a model of household washing machine, placed on the market with the same rated capacity, technical and performance characteristics as regards generic and specific eco-design requirements as another model of a

household washing machine placed on the market under a different commercial code number by the same manufacturer;

(29) ‘equivalent washer-dryer’ means a model of machine, placed on the market with the same rated capacity, technical and performance characteristics as regards generic and specific eco-design requirements as another model of a household washer-dryer placed on the market under a different commercial code number by the same manufacturer;

(30) P_o(W) is the power consumption in off mode, expressed in Watt and rounded to two decimals places;

(31) P_l(W) is the power consumption in left-on mode, expressed in Watt and rounded to two decimals places;

(32) P_n(W) is the power consumption in any mode before the initiation of the washing programme or the drying programme, expressed in Watt and rounded to two decimals place;

(33) P_b(W) is the power consumption in networked standby mode, expressed in Watt and rounded to two decimals places;

(34) ‘spare part’ means a separate part that can replace a part with the same or similar function in an appliance. The part is considered necessary for use if the appliance cannot function as intended without that part. The functionality of the appliance is restored or is upgraded when the part is replaced by a spare part;

(35) ‘independent operator’ means an undertaking other than authorised retailer and repairer which is directly or indirectly involved in the repair and maintenance of household washing machines and washer-dryers, in particular repairers, manufacturers or distributors of repair equipment, tools or spare parts, publishers of technical information, operators offering training for installers.

Article 3

Ecodesign requirements

1. The generic ecodesign requirements for household washing machines are set out in point 1 of Annex I. The generic ecodesign requirements applicable to household washing machines shall also be applicable to the washing process of household washer-dryers. The generic ecodesign requirements for household washer-dryers are set out in point 2 of Annex I.
2. Additional generic requirements on the repair and end-of-life aspects of household washing machines and household washer-dryers are set out in point 3 of Annex I.
3. The specific ecodesign requirements for household washing machines are set out in point 4 of Annex I. The specific ecodesign requirements applicable to household washing machines shall also be applicable to the washing process of household washer-dryers. The specific ecodesign requirements for household washer-dryers are set out in point 5 of Annex I.
4. Compliance of household washing machines and household washer-dryers with the applicable ecodesign requirements shall be measured in accordance with the methods set out in Annex II.

Article 4

Conformity assessment

1. The conformity assessment procedure referred to in Article 8 of Directive 2009/125/EC shall be the internal design control system set out in Annex IV to that Directive or the management system for assessing conformity set out in Annex V to that Directive.

2. For the purposes of conformity assessment pursuant to Article 8 of Directive 2009/125/EC, the technical documentation file shall contain a copy of the calculation set out in Annex II to this Regulation.

Where the information included in the technical documentation for a particular household washing machine or household washer-dryer model has been obtained by calculation on the basis of design, or extrapolation from other equivalent washing machines or washer-dryers, or both, the technical documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by manufacturers to verify the accuracy of the calculations undertaken. In such cases, the technical documentation shall also include a list of all other equivalent household washing machine or household washer-dryer models where the information included in the technical documentation was obtained on the same basis.

Article 5

Circumvention

The manufacturer or importer shall not place on the market products that have been designed so that a model's performance is automatically altered in test conditions with the objective of reaching a more favourable level for any of the parameters declared by the manufacturer in the technical documentation or included in any of the documentation provided with the product.

Where applicable, the power consumption of the product shall not increase after a software or firmware update when measured with the same test standard originally used for the declaration of conformity, except with explicit consent of the end-user.

Article 6

Verification procedure for market surveillance purposes

Market surveillance shall be carried out in accordance with the rules specified in Directive 2009/125/EC.

Assessment of household washing machines and household washer-dryers for compliance with the applicable ecodesign requirements set out in Annex I to this Regulation shall be carried out in accordance with the verification procedure set out in Annex III to this Regulation

Article 6

Benchmarks

The indicative benchmarks for best-performing household washing machines and household washer-dryers available on the market are set out in Annex IV.

Article 7

Revision

The Commission shall review this Regulation in the light of technological progress and present the result of this review to the Ecodesign Consultation Forum no later than five years after its entry into force.

The review shall in particular assess if the improvement potential with regard to energy and environmental performance of household washing machines and household washer-dryers has been fully exploited in view of technical progress. Furthermore, the review shall assess if further or new requirements on material efficiency, including reparability, durability, upgradability and recyclability, or the identification of certain materials or substances of household washing machines and household washer-dryers can be established.

Article 8

Repeal

Regulation 1015/2010 is repealed as of the day of entry into force of this Regulation, except for Articles 3 and 5 thereof and Annexes I to III thereto that shall apply until this Regulation starts to apply.

Article 9

Amendment to Regulation (EC) No 1275/2008

Annex I, point 1 to Regulation (EC) No 1275/2008 is replaced by the text set out in Annex VI to this Regulation.

Article 10

Entry into force and application

1. This Regulation shall enter into force on the 20th day following its publication in the Official Journal of the European Union.
2. The ecodesign requirements listed in points 1, 2, 3, 4 paragraphs (1), (2) and (4) and point 5 paragraphs (1) and (3) of Annex I shall apply from [1 December 2020].
3. The specific ecodesign requirements listed in point 5 (2) of Annex I shall apply from [1 December 2022].
4. The specific ecodesign requirements listed in point 4 (3) of Annex I shall apply from [1 December 2024].

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

Done at Brussels,

For the Commission
Jean-Claude JUNCKER
The President

DRAFT ANNEXES

OF

COMMISSION REGULATION (EU) …/…

implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines and household washer-dryers

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ANNEX I

Ecodesign requirements

1. GENERIC ECODESIGN REQUIREMENTS FOR HOUSEHOLD WASHING MACHINES AND FOR THE WASHING PROCESS OF HOUSEHOLD WASHER-DRYERS

From [1 December 2020],

(1) Household washing machines and the washing process of household washer-dryers shall offer to end-users:

(a) a washing cycle which cleans normally soiled cotton laundry that is declared on the textile label to be washable at 60 °C. This programme shall be indicated as 'cotton 60 °C'.

(b) a washing cycle which is able to clean normally soiled cotton laundry declared to be washable at 40 °C or 60 °C, together in the same cycle. This programme shall be indicated as 'cotton 40 °C'. The name 'cotton 40 °C' shall be used exclusively for this programme. Other programme indications displayed together with the term '40 °C' for normally soiled cotton laundry declared to be washable at 40 °C and 60 °C such as ‘normal’, ‘daily’ or ‘standard’ that could divert the end user from using 'cotton 40 °C' shall not be used. Only in those cases where the programme has a better performance than the 'cotton 40°C' programme additional indications can be displayed.

(c) a washing cycle at 20 °C.

These cycles shall be clearly identifiable on the programme selection device or the display or the network-connection application, if any, or all of them, of the household washing machine or household washer-dryer.

(2) For the purpose of calculating the energy efficiency index, water consumption, programme time and acoustic airborne noise emissions for household washing machines and for the washing process of household washer-dryers, the 'cotton 40 °C' programme cycle shall be used.

This programme shall be clearly identifiable on the programme selection device(s) of the household washing machine or the household washing machine display or the network-connection application, if any.

(3) The booklet of instructions provided by the manufacturer shall provide:

(a) for the main washing programmes at full load and/or partial loads, and for the ‘cotton 40 °C’ programme for full load, half load and quarter load, the indicative information on the following parameters per cycle shall be provided:

i. programme time, expressed in hours: minutes;
ii. energy consumption, expressed in kWh/cycle;
iii. water consumption, expressed in litres/cycle;

iv. maximum temperature reached in the laundry core, expressed in degrees centigrade and for the "cotton 60 °C" the time during which this temperature is maintained;

v. remaining moisture content after cycle finalisation, expressed in percentage of water content.

(b) information that the ‘cotton 40 °C’ programme is able to clean normally soiled cotton laundry declared to be washable at 40 °C or 60 °C, together in the same cycle, and that this programme is the standard for testing. The most efficient programmes in terms of energy and water consumption are those that perform at lower temperatures and longer duration;

(c) information that loading the machine up to the capacity indicated by the manufacturer for the respective programmes will contribute to energy and water savings;

(d) recommendations on the type of detergents suitable for the various washing temperatures and washing programmes;

(e) information on the power consumption of the low-power modes (left-on mode, off mode and any mode before the starting of the washing cycle including the delay start mode).

(4) Moreover, the booklet of instructions shall contain instructions for the user to perform maintenance operations for the purpose of ensuring durability and repair, in addition to any instructions automatically delivered by the appliance when equipped with this feature. Such maintenance instructions shall as a minimum include instructions for:

(a) correct installation (including removal of transport screws when applicable, level positioning, connection to mains, connection to hot or cold water inlets).

(b) correct loading of household laundry and consequences of incorrect loading.

(c) correct dosage of detergent and additives, such as softeners and consequences of inadequate dosage.

(d) energy and water saving, including programme and sub-programme option selection.

(e) foreign object removal from the appliance.

(f) periodical cleaning, including optimal frequency, and procedure.

(g) door opening between cycles, if applicable.

(h) periodical checks of filters, including optimal frequency, and procedure.

(i) identification of errors, the meaning of the errors, and the action required, including identification of errors requiring professional assistance.

(j) access to professional repair (internet webpages, addresses, contact details).

(k) implications of self-repair or non-professional repair for the legal guarantee [*reference to the Consumer Sales and Guarantee Directive may be needed*], and when applicable, also for the commercial guarantee.

(l) Information on the period during which or the date until which the spare parts necessary for the use of the household washing machine are available.

The requirements under (3) and (4) above are without prejudice that at the point of sale, further information may be added, complementing or adapting to local conditions the information contained in the booklet.

2. GENERIC ECODESIGN REQUIREMENTS FOR HOUSEHOLD WASHER-DRYERS

From [1 December 2020],

For the calculation of the energy consumption and other parameters for household washer-dryers in a complete washing and drying cycle, the appliance shall offer to end-users a complete operation cycle for cotton laundry, be it continuous or segmented, where the washing cycle of the complete operation cycle is a 'cotton 40C' cycle as defined in point 1 of Annex I and the drying cycle achieves the 'cupboard dry' status (at the end of this complete operation cycle the laundry shall be dried to a remaining moisture content of the load of 0 %). If the household washer-dryer offers continuous complete operation cycles, the ‘cupboard dry cotton' cycle shall be selected automatically.

This cycle shall be clearly identifiable on the programme selection device(s) of the household washer-dryer or the household washer-dryer display or the network-connection application, if any, or all of them, and indicated as ‘cupboard dry cotton' cycle

(1) The booklet of instructions provided by the manufacturer shall provide, in addition to the requirements of point 1.(3) of Annex I:

(a) for the main complete operation cycles at full load, and for the ‘cupboard dry cotton’ cycle also for half load, the indicative information on the following parameters per cycle shall be provided:

i. programme time, expressed in hours: minutes;
ii. energy consumption, expressed in kWh/cycle/kg;
iii. water consumption, expressed in litres/cycle;
iv. maximum temperature reached in the laundry core, expressed in degrees centigrade;
v. remaining moisture content after cycle finalisation, expressed in percentage of water content.

(b) Information that the ‘cupboard dry cotton’ cycle able to wash and dry normally soiled cotton laundry declared to be washable at 40 °C or 60 °C, together in the same cycle, and that this cycle the standard for testing optimized programme. The most efficient programmes in terms of energy and water consumption are those that perform at lower temperatures and longer durations;

(c) information that loading the machine up to the capacity indicated by the manufacturer for the respective cycles will contribute to energy and water savings;

(d) Information on the power consumption of the low-power modes (left-on mode, off mode and any mode before the starting of the washing cycle including the delay start mode).

(2) Moreover, the booklet of instructions shall also cover for the complete operation cycle and the drying cycle of a household washer-dryer the requirements set in point 1.1.4 of this annex.

The requirements under (1) and (2) above are without prejudice that at the point of sale, further information may be added complementing or adapting to local conditions the information contained in the booklet.

3. ADDITIONAL GENERIC REQUIREMENTS ON THE REPAIR AND END-OF-LIFE ASPECTS OF HOUSEHOLD WASHING MACHINES AND HOUSEHOLD WASHER-DRYERS

From [1 December 2020], household washing machines and household washer-dryers shall be provided with the following information:

(1) Information requirements for refrigeration gases

Manufacturers of household washing machines and household washer-dryers equipped with a heat pump shall mark clearly on the back panel of the appliances the chemical name of the principal component of the refrigerant gas used.

(2) Requirements for dismantling for the purpose of avoiding pollution and for material recovery and recycling of the household washing machine and household washer-dryer

Manufacturers shall ensure that household washing machines and household washer-dryers are designed so that the access to and the extraction of the following components (when present) must be possible without proprietary or not commonly available tools:

- Printed circuit boards (larger than 10 cm^2);
- Electrolyte capacitors containing substances of concern (height > 25 mm, diameter > 25 mm or proportionately similar volume);
- Liquid crystal displays (larger than 100 cm^2);
- Batteries;
- Heat pumps.

Accessing components shall be facilitated by documenting the sequence of dismantling operations needed to access the targeted components, including for each of these operations, the type and the number of fastening techniques(s) to be unlocked, and tool(s) required.

(3) Spare part availability

Information issued by the manufacturer or importer of household washing machines and household washer-dryers to the retailer, on the period during which or the date until which the spare parts necessary for the repair of the appliance are available, shall be shown on any commercial document accompanying the sale of the appliance. The minimum period during which the spare parts for household dishwashers are available shall be seven years, counting from the production date of the machine.

Such information shall be disclosed to the consumer by the retailer, visibly and legibly, before concluding the sale, in the booklet of instructions, as stated in point 1(4) of this Annex.

(4) Spare part maximum delivery time

Until the date or during the period declared in application of point 3 of this Annex, the manufacturer or importer shall supply the spare parts necessary for the repair of the household washing machine and household washer-dryer within three weeks to retailers, to repairers, or directly to consumers.

(5) Access to Repair and Maintenance Information

1. Manufacturers' obligations

Manufacturers shall provide unrestricted access to appliance repair and maintenance information to independent operators through websites or other easily accessible means of information using a standardised format for requesting and accessing the information, in a manner which is non-discriminatory compared to the provision given or access granted to authorised retailers and repairers. With a view to facilitating the achievement of this objective, the information shall be provided consistently and continuously.

The appliance repair and maintenance information referred to in the previous paragraph shall include:

(a) an unequivocal appliance identification;

(b) a disassembly map and exploded view;

(c) technical manuals;

(d) component and diagnosis information (such as minimum and maximum theoretical values for measurements);

(e) wiring and connection diagrams;

(f) diagnostic trouble codes (including manufacturer specific codes);

(g) information concerning, and delivered by means of, proprietary tools and equipment; and

(h) data record information.

Authorised retailers or repairers within the distribution system of a given appliance manufacturer shall be regarded as independent operators for the purposes of this Regulation to the extent that they provide repair or maintenance services for appliances in respect of which they are not members of the appliance manufacturer's distribution system.

The information on diagnostic tools, repair and test equipment necessary for the appliance repair shall be provided by the manufacturer or importer on a non-discriminatory basis to any repairer and for any requested component, diagnostic tools or test equipment.

2. Fees for access to appliance repair and maintenance information

Manufacturers may charge reasonable and proportionate fees for access to household dishwasher's repair and maintenance information covered under point

5(1). A fee is not reasonable or proportionate if it discourages access by failing to take into account the extent to which the independent operator uses it.

Manufacturers shall make available appliance repair and maintenance information on a daily, monthly, and yearly basis, with fees for access to such information that may vary in accordance with the respective periods of time for which access is granted.

4. SPECIFIC ECODESIGN REQUIREMENTS HOUSEHOLD WASHING MACHINES AND THE WASHING PROCESS OF HOUSEHOLD WASHER-DRYERS

Household washing machines and the washing process of household washer-dryers shall comply with the following requirements:

(1) From [1 December 2020], the temperature measured in °C in the laundry core, has to reach as minimum and irrespective of the load
- 45 °C for the 'cotton 60 °C' cycle,
- 30 °C for the 'cotton 40 °C' cycle at least for 5 minutes.

(2) From [1 December 2020] the EEI for household washing machines and the washing process of household washer-dryers shall be lower than 135

(3) From [1 December 2024] the EEI for household washing machines and the washing process of household washer-dryers shall be lower than 105

(4) From [1 December 2020] :

Washing performance:
— for household washing machines with a rated capacity higher than 3 kg, the Washing Efficiency Index (I_w) for each individual cycle tested shall be greater than 1.03,

Water consumption:
— for all household washing machines, the Water Consumption (W_t, litres/cycle) shall be:

$$W_t \leq 5 \times c_{1/2} + 35$$

where $c_{1/2}$ is half of the rated washing capacity of the household washing machine for the 'cotton 40 °C' programme.

Low-power modes:
— for all household washing machines, the power consumption of the 'left-on mode' or any other condition of the washing machine after finalisation of the cycle shall not exceed 1,00 W.
— for all household washing machines, the duration of the 'left-on mode' or any other condition of the washing machine after finalisation of the cycle shall not exceed 20 minutes, after which the power management function shall revert the machine automatically to off-mode.

— for all household washing machines, the power consumption of the 'off mode' shall not exceed 0.50 W
— for all household washing machines, the power consumption of any mode before the initiation of the washing cycle, including delay start, shall not exceed 2,00 W

The Washing Efficiency Index (I_w) and the Water Consumption (W_t) of the household washing machine are calculated in accordance with Annex II.

5. SPECIFIC ECODESIGN REQUIREMENTS FOR HOUSEHOLD WASHER-DRYERS

(1) From [1 December 2020]:

For household washer-dryers the energy consumption of a complete operating cycle using 'cotton 40 °C' programme with cupboard drying moisture level shall be less than 0.80 kWh/kg

(2) From [1 December 2022]:

a. For household washer-dryers the energy consumption of a complete operating cycle using 'cotton 40 °C' programme with cupboard drying moisture level shall be less than 0.70 kWh/kg

(3) From [1 December 2020]:

Washing performance:

— for household washer dryers, the Washing Efficiency Index (I_w) for each individual cycle tested shall be greater than 1.03,

Water consumption

a. for all household washer-dryers, the Water Consumption (W_t, litres/cycle) of the continuous operation cycle shall be:

$$W_t \leq 12 \times c + 35$$

where c is the rated capacity of the continuous operation cycle or the segmented operation cycle of the household washer-dryer, whichever is the lowest.

Low-power modes

a. for all household washer-dryers, the power consumption of the 'left-on mode' or any other condition of the washer-dryer after finalisation of any cycle shall not exceed 1,00 W.
b. for all household washer-dryers, the duration of the 'left-on mode' or any other condition of the washer-dryers after finalisation of any cycle shall not exceed 20 minutes, after which the power management function shall revert the machine automatically to off-mode.

c. for all household washer-dryers, the power consumption of the 'off mode' shall not exceed 0,50 W.
d. for all household washer-dryers, the power consumption of any mode before the initiation of any drying or continuous washing-drying cycle shall not exceed 2,00 W.

The Washing Efficiency Index (I_w) and the Water Consumption (W_t) of the household washer-dryer are calculated in accordance with Annex II.

ANNEX II

Measurements

1. CALCULATION OF THE ENERGY EFFICIENCY INDEX

A. Energy Efficiency Index of household washing machines and the washing cycle of household washer-dryers

For the calculation of the Energy Efficiency Index (EEI) of a household washing machine model or the washing cycle of a household washer-dryer model, the weighted energy consumption of the 'cotton 40°C' programme at full and partial loads is compared to its standard energy consumption.

(a) The Energy Efficiency Index (EEI) is calculated as follows, and is rounded to one decimal place:

$$EEI = \frac{E_t}{SCE_c} \text{ x } 100$$

where:

E_t = weighted cycle energy consumption of the household washing machine or the washing cycle of the household washer-dryer;

SCE_C = standard cycle energy consumption of the household washing machine or the washing cycle of the household washer-dryer.

(b) The standard cycle energy consumption (SEC_c) is calculated in kWh per cycle and rounded to two decimal places as follows:

$$SCE_{c,\ 40C} = 0.08702\ x\ c + 0.18964$$

where:

c is the rated capacity of the household washing machine or the rated washing capacity of the washer-dryer for the cotton 40 °C programme.

(c) The weighted energy consumption (*Et)* is calculated in kWh per cycle as follows and rounded to three decimal places:

$$E_t = A\ x\ E_{t,40,full} + Bx\ E_{t,40,\frac{1}{2}load} + C\ x\ E_{t,40,\frac{1}{4}}$$

where

$E_{t,40,full}$ is the energy consumption of the cotton 40 °C programme at full rated washing capacity;

$E_{t,40,½}$ is the energy consumption of the cotton 40 °C programme at half rated washing capacity;

$E_{t,40,1/4}$ is the energy consumption of the cotton 40 °C programme at a quarter of the rated washing capacity;

A is the weighting loading factor for the full rated washing capacity;

B is the weighting loading factor for half of the rated washing capacity;

C is the weighting loading factor for a quarter of the rated washing capacity.

The values of the weighting loading factors are as follows:

Table 6. Weighting loading factors depending on the rated capacity of the washing machine

Rated capacity (kg)	A	B	C
c ≤ 5 kg	0,343	0,428	0,229
5 kg < c ≤ 10 kg	0,286	0,428	0,286
> 10 kg	0,229	0,428	0,343

B. Energy Efficiency Index of the complete operation cycle of household washer-dryers

For the calculation of the Energy Efficiency Index (C) of the complete operation cycle of a household washer-dryer, the energy consumption of the 'cotton 40 °C' programme in combination with a drying cycle to cupboard dry at full and half load is compared to the standard cycle energy consumption. Should the washer-dryer offer a continuous operation cycle, this shall be used. If not the segmented operation cycle shall be used.

(d) The Energy Efficiency Index (C) is calculated as follows and rounded to one decimal place:

$$C = \frac{E_t}{c}$$

where:

E_t is cycle energy consumption of the household washer-dryer;

c is the rated washing-drying capacity of a complete operation cycle or the rated drying capacity of a segmented operation cycle of the household washer-dryer.

(e) The weighted energy consumption (*Et)* is calculated in kWh per cycle as follows and rounded to three decimal places:

$$E_t = \frac{[3\ x\ E_{t,40,full} + 2\ x\ E_{t,40,\frac{1}{2}load}]}{5}$$

where:

$E_{t,40,full}$ is the energy consumption of the complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at rated washing-drying capacity; or at rated drying capacity if a segmented operation cycle is used;

$E_{t,40,½}$ is the energy consumption of the complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at half rated washing-drying capacity; or at half rated drying capacity if a segmented operation cycle is used.

2. CALCULATION OF THE WASHING EFFICIENCY INDEX

For the calculation of the Washing Efficiency Index (I_w), the weighted washing efficiency of the household washing machine for the 'cotton 40°C' programme at full, half and a quarter of the rated washing capacity and for the 'cotton 60 °C' programme at full load is compared to

the washing efficiency of a reference washing machine, where the reference washing machine shall have the characteristics indicated in the generally recognised state-of-the-art measurement methods, including methods set out in documents the reference numbers of which have been published for that purpose in the Official Journal of the European Union.

(a) The Washing Efficiency Index (I_w) of household washing machines is calculated as follows and rounded to three decimal places

$$I_w = \frac{\left[A\ x\ I_{w,40,full} + B\ x\ I_{W,40,\frac{1}{2}load} + C\ x\ I_{W,40,\frac{1}{4}load}\right]}{}$$

For the 'cotton 40°C' programme:

$I_{W,40,\ full}$ is the Washing Efficiency Index of the ’cotton 40°C’ programme at rated washing capacity;

$I_{W,40,\ half}$ is the Washing Efficiency Index of the ’cotton 40°C’ programme at half rated washing capacity;

$I_{W,40,\ quater}$ is the Washing Efficiency Index of the ’cotton 40°C’ programme at a quarter of the rated washing capacity;

A, B and C are **the weighting loading factors as** described in Annex II(1).

For the 'cotton 60°C' programme:

$I_{W,60,\ full}$ is the Washing Efficiency Index of the ’cotton 60°C’ programme at rated washing capacity;

(b) The Washing Efficiency Index of one testing cotton 40 °C programme (p) is calculated as follows:

$$I_{W,P} = \frac{1}{n} \times \sum_{i=1}^{n} \frac{W_{T,i}}{W_{R,a}}$$

where:

$W_{T,i}$ = Washing Efficiency of the household washing machine under test for one test cycle (i);

$W_{R,a}$ = average Washing Efficiency of the reference washing machine;

n = number of test cycles, : n ≥ 1 for the ’cotton 60 °C’ programme at rated washing capacity , n ≥ 2 for the ’cotton 40 °C’ programme at rated washing capacity, n ≥ 3 for the ’cotton 40 °C’ programme at half rated washing capacity, and n ≥ 2 for the ’cotton 40 °C’ programme at a quarter of rated washing capacity.

(c) The Washing Efficiency (W_T) is the reflectance values of each test strip after completion of a test cycle.

3. CALCULATION OF THE WEIGHTED WATER CONSUMPTION

(1) The weighted water consumption (W_t) of a household washing machine or the washing cycle of a household washer-dryer is calculated in litres and rounded to the nearest integer:

$$W_t = (A \times W_{t,40,full} + B \times W_{t,40,1/2} + C \times W_{t,40,1/4})$$

where:

$W_{t,40,\ full}$ is the water consumption of the 'cotton 40 °C' programme at rated washing capacity, in litres and rounded to one decimal place;

$W_{t,\ 40,\ ½\ load}$ is the water consumption of the 'cotton 40 °C' programme at half of the rated washing capacity, in litres and rounded to one decimal place;

$W_{t,\ 40,\ 1/4}$ is the water consumption of the 'cotton 40 °C' programme at a quarter of the rated washing capacity, in litres and rounded to one decimal place;

A, B and C are the weighting loading factors as described in Annex II(1).

(2) The weighted water consumption (W_t) of a complete operation cycle of a household washer-dryer is calculated as follows and rounded to the nearest integer:

$$W_t = \frac{[3 \ x \ W_{t,40,full} + 2 \ x \ W_{t,40,\frac{1}{2}load}]}{5}$$

where:

$W_{t,40,\ f\ ull}$ is the water consumption of the complete operation cycle of a household washer-dryer, the water consumption of the 'cotton 40 °C' programme in combination with drying to cupboard dry at full load, in litres and rounded to one decimal place;

$W_{t,\ 40,\ ½\ load}$ is the water consumption of the complete operation cycle of a household washer-dryer, the water consumption of the 'cotton 40 °C' programme in combination with drying to cupboard dry at full load, in litres and rounded to one decimal place.

4. CALCULATION OF THE REMAINING MOISTURE CONTENT

(1) The weighted remaining moisture content (D) of a household washing machine and the washing cycle of a household washer-dryer is calculated in percentage as follows and rounded to the nearest whole percent:

$$D_c = \frac{[A \ x \ D_{t,40,full} + B \ x \ D_{t,40,\frac{1}{2}load} + C \ x \ D_{t,40,\frac{1}{4}load}]}{}$$

where:

$D_{t,\ 40\ full}$ is the residual moisture content for the 40°C cotton programme at rated washing capacity, in percentage and rounded to the nearest whole per cent;

$D_{t,\ 40\ 1/2load}$ is the energy consumption of the 40°C cotton programme at half rated washing capacity in percentage and rounded to the nearest whole per cent;

$D_{t,\ 40\ 1/4load}$ is the energy consumption of the 40°C cotton programme at a quarter of the rated washing capacity in percentage and rounded to the nearest whole per cent;

A, B and C are the weighting loading factors as described in Annex II(1).

(2) The weighted remaining moisture content (D) of a complete operation cycle of a household washer-dryer is calculated in percentage as follows and rounded to the nearest whole percent:

$$D_c = \frac{[3\ x\ D_{t,40,full} + 2\ x\ D_{t,40,\frac{1}{2}load}]}{5}$$

where:

$D_{t,40,\ full}$ is the residual moisture content for the complete operation cycle of a household washer-dryer of the 'cotton 40 °C' programme in combination with drying to cupboard dry at rated washing-drying capacity in percentage and rounded to the nearest whole per cent;

$D_{t,\ 40,\ ½\ load}$ is the residual moisture content for the complete operation cycle of a household washer-dryer of the 'cotton 40 °C' programme in combination with drying to cupboard dry at half rated washing-drying capacity in percentage and rounded to the nearest whole per cent.

5. CALCULATION OF THE DURATION OF THE LEFT-ON MODE

(1) The weighted duration of the left-on mode (t_l) of a household washing machine and the washing cycle of a household washer-dryer is calculated in minutes as follows and rounded to the nearest integer (minute):

$$t_l = \frac{[A\ x\ t_{l,40,full} + B\ x\ t_{l,40,\frac{1}{2}load} + C\ x\ t_{l,40,\frac{1}{4}load}]}{}$$

where:

$t_{l,\ 40\ full}$ is the duration of the left-on mode of the 40°C cotton programme at rated washing capacity , in minutes and rounded to the nearest minute;

$t_{l,\ 40\ 1/2load}$ is the duration of the left-on mode of the 40°C cotton programme at half rated washing capacity, in minutes and rounded to the nearest minute;

$t_{l,40\ 1/4load}$ is is the duration of the left-on mode of the 40°C cotton programme at a quarter of the rated washing capacity, in minutes and rounded to the nearest minute;

A, B and C are the weighting loading factors as described in Annex II(1).

(2) The weighted duration of the left-on mode (t_l) of a complete operation cycle of a household washer-dryer is calculated in watts as follows and rounded to the nearest integer:

$$t_l = \frac{[3\ x\ t_{l,40,full} + 2\ x\ t_{l,40,\frac{1}{2}load}]}{5}$$

where;

$t_{l,40,\ full}$ is the duration of the left-on mode of a household washer-dryer of the 'cotton 40 °C' programme in combination with drying to cupboard dry at rated washing drying capacity, in minutes and rounded to the nearest minute;

$t_{l,\ 40,\ ½\ load}$ is the duration of the left-on mode of a household washer-dryer of the 'cotton 40 °C' programme in combination with drying to cupboard dry at half rated washing drying capacity, in minutes and rounded to the nearest minute.

ANNEX III

Product compliance verification by market surveillance authorities

The verification tolerances defined in this Annex relate only to the verification of the measured parameters by Member State authorities and shall not be used by the manufacturer or importer as an allowed tolerance to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

When verifying the compliance of a product model with the requirements laid down in this Regulation pursuant to Article 3(2) of Directive 2009/125/EC, for the requirements referred to in this Annex, the authorities of the Member States shall apply the following procedure:

(1) The Member State authorities shall verify one single unit of the model.

(2) The model shall be considered to comply with the applicable requirements if:

(a) the values given in the technical documentation pursuant to point 2 of Annex IV to Directive 2009/125/EC (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the manufacturer or importer than the results of the corresponding measurements carried out pursuant to paragraph (g) thereof; and

(b) the declared values meet any requirements laid down in this Regulation, and any required product information published by the manufacturer or importer does not contain values that are more favourable for the manufacturer or importer than the declared values; and

(c) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 1.

(3) If the results referred to in point 2(a) or (b) are not achieved, the model and all models that have been listed as equivalent washing machine or washer-dryer models in the manufacturer's or importer's technical documentation shall be considered not to comply with this Regulation.

(4) If the result referred to in point 2(c) is not achieved, the Member State authorities shall select three additional units of the same model for testing. As an alternative, the three additional units selected may be of one or more different models that have been listed as equivalent models in the manufacturer's or importer's technical documentation.

(5) The model shall be considered to comply with the applicable requirements if, for these three units, the arithmetical mean of the determined values complies with the respective verification tolerances given in Table 1.

(6) If the result referred to in point 5 is not achieved, the model and all models that have been listed as equivalent washing machine or washer-dryer models in the manufacturer's or importer's technical documentation shall be considered not to comply with this Regulation.

(7) The Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay after a decision being taken on the non-compliance of the model according to points 3 and 6.

Member States' authorities shall use measurement procedures which take into account the generally recognised, state- of-the-art, reliable, accurate and reproducible measurement methods, including methods set out in documents whose reference numbers have been published for that purpose in the Official Journal of the European Union. The Member State authorities shall use the measurement and calculation methods set out in Annex II.

The Member State authorities shall only apply the verification tolerances that are set out in Table 1 and shall use only the procedure described in points 1 to 7 for the requirements referred to in this Annex. No other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

Table 1

Measured parameter	**Verification tolerances**
Weighted energy consumption (E_t)	The determined value shall not exceed the declared value of E_t by more than 10 %. Where three additional units need to be selected, the arithmetic mean of the determined values of these three units shall not exceed the declared value of Et by more than 6 %.
Weighted water consumption (W_t)	The determined values shall not exceed the declared values of W_t by more than 10 %.
Washing efficiency index (I_W)	The determined value shall not be less than the declared value of I_W by more than 4 %.
Power consumption in off mode and left-on mode (P_o and P_l)	The determined values of power consumption P_o and P_l of more than 0.50 W shall not exceed the declared values of P_o and P_l by more than 10 %. The determined values of power consumption P_o and P_l of less than or equal to 0.50 W shall not exceed the declared values of P_o and P_l by more than 0.050 W.
Power consumption in modes before the initation of the cleaning programme (P_b)	The determined values of power consumption P_b of more than 1.00 W shall not exceed the declared values of P_b by more than 10%. The determined values of power consumption P_b of less than or equal to 1.00 W shall not exceed the declared values of P_b by more than 0.10W
Power consumption in networked-standby mode (P_n)	The determined values of power consumption P_n of more than 2.00 W shall not exceed the declared values of P_n by more than 10%. The determined values of power consumption P_n of less than or equal to 2.00 W shall not exceed the declared values of P_n by more than 0.20W
Duration of left-on mode (T_l)	The determined value shall not exceed the declared value of T_l by more than 10 %.

ANNEX IV

Indicative benchmarks

1. INDICATIVE BENCHMARKS FOR HOUSEHOLD WASHING MACHINES ON WATER AND ENERGY CONSUMPTION, WASHING EFFICIENCY AND AIRBORNE ACOUSTICAL NOISE EMISSIONS

At the time of entry into force of this Regulation, the best available technology on the market for household washing machines, in terms of their water and energy consumptions, washing efficiency and airborne acoustical noise emissions during washing/spinning for the standard 60 °C cotton programme at full and partial load and for the standard 40 °C cotton programme at partial load, is identified as follows[1]:

(1) Household washing machine with a rated capacity of 5 kg:

(a) energy consumption: 0.56 kWh/cycle (or 0.11 kWh/kg) corresponding to an overall annual consumption of 82 kWh/year;

(b) water consumption: 40 liters/cycle, corresponding to 8800 litres/year for 220 cycles;

(c) washing efficiency index of $1.03 \geq I_w > 1.00$;

(d) airborne acoustical emissions during washing/spinning: 58/82.

(2) Household washing machine with a rated capacity of 6 kg:

(a) energy consumption: 0.47 kWh/cycle (or 0.067 kWh/kg) corresponding to an overall annual consumption of 104 kWh/year;

(b) water consumption: 33 liters/cycle, corresponding to 7300 litres/year for 220 cycles;

(c) washing efficiency index of $1.03 \geq I_w > 1.00$;

(d) airborne acoustical emissions during washing/spinning: 52/73.

(3) Household washing machine with a rated capacity of 7 kg:

(a) energy consumption: 0.6 kWh/cycle (or 0.15 kWh/kg) corresponding to an overall annual consumption of 124 kWh/year;

(b) water consumption: 39 liters/cycle, corresponding to 8500 litres/year for 220 cycles;

(c) washing efficiency index of $1.03 \geq I_w > 1.00$;

(d) airborne acoustical emissions during washing/spinning: 52/73.

(4) Household washing machine with a rated capacity of 8 kg:

(a) energy consumption: 0.42 kWh/cycle (or 0.05 kWh/kg) corresponding to an overall annual consumption of 92.4 kWh/year;

[1] For evaluation of the water and energy consumptions and washing efficiency, the calculation methods set out in Annex II of Regulation 1015/2010 with regard to ecodesign requirements for household washing-machines was used; for airborne acoustical noise emissions during washing/spinning, the standard measurement according to EN 60704 was used.

(b) water consumption: 46 liters/cycle, corresponding to 10120 litres/year for 220 cycles;

(c) washing efficiency index of $1.03 \geq I_w > 1.00$;

(d) airborne acoustical emissions during washing/spinning: 48/73.

(5) Household washing machine with a rated capacity of 9 kg:

(a) energy consumption: 0.57 kWh/cycle (or 0.063 kWh/kg) corresponding to an overall annual consumption of 130 kWh/year;

(b) water consumption: 47 liters/cycle, corresponding to 10340 litres/year for 220 cycles;

(c) washing efficiency index of $1.03 \geq I_w > 1.00$;

(d) airborne acoustical emissions during washing/spinning: 52/73.

2. INDICATIVE BENCHMARKS FOR HOUSEHOLD WASHER-DRYERS ON WATER AND ENERGY CONSUMPTION, WASHING EFFICIENCY AND AIRBORNE ACOUSTICAL NOISE EMISSIONS

At the time of entry into force of this Regulation, the best available technology on the market for household washer-dryers, in terms of their water and energy consumptions, washing efficiency and airborne acoustical noise emissions during washing/spinning/drying for the standard 60 °C cotton washing cycle at full capacity and the 'dry cotton' drying cycle, is identified as follows[2]:

(1) Household washer dryer with a washing rated capacity of 6 kg:

(a) energy consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 4.08 kWh/cycle corresponding to an overall annual consumption of 898 kWh/year;

(b) energy consumption of a washing cycle (washing and spinning only) at full load and at standard 60°C cotton programme: 0.8 kWh/cycle corresponding to an overall annual consumption of176 kWh/year;

(c) water consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 79 liters/cycle, corresponding to 17380 litres/year for 220 cycles;

(d) washing efficiency index of $1.03 \geq I_w > 1.00$;

(e) airborne acoustical emissions during washing/spinning/drying : 47/73/58.

(2) Household washer dryer with a washing rated capacity of 7 kg:

(a) energy consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 4.76 kWh/cycle corresponding to an overall annual consumption of 1047kWh/year;

[2] For evaluation of the water and energy consumptions and washing performance, the calculation methods set out in Directive 96/60/EC with regard to energy labelling of washer-dryers was used; for airborne acoustical noise emissions during washing/spinning/drying, the standard measurement according to EN 60704 was used

(b) energy consumption of a washing cycle (washing and spinning only) at full load and at standard 60°C cotton programme: 0.8 kWh/cycle corresponding to an overall annual consumption of176 kWh/year;

(c) water consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 72 liters/cycle, corresponding to 15840 litres/year for 220 cycles;

(d) washing efficiency index of $1.03 \geq I_w > 1.00$;

(e) airborne acoustical emissions during washing/spinning/drying: 47/73/58.

(3) Household washer dryer with a washing rated capacity of 8 kg:

(a) energy consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 3.8 kWh/cycle corresponding to an overall annual consumption of 836 kWh/year;

(b) energy consumption of a washing cycle (washing and spinning only) at full load and at standard 60°C cotton programme: 1.04 kWh/cycle corresponding to an overall annual consumption of 229 kWh/year;

(c) water consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 70 liters/cycle, corresponding to 15400 litres/year for 220 cycles;

(d) washing efficiency index of $1.03 \geq I_w > 1.00$;

(e) airborne acoustical emissions during washing/spinning/drying: 49/73/66.

(4) Household washer dryer with a washing rated capacity of 9 kg:

(a) energy consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 3.67 kWh/cycle corresponding to an overall annual consumption of 807 kWh/year;

(b) energy consumption of a washing cycle (washing and spinning only) at full load and at standard 60°C cotton programme: 1.09 kWh/cycle corresponding to an overall annual consumption of 240 kWh/year;

(c) water consumption of a complete cycle (washing, spinning and drying) at full load and at standard 60°C cotton programme: 69 liters/cycle, corresponding to 15180 litres/year for 220 cycles;

(d) washing efficiency index of $1.03 \geq I_w > 1.00$;

(e) airborne acoustical emissions during washing/spinning/drying: 49/75/66.

3. INDICATIVE BENCHMARKS FOR HOUSEHOLD WASHING MACHINES AND HOUSEHOLD WASHER-DRYERS ON SPARE PARTS AVAILABILITY AND DELIVERABLE TIME OF SPARE PARTS

At the time of entry into force of this Regulation, the fastest delivery times of spare parts necessary for the use of the household washing machines and household washer-dryers are between 7 and 10 days. The longest availability of spare parts necessary for the use of the washing machines and household washer-dryers is around 11 years.

ANNEX V

Multi-drum washing machines

The provisions of points 1 to 4 of Article 3 of this Regulation are applicable to each of the drums of multi-drum washing machines, except when the drum only offers a reduced number of programmes compared to the other drums in the machine, and is thus not suited for the most commonly used programme cycles, including the textile types and programme cycles used for the determination of compliance according to Annex I of this Regulation.

The provisions of points 1 to 4 of Article 3 are applicable to each of the drums independently, except when the drums are built in the same casing and can only operate simultaneously in all programmes, in which case the provisions of points 1 to 4 of Article 3 are applicable to the multi-drum washing machine as a whole, as follows:

(a) the energy and water consumption of the overall washing machine should be evaluated as the total performance of all those drums (summing up rated capacity and considering overall energy);

(b) the Energy Efficiency Index (EEI) shall be calculated considering the overall rated capacity and energy consumption;

(c) the low power modes and noise declarations apply to the whole washing machine;

(d) the spinning performance is calculated as the weighted average, according to each drum load capacity;

(e) each drum shall comply individually and separately with minimum washing performance requirements according to individual load capacity of the drums.

ANNEX VI

List of energy-using products covered by Annex I, point 1 to Regulation (EC) No 1275/2008

1. Household appliances

Dishwashers

Clothes dryers

Cooking:

Electric ovens

Electric hot plates

Microwave ovens

Toasters

Fryers

Grinders, coffee machines and equipment for opening or sealing containers or packages

Electric knives

Other appliances for cooking and other processing of food, cleaning, and maintenance of clothes

Appliances for hair cutting, hair drying, tooth brushing, shaving, massage and other body care appliances

Scales

Brussels, XXX
[…](2017) XXX draft

COMMISSION DELEGATED REGULATION (EU) …/...

of XXX

supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of household washing machines and washer-dryers,

repealing
Regulation (EU) No 1061/2010 with regard to energy labelling of household washing machines

and,
Commission Directive 96/60/EC implementing Council Directive 92/75/EEC with regard to energy labelling of household combined washer-dryers

(Text with EEA relevance)

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE DELEGATED ACT

Grounds for and objectives of the proposal

The Energy Labelling Framework Regulation (EU) No 2017/1369[1] establishes a framework for the provision of accurate, relevant and comparable information on the specific energy consumption of products groups and other environmental information, and facilitates the customer's choice in favour of products that are more resource efficient.

It is a key instrument of the Union policy for improving the energy and other environmental aspects of products placed on the market or put into service in the European Economic Area (EEA). It is an important instrument for achieving the EU energy savings objectives for 2020 and 2030, and its implementation is one of the priorities in the Commission's Communication on Energy 2020 and Energy Efficiency Plan 2011, being reinforced by the current Ecodesign Working Plan 2016-2019. It is also expected to contribute significantly to the transition towards a more circular economy, as expressed in the Circular Economy action plan. Furthermore, implementation of Regulation (EU) No 2017/1369 will contribute to the EU's target of reducing greenhouse gases by at least 20% by 2020 and by 40% by 2030.

The revision clause (Article 7) of Regulation EU (No) 1061/2010 on energy labelling for household washing machines states that by December 2014 the Commission should revise this Regulation in the light of the technological development and in particular assess the verification tolerances. The Directive 96/60/EC on the energy label for household washer-dryers came into force in 1996 and is still in place.

Washing machines and washer-dryers were included as one of the priority products for revision in the Ecodesign Working Plan 2016-2019. Washing machines and washer-dryers are also among the product groups mentioned in Article 11(5)(b) of Regulation 2017/1369 for which the Commission should adopt a delegated act to rescale the label by 2 November 2018. The rescaling exercise will result in replacing the existing range of energy classes of A+++ to G by an A to G range.

In accordance with Article 11(8) of Regulation (EU) 2017/1369, no products are expected to fall into energy class A when the rescaled label is introduced, and the estimated time within which a majority of models falls into that class is at least 10 years.

In order to revise both Regulations on ecodesign and energy labelling of washing machines and the Directive on labelling of washer-dryers, a review study[2] was launched in 2014, resulting in a final report published in September 2017. The study included a stakeholder survey, two stakeholder meetings in 2015 and a web-seminar in 2016. It involved approximately 140 stakeholders.

General context

Household washing machines and household washer-dryers are widely used in the European Union. It is estimated that on average 92% of the European households are equipped with a household washing machine and approximately 4% of those own a washer-dryer.

[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).

[2] Ecodesign and energy label preparatory study on Washing machines and washer-dryers, available at: http://susproc.jrc.ec.europa.eu/Washing_machines_and_washer_dryers/documents.html

Without further energy efficiency measures, the total electricity consumption of washing machines and washer-dryers in the EU is expected to reach 28.65 TWh/year and 2.59 TWh/year, respectively, by 2030. Together this is equivalent to 11.33 million ton CO_{2eq}. Additionally, the water consumption related to these products is expected to reach 2200 million m^3 of water in 2030.

The energy consumption and emissions related to the usage of washing machines and washer-dryers can be further reduced below the level they would reach in a business-as-usual scenario in a cost-effective way.

The main reasons for not realising these saving potentials are the failure of the market to:

(i) provide a better fit between the washing programmes used for testing and optimised by manufacturers and the main washing programmes actually used by consumers;

(ii) provide a better matching between the usual wash loading by users and the rated capacity or loading adaptation of the washing machines and washer-dryers;

(iii) guide consumers to make informed purchase decisions based on the life cycle cost rather than the purchase cost (asymmetric information); and

(iv) provide information and incentives for repairing the appliances and managing properly the products at the end of their use phase.

Potential cost-effective improvements that would benefit the end-user are therefore often not realised.

The objective of the revision of the Regulation and the Directive is to trigger a change in market conditions and appliances optimisation. It is also to rescale the label in accordance with Regulation 2017/1369.

The proposed revision is expected to reduce the total energy consumption of these products each year across the EU compared to a business-as-usual scenario by around 1.5 TWh/year, 0.5 Mt CO_2 eq/year and up to 45 million m^3 water per year by 2030. It is also expected to facilitate repair activities and end-of-life treatment by ensuring that the necessary information and spare parts are available. This may be complemented in future by a reparability scoring, which is currently under study.

Existing regulation and standards in EU and third countries

The Energy Labelling Framework Regulation 2017/1369 is an important instrument for achieving the European targets on energy efficiency.

Additionally, other eco-design regulations are of relevance for washing machines and washer-dryers such as the standby and off mode regulation 1275/2008, the ecodesign regulation 801/2013 on networked standby or the low voltage directive 201/35/EC and the electromagnetic compatibility directive 2014/30/EC.

Regarding the legislation set in third countries, many economies around the world (e.g. US, Japan, Australia, China, Brazil or Mexico) have introduced in recent years some sort of legislation on these products. The US Department of Energy introduced in 2011 modified energy factors and modified water factors that were revised in 2012. This regulation proposed several steps for improvement and the last one will come into force in 2018. Additionally, approximately the 25% best performing machines in terms of energy consumption may be awarded the Energy Star.

The performance of washing machines is tested in accordance with standard EN 60456:2011 that was developed under the mandate M/458 to facilitate the implementation of these

Regulations. This standard thoroughly describes the methodology for measuring the washing performance, energy consumption of the main cycle and low power modes, water consumption and time of the standard washing programmes.

Mandate M/458 also required the development of procedures and methods for measuring the rinsing efficiency of household washing machines. In principle EN 60456:2011 describes a procedure for measuring rinsing efficiency by measuring the remaining alkalinity in the load after the spinning. However, it suffers from poor reproducibility and does not allow for comparison of different machines tested in different locations. No agreement has been reached so far on a reliable methodology to measure the rinsing efficiency of these appliances.

Directive 96/60/EC regulates the energy labelling of washer-dryers. The performance of washer-dryers is tested in accordance with EN 50229 that was published in 1997 and modified subsequently to include the changes in EN 60456 and EN 61121. This standard deals with performance criteria including energy and water consumption for the 60°C cotton wash programme as specified in EN 60456 and energy and water consumption of the drying cycle based on EN 61121.

Revised standards would be needed for the implementation of the proposed Regulation for washing machines and washer-dryers.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

Consultation of interested parties

Methods used, main sectors targeted and general profile of respondents

The Commission consulted interested parties from within and outside the EU, and Member States' experts from the very beginning of the review study for this Regulation. The proposed working documents (on energy and ecodesign) are to be discussed in the Ecodesign and Energy Labelling Consultation Forum set up under Directive 2009/125/EC and Regulation 2017/1369. The Consultation Forum comprises Member States' experts and a balanced representation of interested parties, namely manufacturers, retailers, environmental NGOs and consumer organisations. The Commission presented a working document proposing a revision of the energy label requirements for washing machines and washer-dryers at the Consultation Forum meeting of 23 November 2017.

All relevant working documents were circulated to the Member States, the European Parliament and interested parties, and the working documents for the Consultation Forum were published in the Commission's CIRCA system, together with comments received in writing from interested parties. Commission staff also discussed the initiative bilaterally with various interested parties and Member States. The World Trade Organisation was notified of the draft Regulation on [*insert date*], to ensure that no barriers to trade (prohibited under the Technical Barriers to Trade Agreement) would be introduced.

Collection and use of expertise

Relevant scientific fields

Internal and external expertise was mainly gathered through the review study, which were designed to provide technical, environmental and economic analysis.

Methodology used

The technical, environmental and economic analysis followed the structure recommended in the study *Methodology for Ecodesign of Energy-related Products*.

Main organisations and experts consulted

The review study was conducted as an open process, with input from interested parties including individual manufacturers, associations of manufacturers, repairers and waste managers, representatives of the national bodies, environmental NGOs, consumer organisations and experts.

Publication of the expert advice

Interim results of the review study and further relevant material were published regularly on a website created for the study so that interested parties could consult this information and provide their input promptly[3]). Additionally, all registered stakeholders were invited to provide comments on the published study throughout an information exchange information platform (BATIS).

Interested parties were invited to consultation meetings held in June 2015, in November 2015 and in October 2016 to discuss the preliminary results. The written contributions received during the consultation process [and the minutes of the Consultation Forum meeting] are available on the Commission's CIRCA portal.

The review study made a number of recommendations for ecodesign and energy label requirements that could be introduced or modified for washing machines and washer-dryers. These were based on the technical, market and economic analysis carried out. The Commission used these recommendations, together with the most recent data available from the industry, as the basis for the possible ecodesign and energy label requirements presented to the Consultation Forum. The views expressed by the members of the Consultation Forum were addressed during the impact assessment.

The main results of the review study are the following:

- Energy label classes: Most of the washing machines already exceed the highest current energy efficiency class A+++, especially appliances with large rated capacity and heat pump washing machines. A rescaling of the energy labelling classes should therefore simplify comparisons for consumers and provide an incentive to manufacturers to continue improving their appliances
- Range of programme: Washing machines are characterised by offering a broad range of programmes, besides the standard cotton 40°C/60°C programmes which are the basis for the energy label. Usually, non-standard programmes are not optimised for energy efficiency to the same extent as the standard programmes. A user survey undertaken in 2015 indicated that 90% of respondents expect or understand the label to represent the performance of the washing machine in all programmes, not only in some of them.
- Use of standard programmes: Especially for washing machines, the standard cotton 40°C/60°C programmes are actually used only to a minor extent (17% altogether, or 5% if considering only the programmes lasting more than 3 hours). There are other programmes for the same purpose (i.e. the 'normal' cotton 40°C/60°C programmes) which are used more often (26% altogether) which consume more energy and water than the standard programmes. In some appliances, consumers can also alter the standard cotton 40°C/60°C programmes by adding options such as 'short' or different temperatures. Such alterations tend to increase the energy and/or water consumption of the standard programmes.

[3] (http://susproc.jrc.ec.europa.eu/Washing_machines_and_washer_dryers/index.html

- Programme duration: The standard cotton 40°C/60°C programme, whose combined consumption is displayed on the energy label and thus influences the purchase decisions of consumers, is designed to improve the energy efficiency, often with the consequence of reducing the washing temperature and prolonging the programme duration. This consequence is in contradiction with the usual preference of consumers. The 2015 user survey indicated that most consumers accept a maximum of 2 to 3h whereas there is clear reluctance to use longer programmes (beyond 3 hours).
- Loading of machines: In general, consumer research shows that the average amount of load in actual conditions of use is around 3.4 kg per cycle for the cotton programmes. This load is much lower than full load and lower than the average 5 kg load used for measurement under standard conditions for a 7 kg capacity machine. In parallel, the market seems to evolve towards an increase of the rated load capacity of machines. The current calculation of the Energy Efficiency Index makes it relatively easier for large machines to reach good labels. However, the lower consumption values per kilogram of laundry are only obtained if the machines are fully loaded, which is generally not the case in actual households conditions. Corrective actions should aim at increasing the loading of the machines, as it is one key aspect to increase their energy efficiency. According to the review study, even relatively small increases of load (e.g. 4-8%) would be beneficial for the overall performance of the machines.
- Technical innovation: the results from the review show that further energy savings for washing machines could be achieved by technical improvement in permanent magnet motors, improved drenching, improved load detection and partial load adaptation, automatic detergent dosage or consumer feedback on loading. These options barely influence the life cycle cost. The use of heat pumps leads to energy savings but these savings do not compensate for the initial investment cost over the lifetime of the appliance. For washer-dryers further improvement in the technical design includes options such as permanent magnet motors, improved load detection and adaptation, improve drenching, automatic detergent dosage, consumer feedback on loading and improvement of the drying phase through air condensing or design of combined wash&dry programme. These options barely influence the life cycle cost. The use of a heat pump for improving the drying process represents a significant investment cost but it also leads to significant energy saving and it can therefore be considered as a suitable technology option for this appliance.
- Durability: Statistics point to an increased proportion of household washing machines which have to be replaced earlier than the expected average lifetime, especially within the first 5 years due to a defect. Early device defects may be due in part to inadequate consumer behaviour.

The main result of the review study regarding the particular aspect mentioned in Article 7 of Regulation 1061/2010 is the following:

- Verification tolerances: the current tolerances (10% for single tests and 6% for three appliances tests) seem appropriate in view of stakeholders' feedback. However, this review study proposes changes in the testing portfolio which may need to revalidate the verification tolerances by means of round robin tests (also called ring test) performed among different laboratories.

[In order to assess different policy options that could address the points above, several scenarios were envisaged. In addition to 'business-as-usual' case (i.e. not introducing any change other than the re-scaling of the energy classes), options include introducing changes in

the testing conditions of products, keeping the energy label only, implementing ecodesign measures and re-scaling the energy labelling with more demanding conditions and integrating resource-efficiency aspects.

Based on an assessment of the costs and benefits of the options, the scenario that combines ecodesign requirements with rescaling of the energy label for washing machines and washer-dryers were chosen as the preferred options. Additionally, the option that pointed out the cotton 40°C programme as the unique testing programme for the washing process was considered as one of the most feasible and beneficial options.]

This option would result in lower overall energy consumption, lower water consumption and related emissions and could be achieved at no excessive lifecycle cost for the products within scope, as well as material efficiency requirements, which were analysed in parallel in consultation with experts and interested parties.

Implementation of the requirements proposed in the working documents would result in the following savings:

- for washing machines, around 1.4 TWh electricity savings can be achieved due to rescaling of the energy label.
- for washer-dries, around 0.1 TWh energy saving in 2030 due to the revised energy label.

The aim of the measures is to address the market failure that has led to the sub-optimal design and low use of washing machines and washer-dryers programmes with improved environmental performance. The chosen option best fulfils the requirements of the revised energy labelling framework regulation.

The proposed energy labelling Regulation will have the following impacts:

- realising the potential for cost-effective improvements to the energy efficiency of washing machines and washer-dryers;
- reducing the use-phase energy consumption (and related emissions) of washing machines and washer-dryers, thus reducing the overall effect that these products have on the environment;
- reducing the combined cost of purchase and use for the consumer: consumers may have to pay more for the washing machines and washer-dryers but they will save in energy costs, resulting in a pay-back time shorter than the lifetime of the product;
- keeping a clear legal framework that ensures fair competition;
- improving the competitiveness of industry;
- benefiting employment in the EU;
- harmonising EU requirements for the placing on the market of washing machines and washer-dryers relating to energy efficiency and emissions, thus ensuring the lowest possible administrative burden and cost for businesses;
- avoiding, as far as possible, creating a disproportionate burden or additional costs for manufacturers, by providing for transitional periods that take into account redesign cycles, the pace of innovation and the return on investment.

3. LEGAL ELEMENTS OF THE DELEGATED ACT

3.1. Summary of the proposed action for Energy Label Regulation

1. <u>Definition of the scope of the proposed Regulations</u>

The working document establishes energy label requirements for the placing on the market of electric mains-operated household washing machines and household washer-dryers, and electric mains-operated household washing machines and household washer-dryers that can also be powered by batteries, including built-in household washing machines and washer-dryers.

2. Information on the label for both appliances

(1) Re-scaled label introducing A to G classes in accordance with Regulation 2017/1369;

(2) Weighted energy consumption (E_c) in kWh per cycle;

(3) Weighted water consumption (W_c) in liters per cycle;

(4) Time programme in hh:mm;

(5) Clear indication that the values refer to the 'Cotton 40°C' programme and a combination of loadings

3.2. Measurements and calculations

Measurements and calculations of the relevant product parameters should be performed using methods that are reliable, accurate and reproducible.. Manufacturers may apply the measurement and calculation methods and harmonised standards established in accordance with Article 13 of Regulation (EU) 2017/1369 as soon as they are made available and their references are published for that purpose in the *Official Journal of the European Union*. Requirements for calculation and measurement methods are laid down in Annex X of the working document.

Following the incorporation into the scope of household washer-dryers and the proposal of new standard cotton programmes, CENELEC should adapt the existing measurement standards that would provide proper measurement methods for all household washing machines and household washer-dryers covered by the scope of the proposed measures.

3.3. Verification procedure for market surveillance purposes

When performing the market surveillance checks referred to in Article 8 of Regulation (EU) 2017/1369, the authorities of the Member States shall apply the verification procedure for the requirements set out in Annex IX of the draft revised Energy labelling regulation for household washing machines and washer-dryers.

The verification tolerances set out in this Annex relate only to the verification of the measured parameters by Member States authorities and shall not be used by the manufacturer or importer as an allowed tolerance to establish the values in the technical documentation.

3.4. Date for evaluation and possible revision

The revised Regulation is to be reviewed no later than five years after its entry into force of.

The main issues for a possible revision are:

- energy and water consumption;

- changes in the user behaviour increasing the use of most-efficient programmes;

- assessing if further requirements on increasing material efficiency and durability of the products, including a possible reparability scoring can be applied**.**

COMMISSION DELEGATED REGULATION (EU) …/...

of XXX

supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of household washing machines and washer-dryers,

repealing
Regulation (EU) No 1061/2010 with regard to energy labelling of household washing machines

and,
Commission Directive 96/60/EC implementing Council Directive 92/75/EEC with regard to energy labelling of household combined washer-dryers

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

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

Having regard to Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling [4] repealing Directive 2010/30/EU, and in particular Articles 11 and 16 thereof,

Whereas:

(1) Regulation (EU) 2017/1369 empowers the Commission to adopt delegated acts as regards the labelling or rescaling of the labelling of product groups representing significant potential for energy savings and, where relevant, other resources.

(2) Provisions on the energy labelling of household washing machines were established by Commission Delegated Regulation (EU) No 1061/2010 of 28 September 2010 supplementing Directive 2010/30/EU[5].

(3) Provisions on the energy labelling of household washer-dryers were established by Commission Directive 96/60/EC of 19 September 1996 implementing Council Directive 92/75/EEC[6].

(4) Washing machines and washer-dryers are among the product groups mentioned in Article 11(5)(b) of Regulation (EU) 2017/1369 for which the Commission should adopt a delegated act to introduce an A to G rescaled label.

(5) Regulation 1061/2010/EU contains a review clause in Article 7 requiring the Commission to review the regulation in the light of technological progress.

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[4] OJ L 198, 28.07.2017, p. 1.
[5] OJ L 314, 30.11.2010, p. 47
[6] OJ L 266, 18.10.1996, p. 1.

(6) The Commission has reviewed Regulation 1061/2010/EU and Directive 96/60/EC and analysed technical, environmental and economic aspects of household washing machines and household washer-dryers as well as real-life user behaviour. The review was undertaken in close cooperation with stakeholders and interested parties from the Union and third countries. The results of the review were made public and presented to the Consultation Forum established by Article 14 of Regulation (EU) 2017/1369.

(7) The review concluded that there was a need for the introduction of revised energy labelling requirements for household washing machines and that household washer-dryers should be included in the energy labelling Regulation for household washing machines. Consequently, the scope of the Regulation comprises household washing machines and household washer-dryers.

(8) Household washing-machines and household washer-dryers powered solely by an internal battery should be exempted from the scope of this Regulation.

(9) Non-household washing machines and non-household washer-dryers have distinct characteristics and uses, and should therefore be exempted from the scope of this Regulation.

(10) The main environmental aspects of household washing machines and household washer-dryers, identified as significant for the purposes of this Regulation, are energy and water consumption in the use phase. The annual electricity and water consumption of household washing machines subject to this Regulation was estimated to have been 36.4 TWh and 1590 million m^3, respectively, in the Union in 2015. For household washer-dryers, including the drying process, this was estimated to have been 2.78 TWh and 91.6 million m^3, respectively in the Union in 2015. Unless specific measures are taken, in a Business-as-usual (BAU) scenario, annual electricity of household washing machines is predicted to slightly decrease to 28.65 TWh and water consumption to increase to 2 080 million m^3 in 2030. The annual electricity and water consumption of household washer-dryers is predicted to be 2.59 TWh and 120 million m^3 in 2030.

(11) The review has shown that the electricity and water consumption of products subject to this Regulation can be further reduced by implementing energy labelling measures focusing on the most energy-efficient programmes offered by manufacturers and subsequently increased selection of these programmes by consumers.

(12) [The Commission has consulted the experts designated by each Member State in the Committee established by Article 18 of Regulation (EU) 2017/1369 and in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.]

(13) Regulation 1061/2010/EU and Directive 96/60/EC should be repealed and new provisions should be laid down by this Regulation.

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

1. This Regulation establishes requirements for the labelling of, and the provision of supplementary product information on, electric mains-operated household washing machines and electric mains-operated household washer-dryers including those which are

electric mains-operated but can also be powered by batteries, and including built-in household washing machines and washer-dryers.

2. This Regulation shall not apply to non-household washing machines and non-household washer-dryers.

Article 2

Definitions

In addition to the definitions laid down in Article 2 of Regulation (EU) 2017/1369 and the definitions laid down in Annex I of this Regulation, the following definitions shall apply for the purposes of this Regulation:

(1) ‘household washing machine’ means an automatic washing machine which cleans and rinses laundry by using water, chemical, mechanical and thermal means, and has a spin extraction function, and which is designed principally for domestic use in compliance with the Low Voltage Directive 2014/35/EU as stated by the manufacturer in the Declaration of Conformity (DoC);

(2) ‘household washer-dryer’ means a household washing machine which includes a means for drying the laundry by heating and tumbling in the same drum;

(3) ‘built-in household washing machine or household washer-dryer’ means a household washing machine or household washer-dryer intended to be installed in a cabinet, a prepared recess in a wall or a similar location, requiring furniture finishing;

(4) 'non-household washing machine' means a washing machine used in an environment other than in an individual household or not complying with any other aspect of the definition of a household washing machine;

(5) 'non-household washer-dryer' means a washer-dryer used in an environment other than in an individual household or not complying with any other aspect of the definition of a household washer-dryer;

(6) ‘programme’ means a series of operations that are pre-defined and are declared by the manufacturer as suitable for washing, drying or continuously washing-drying certain types of textile;

(7) ‘programme time’ means the time that elapses from the initiation of the programme until the completion of the programme excluding any end-user programmed delay;

(8) ‘remaining moisture content’ means for household washing machines the amount of moisture contained in the load at the end of the spinning phase, and for household washer-dryers the amount of moisture contained in the load at the end of the drying phase;

(9) ‘point of sale’ means a location where household washing machines or household washer-dryers are displayed or offered for sale, hire or hire-purchase.

Article 3

Obligations of suppliers

1. In addition to the obligations of suppliers laid down in Regulation (EU) 2017/1369, suppliers shall ensure that:

   (a) each household washing machine and household washer-dryer is supplied with a printed label in the format as set out in Annex IV(A) and each household washer-dryer is supplied with two printed label, one in the format as set out in Annex IV(A) for the washing cycle and one in the format as set out in Annex IV(B);

   (b) the parameters of the product information sheet, as set out in Annex V, are entered into the product database;

   (c) if requested by the dealer, the product information sheet shall be made available in printed form;

   (d) the content of the technical documentation uploaded into the product database is according to Annex VI;

   (e) any visual advertisement for a specific model of household washing machine or household washer-dryer contains the energy efficiency class and the range of efficiency classes available on the label in accordance with Annex X;

   (f) any technical promotional material concerning a specific model of household washing machine or household washer-dryer which describes its specific technical parameters includes the energy efficiency class of that model and the range of efficiency classes available on the label, in accordance with Annex X;

   (g) an electronic label in the format and containing the information as set out in Annex VIII shall be made available to dealers for each household washing machine (and for the washing cycle of the household washer-dryer) and for each household washer-dryer model;

   (h) an electronic product information sheet as set out in Annex VIII is made available to dealers for each household washing machine (and for the washing cycle of the household washer-dryer) and for each household washer-dryer model;

   (i) products are not placed on the market that have been designed so that a model's performance is automatically altered in test conditions with the objective of reaching a more favourable level for any of the parameters specified in this Regulation or included in the documentation provided with the product.

2. The energy efficiency class shall be based on the Energy Efficiency Index calculated in accordance with Annex III.

Article 4

Obligations of dealers

In addition to the obligations of dealers laid down in Regulation (EU) 2017/1369, dealers shall ensure that:

(a) each household washing machine or household washer-dryer, at the point of sale, bears the label or labels, respectively, provided by suppliers in accordance with Article 3(a) displayed on the outside of the front or top of the household washing machine or household washer-dryer, in such a way as to be clearly visible;

(b) the label and product information sheet are provided in the case of distance selling in accordance with Annexes VII and VIII;
(c) any visual advertisement for a specific model of household washing machine or household washer-dryer contains the energy efficiency class and the range of efficiency classes available on the label, in accordance with Annex X;

(d) any technical promotional material concerning a specific model of household washing machine or household washer-dryer, which describes its specific technical parameters includes the energy efficiency class of that model and the range of efficiency classes available on the label, in accordance with Annex X.

Article 5

Measurement 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, as set out in Annex III.

Article 6

Verification procedure for market surveillance purposes

Member States shall apply the procedure laid down in Annex IX when assessing the conformity of the declared energy efficiency class, the energy consumption per cycle for washing machines and the washing cycle of washer-dryers, energy consumption per cycle and per kg for washer-dryers, water consumption per cycle, programme time, power consumption in left-on and left-off mode, duration of the left-on mode, remaining moisture content, spin speed, airborne acoustic noise emissions during washing, and spinning and drying (if applicable).

Article 7

Revision

The Commission shall review this Regulation in the light of technological progress and present the results of this review to the Consultation Forum no later than five years after its entry into force. The review shall in particular assess if the improvement potential with regard to energy and water consumption during the use phase and environmental performance of household washing machines and washer-dryers has been fully exploited by realising changes of user behaviour towards increased purchase of the most energy and resource efficient appliances and the usage of the most energy and resource efficient programmes and if a reparability scoring system in the label would be feasible and beneficial.

In addition, the Commission shall review the label with a view to rescaling it when the requirements in Article 11 of the Regulation (EU) 2017/1369 are met.

Article 8

Repeal

Regulation 1061/2010 is repealed as of the day of entry into force of this Regulation.

Directive 96/60EC is repealed as of the day of entry into force of this Regulation.

Article 9

Entry into force and application

1. This Regulation shall enter into force on the 20th day following its publication in the Official Journal of the European Union.
2. It shall apply from XXXX.
3. The obligation in Article 3(1)(a) and (b) shall apply four months before XXXX.

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

Done at Brussels,

Done at Brussels,

Jean-Claude JUNCKER
The President

DRAFT ANNEXES

OF

COMMISSION DELEGATED REGULATION (EU) …/...

supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of household washing machines and washer-dryers,

This draft has not been adopted or endorsed by the European Commission. Any views expressed are the preliminary views of the Commission services and may not in any circumstances be regarded as stating an official position of the Commission. The information transmitted is intended only for the Member State or entity to which it is addressed for discussions and may contain confidential and/or privileged material.

ANNEX I

Definitions

In addition to the definitions laid down in article 2, the following definitions shall apply for the purpose of this Regulation:

(1) 'Washing cycle' means a complete washing process as defined by the required programme, consisting of a series of different operations (wash, rinse, spin);

(2) 'Drying cycle' means a complete drying process as defined by the required programme, consisting of a series of different operations (heat, cool down);

(3) 'Complete operation cycle' means a washing and drying process, consisting of a washing and a drying cycle;

(4) 'Continuous operation cycle' means a complete operation cycle without interruption of the process or additional action by an operator;

(5) 'Rated capacity' means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be treated in one complete cycle of a household washing machine or a household washer-drier respectively on the selected programme, when loaded in accordance with the manufacturer's instructions;

(6) 'Rated washing capacity' means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be washed in one complete cycle of a household washing machine on the selected programme, when loaded in accordance with the manufacturer's instructions;

(7) 'Rated drying capacity' means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be dried in one complete drying cycle of a household washer-drier on the selected programme, when loaded in accordance with the manufacturer's instructions;

(8) 'Rated washing-drying capacity' means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals of dry textiles of a particular type, which can be washed and dried in one continuous operation cycle of a household washer-dryer on the selected programme, when loaded in accordance with the manufacturer's instructions;

(9) 'Remaining moisture content' means for household washing machines the amount of moisture contained in the load at the end of the spinning phase, and for household washer-dryers the amount of moisture contained in the load at the end of the drying phase;

(10) 'Partial load' means part of the full rated capacity of a household washing machine or household washer-dryer for a given programme, e.g. half or a quarter of the load;

(11) 'Off-mode' means a condition where the machine is switched off using appliance controls or switches accessible to and intended for operation by the user during normal use to attain the lowest power consumption that may persist for an indefinite time while the machine is connected to a mains power source and used in accordance with the manufacturer's instructions; where there are no controls or switches

accessible to the user, ‘off-mode’ means the condition reached after the machine reverts to a steady-state power consumption on its own;

(12) ‘Left-on mode’ means the lowest power consumption mode that may persist for an indefinite time after completion of the programme and unloading of the machine without any further intervention of the user;

(13) ‘Equivalent washing machine or washer-dryer’ means a model of household washing machine, or a household washer-dryer respectively, placed on the market with the same rated capacity, technical and performance characteristics, energy and water consumption and airborne acoustical noise emissions during washing, spinning, or drying as another model of household washing machine, or household washer-dryer respectively, placed on the market under a different model? number by the same manufacturer;

(14) ‘end-user’ means a consumer buying or expected to buy a household washing machine or a household washer-dryer;

(15) 'display mechanism'” means any screen, including tactile screen, or other visual technology used for displaying internet content to users;

(16) '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;

(17) 'tactile screen' means a screen responding to touch, such as that of a tablet computer, slate computer or a smartphone;

(18) '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.

ANNEX II

A. Energy efficiency classes

The energy efficiency class of a household washing machine and of the washing cycle of a household washer-dryer shall be determined on the basis of its Energy Efficiency Index (EEI) as set out in Annex III(1)(A). The energy efficiency class of a household washer-dryer shall be determined on the basis of its Energy Efficiency Index (EEI) as set out in Annex III(1)(B) .

Table 1: Energy efficiency classes of household washing machines and of the washing cycle of household washer-dryers

Energy Efficiency Class	Energy Efficiency Index (EEI)
A (most efficient)	EEI < 30
B	30 ≤ EEI < 43
C	43 ≤ EEI < 59
D	59 ≤ EEI < 80
E	80 ≤ EEI < 105
F	105 ≤ EEI < 135
G (least efficient)	EEI ≥ 135

Table 2: Energy efficiency classes of household washer-dryers

Energy Efficiency Class	Energy Efficiency Index (C)
A	C < 0.29
B	0.29 ≤ C < 0.37
C	0.37 ≤ C < 0.48
D	0.48 ≤ C < 0.58
E	0.58 ≤ C < 0.71
F	0.71 ≤ C < 0.86
G	C ≥ 0.86

B. Spin-drying efficiency classes

The spin-drying efficiency class of a household washing machine and of the washing cycle of household washer-dryers shall be determined on the basis of the remaining moisture content (D) as set out in Table 3.

The remaining moisture content (D) of a household washing machine and of the washing cycle of household washer-dryers shall be determined in accordance with point 3 of Annex III.

Table 3: Spin-drying efficiency classes

Spin-drying efficiency class	Remaining moisture content (%)
A (most efficient)	$D < 45$
B	$45 \leq D < 54$
C	$54 \leq D < 63$
D	$63 \leq D < 72$
E	$72 \leq D < 81$
F	$81 \leq D < 90$
G (least efficient)	$D \geq 90$

C. Acoustic airborne noise emission classes

The acoustic airborne noise emission class of a household washing machine and of the washing cycle of household washer-dryers shall be determined on the basis of the acoustic airborne noise emissions as set out in Table 4.

The acoustic airborne noise emissions of a household washing machine and of the washing cycle of household washer-dryers shall be determined in accordance with state-of-the-art of the recommended standard.

The acoustic airborne noise emission class of a household washer-dryer shall be determined on the basis of the acoustic airborne noise emissions as set out in Table 5.

The acoustic airborne noise emission class of a household washer-dryer shall be determined in accordance with state-of-the-art of the recommended standard.

Table 4: Acoustic airborne noise emission classes for washing machines

Phase	Acoustic airborne noise emission class	Noise (dB)
Washing	Light	$n < 51$
	Medium	$51 \leq n < 57$
	Loud	$n \geq 57$
Spinning	Light	$n < 74$
	Medium	$74 \leq n < 77$
	Loud	$n \geq 77$

Table 5: Acoustic airborne noise emission classes for washer-dryers

Phase	Acoustic airborne noise emission class	Noise (dB)
Washing	Light	$n < 51$
	Medium	$51 \leq n < 57$
	Loud	$n \geq 57$
Spinning	Light	$n < 74$
	Medium	$74 \leq n < 77$
	Loud	$n \geq 77$
Drying	Light	$n < 59$
	Medium	$59 \leq n < 64$
	Loud	$n \geq 64$

ANNEX III

Measurement and calculation methods

1. CALCULATION OF THE ENERGY EFFICIENCY INDEX

A. Energy Efficiency Index of household washing machines and the washing cycle of household washer-dryers

For the calculation of the Energy Efficiency Index (EEI) of a household washing machine model or the washing cycle of a household washer-dryer model, the weighted energy consumption of the 'cotton 40°C' programme at full and partial loads is compared to its standard energy consumption.

(a) The Energy Efficiency Index (EEI) is calculated as follows, and is rounded to one decimal place[1]:

$$EEI = \frac{E_t}{SCE_c} \text{ x } 100$$

where:

E_t = weighted cycle energy consumption of the household washing machine or the washing cycle of the household washer-dryer;

SCE_C = standard cycle energy consumption of the household washing machine or the washing cycle of the household washer-dryer.

(b) The standard cycle energy consumption (SEC_c) is calculated in kWh per cycle and rounded to two decimal places as follows:

$$SCE_{c,\ 40C} = 0.08702\ x\ c + 0.18964$$

where:

c is the rated capacity of the household washing machine or the rated washing capacity of the washer-dryer for the cotton 40 °C programme.

(c) The weighted energy consumption (*Et)* is calculated in kWh per cycle as follows and rounded to three decimal places:

$$E_t = A\ x\ E_{t,40,full} + Bx\ E_{t,40,\frac{1}{2}load} + C\ x\ E_{t,40,\frac{1}{4}}$$

where:

[1] Numbers shall be rounded to the nearest number in accordance with B.3 Rule B of ISO 80000-1:2009. If the rounding takes place to the right of the comma, the omitted places shall not be filled with zeros.

$E_{t,40,full}$ is the energy consumption of the cotton 40 °C programme at full rated washing capacity;

$E_{t,40,½}$ is the energy consumption of the cotton 40 °C programme at half rated washing capacity;

$E_{t,40,1/4}$ is the energy consumption of the cotton 40 °C programme at a quarter of the rated washing capacity;

A is the weighting loading factor for the full rated washing capacity;

B is the weighting loading factor for the half rated washing capacity;

C is the weighting loading factor for a quarter of rated washing capacity.

The values of the weighting loading factors are as follows:

Table 6. Weighting loading factors depending on the rated capacity of the washing machine

Rated capacity (kg)	A	B	C
c ≤ 5 kg	0,343	0,428	0,229
5 kg < c ≤ 10 kg	0,286	0,428	0,286
> 10 kg	0,229	0,428	0,343

B. Energy Efficiency Index of the complete operation cycle of household washer-dryers

For the calculation of the Energy Efficiency Index (C) of the complete operation cycle of a household washer-dryer, the energy consumption of the 'cotton 40 °C' programme in combination with a drying cycle to cupboard dry at full and half load is compared to the standard cycle energy consumption. Should the washer-dryer offer a continuous operation cycle, this shall be used. If not the segmented operation cycle shall be used.

(a) The Energy Efficiency Index (C) is calculated as follows and rounded to one decimal place:

$$C = \frac{E_t}{c}$$

where:

E_t is cycle energy consumption of the household washer-dryer;

c is the rated washing-drying capacity of a complete operation cycle or the rated drying capacity of a segmented operation cycle of the household washer-dryer.

(b) The weighted energy consumption (Et) is calculated in kWh per cycle as follows and rounded to three decimal places:

$$E_t = \frac{[3\ x\ E_{t,40,full} + 2\ x\ E_{t,40,\frac{1}{2}load}]}{5}$$

where:

$E_{t,40,full}$ is the energy consumption of the complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at rated washing-drying capacity; or at rated drying capacity if a segmented operation cycle is used;

$E_{t,40,½}$ is the energy consumption of the complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at half rated washing-drying capacity; or at half rated drying capacity if a segmented operation cycle is used.

2. CALCULATION OF THE WEIGHTED WATER CONSUMPTION

(1) The weighted water consumption (W_t) of a household washing machine or the washing cycle of a household washer-dryer is calculated in litres and rounded to the nearest integer:

$$W_t = (A \times W_{t,40,full} + B \times W_{t,40,1/2} + C \times W_{t,40,1/4})$$

where:

$W_{t,40,\ full}$ = Water consumption of the cotton 40 °C' programme at full rated washing capacity;
$W_{t,40,1/2}$ = Water consumption of the cotton 40 °C' programme at half rated washing capacity;
$W_{t,40,\ 1/4}$ = Water consumption of the cotton 40 °C' programme at a quarter of the rated washing capacity;

A, B and C are the weighting loading factors as described in Annex III(1)(A).

(2) The weighted water consumption (W_t) of a complete operation cycle of a household washer-dryer is calculated as follows and rounded to the nearest integer:

$$W_t = (3 \times W_{t,40,full} + 2 \times W_{t,40,1/2})/5$$

where:

$W_{t,40,full}$ = Water consumption of the complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at rated washing-drying capacity; or at rated drying capacity if a segmented operation cycle is used;

$W_{t,40,1/2}$ = Water consumption of the complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at half rated washing-drying capacity; or at half rated drying capacity if a segmented operation cycle is used.

3. CALCULATION OF THE WEIGHTED REMAINING MOISTURE CONTENT

(1) The weighted remaining moisture content (D) of a household washing machine and the washing cycle of a household washer-dryer is calculated in percentage as follows and rounded to the nearest whole percent:

$$D = (A \times D_{40,full} + B \times D_{40,1/2} + C \times D_{40,1/4})$$

where:

$D_{40,full}$ = Residual moisture content of the 'cotton 40 °C' programme at full rated washing capacity;

$D_{40,1/2}$ = Residual moisture content of the 'cotton 40 °C' programme at half rated washing capacity;

$D_{40,1/4}$ = Residual moisture content of the 'cotton 40 °C' programme at a quarter of the rated washing capacity;

A, B and C are the weighting loading factors as described in Annex III(1)A.

(2) The weighted remaining moisture content (D) of a complete operation cycle of a household washer-dryer is calculated in percentage as follows and rounded to the nearest whole percent:

$$D = (3 \times D_{40,full} + 2 \times D_{40,1/2})/5$$

where:

$D_{40,full}$ = Residual moisture content of complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at rated washing-drying capacity; or at rated drying capacity if a segmented operation cycle is used;

$D_{40,1/2}$= Residual moisture content of complete operation cycle ('cotton 40 °C' programme in combination with drying to cupboard dry) of a household washer-dryer, at half rated washing-drying capacity; or at half rated drying capacity if a segmented operation cycle is used.

4. CALCULATION OF THE WEIGHTED DURATION OF THE PROGRAMME TIME

(1) The weighted duration (t) of a household washing machine and the washing cycle of a household washer-dryer is calculated in minutes as follows and rounded to the nearest integer (minute):

$$t_c = A \; x \; t_{t,40,full} + \; B \; x \; t_{t,40,\frac{1}{2}load} + C \; x \; t_{t,40,\frac{1}{4}load}]$$

where:

$t_{t,\ 40\ full}$ is the duration of the 40°C cotton programme at rated washing capacity , in minutes and rounded to the nearest minute;

$t_{t,\ 40\ 1/2load}$ is the duration of the 40°C cotton programme at half rated washing capacity, in minutes and rounded to the nearest minute;

$t_{t,\ 40\ 1/4load}$ is the the duration of the 40°C cotton programme at quarter of the rated washing capacity, in minutes and rounded to the nearest minute;

A, B and C are the weighting loading factors as described in Annex III(1)A.

(2) The weighted duration (t) of a complete operation cycle of a household washer-dryer is calculated in minutes as follows and rounded to the nearest integer (minute):

$$t_c = \frac{[3\ x\ t_{t,40,full} + 2\ x\ t_{t,40,\frac{1}{2}load}]}{5}$$

where:

$t_{t,40,\ full}$ is duration of a complete operation cycle (’cotton 40 °C’ programme in combination with drying to cupboard dry) of a household washer-dryer, at rated washing-drying capacity or at rated drying capacity if a segmented operation cycle is used, in minutes and rounded to the nearest minute;

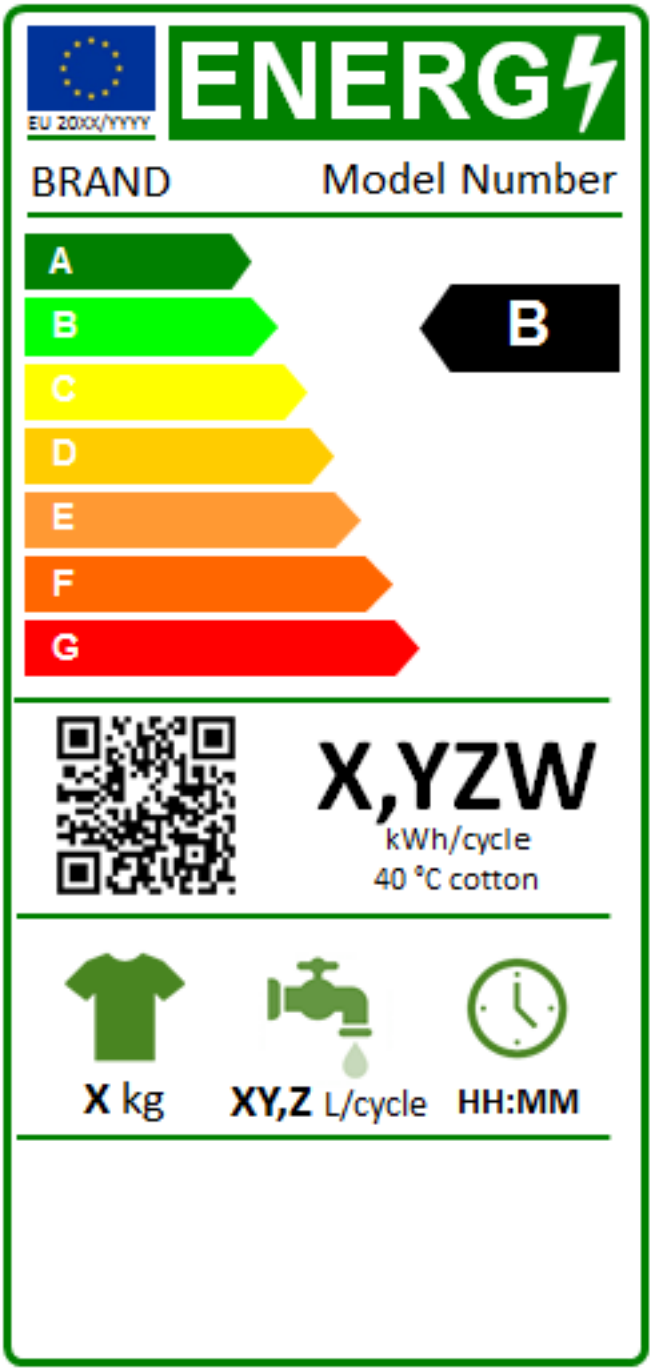
$t_{t,\ 40,\ ½\ load}$ is duration of a complete operation cycle (’cotton 40 °C’ programme in combination with drying to cupboard dry) of a household washer-dryer, at half rated washing-drying capacity or at half rated drying capacity if a segmented operation cycle is used, in minutes and rounded to the nearest minute.

ANNEX IV

A. Label for household washing machines and for the washing cycle for household washer-dryers

1. LABEL FOR HOUSEHOLD WASHING MACHINES AND FOR THE WASHING CYCLE OF HOUSEHOLD WASHER-DRYERS

Label:



I, II

III

VIII, IV

VII, V, VI

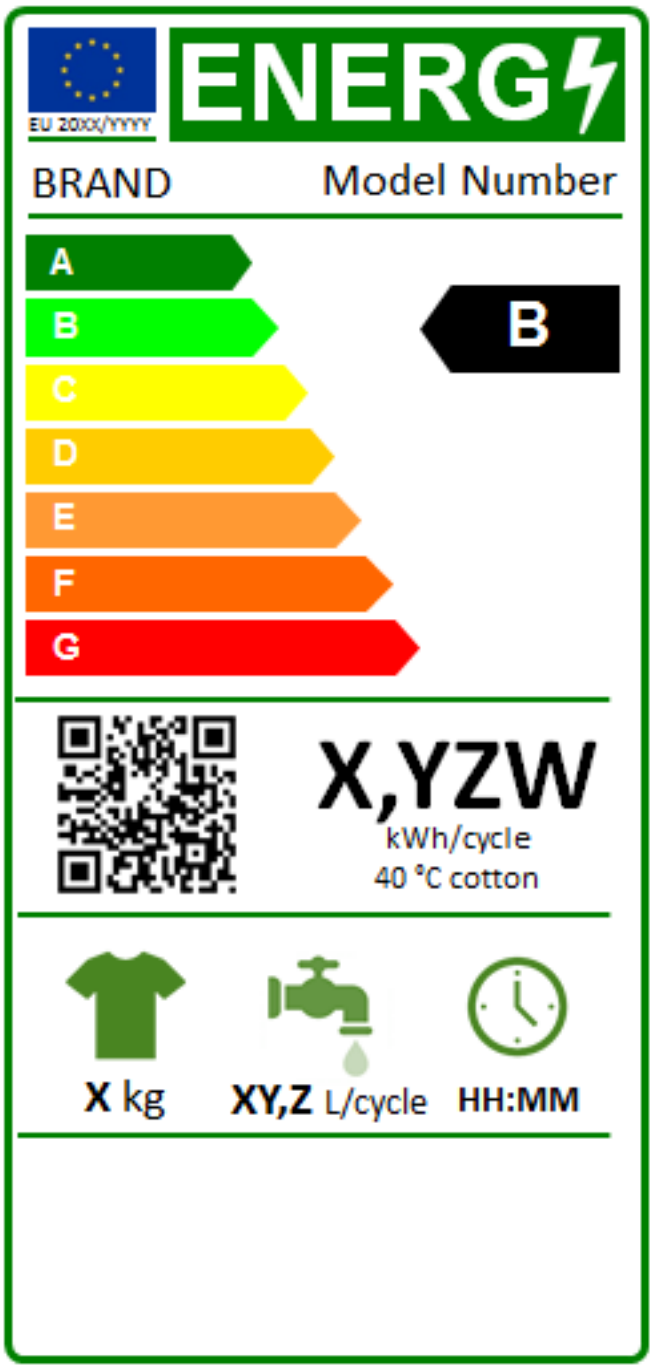
The following information shall be included in the label for household washing machines and for the washing cycle of household washer-dryers:

I. supplier's name or trade mark;
II. supplier's model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household washing machine model from other models with the same trade mark or supplier's name;
III. the (energy) efficiency class determined in accordance with Annex II; the head of the arrow containing the energy efficiency class shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;
IV. weighted energy consumption per cycle (E_t) in kWh per cycle, rounded to two decimal places in accordance with point 1 of Annex III;
V. weighted water consumption per cycle (W_t), in litres per cycle, rounded to the nearest integer in accordance with point 2 of Annex III;
VI. weighted time programme duration (t_t), expressed in hour:minutes per cycle, rounded to the nearest minute in accordance with point 4 of Annex III
VII. rated capacity, in kg, for the 40 °C cotton programme at rated washing capacity,
VIII. the QR code with access to the product information sheet

The design of the label shall be in accordance with point 2.A of Annex IV.

2. LABEL DESIGN FOR HOUSEHOLD WASHING MACHINES AND FOR THE WASHING CYCLE OF HOUSEHOLD WASHER-DRYERS

The design of the label for household washing machines shall be as in the figure below.



Whereby:

(a) The label must be at least 110 mm wide and 220 mm high. Where the label is printed in a larger format, its content must nevertheless remain proportionate to the specifications above.

(b) The background shall be white.

(c) Colours shall be 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**: 5 pt — colour: Cyan 100 % — round corners: 3,5 mm.
2. **EU logo**: colours: X-80-00-00 and 00-00-X-00.
3. **Energy logo:** colour: X-00-00-00.
   Pictogram as depicted: EU logo + energy logo (combined): width: 92 mm, height: 17 mm.
4. **Sub-logos border**: 1 pt — colour: Cyan 100 % — length: 92,5 mm.
5. **A-G scale**:
   — **Arrow**: height: 7 mm, gap: 0,75 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 18 pt, capitals and white; '+' symbols: Calibri bold 12 pt, capitals, white, aligned on a single row.
6. **Energy efficiency class**
   — Arrow: width: 26 mm, height: 14 mm, 100 % black.
   — Text: Calibri bold 29 pt, capitals and white; '+' symbols: Calibri bold 18 pt, capitals, white, aligned on a single row.
7. **Energy**
   — Text: Calibri regular 11 pt, capitals, 100 % black.
8. **Weighted annual energy consumption**
   — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
   — Value: Calibri bold 42 pt, 100 % black;
   — Second line:Calibri regular 17 pt, 100 % black.
9. **Weighted annual water consumption**
   — Pictogram as depicted
   — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
   — Value: Calibri bold 24 pt, 100 % black;
   — Second line: Calibri regular 16 pt, 100 % black.
10. **Rated capacity**
    — Pictogram as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
    — Value: Calibri bold 24 pt, 100 % black;
    — Second line: Calibri regular 16 pt, 100 % black.
11. **Spin-drying efficiency class**
    — Pictogram as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
    — Value: Calibri regular 16 pt, horizontal scale 75 %, 100 % black and Calibri Bold 22 pt, horizontal scale 75 %, 100 % black.
12. **Airborne acoustical noise emissions**
    — Pictograms as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.

— Value: Calibri bold 24 pt, 100 % black; and Calibri regular 16 pt, 100 % black.

13. Supplier's name or trade mark

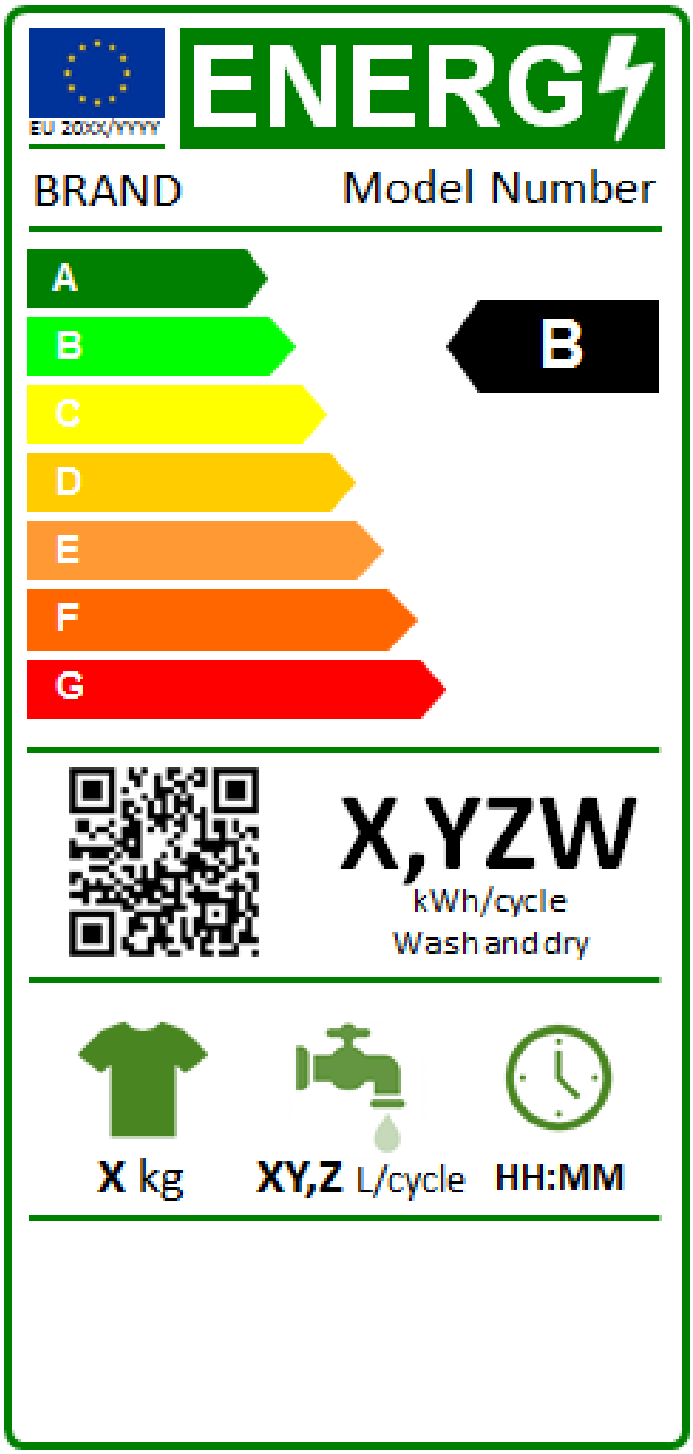
14. Supplier's model identifier

15. The supplier's name or trademark and model identifier should fit in a space of 92 × 15 mm.
16. **Numbering of the Regulation**: Calibri bold 12 pt, 100 % black.

B. Label for household washer-dryers

1. LABEL FOR HOUSEHOLD WASHER-DRYERS

Label:



I, II

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VIII, IV

VII, V, VI

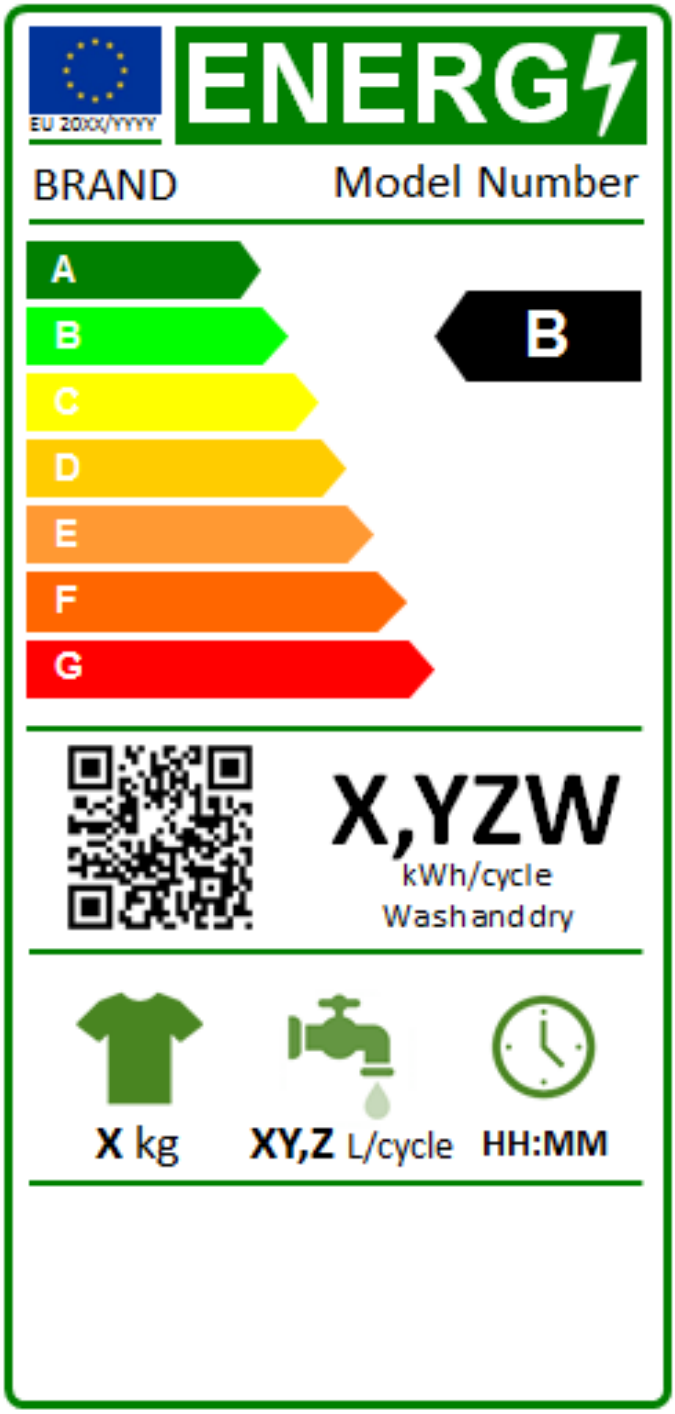
The following information shall be included in the label for household washer-dryers:

I. supplier's name or trade mark;
II. supplier's model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household washing machine model from other models with the same trade mark or supplier's name;
III. the energy efficiency class determined in accordance with Annex II; the head of the arrow containing the energy efficiency class shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;
IV. weighted energy consumption per cycle (E_t) in kWh per cycle, rounded to two decimal places in accordance with point 1 of Annex III;
V. weighted water consumption per cycle (W_t), in litres per cycle, rounded to the nearest integer in accordance with point 2 of Annex III;
VI. weighted time programme duration (t_t), expressed in hour:minutes per cycle, rounded to the nearest minute in accordance with point 4 of Annex III
VII. rated washing-drying capacity, in kg, for a complete operation cycle (the 40 °C cotton programme in combination with drying to cupboard dry) or rate drying capacity if a segmented operation cycle is used,
VIII. the QR code with access to the product information sheet.

The design of the label shall be in accordance with point B.2 of this Annex.

2. LABEL DESIGN FOR HOUSEHOLD WASHER-DRYERS

The design of the label for household washer-dryers shall be as in the figure below.



Whereby:

(a) The label must be at least 110 mm wide and 220 mm high. Where the label is printed in a larger format, its content must nevertheless remain proportionate to the specifications above.
(b) The background shall be white.

(c) Colours shall be 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):

17. **EU label border stroke**: 5 pt — colour: Cyan 100 % — round corners: 3,5 mm.
18. **EU logo**: colours: X-80-00-00 and 00-00-X-00.
19. **Energy logo:** colour: X-00-00-00.
    Pictogram as depicted: EU logo + energy logo (combined): width: 92 mm, height: 17 mm.
20. **Sub-logos border**: 1 pt — colour: Cyan 100 % — length: 92,5 mm.
21. **A-G scale**:
    — **Arrow**: height: 7 mm, gap: 0,75 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 18 pt, capitals and white; '+' symbols: Calibri bold 12 pt, capitals, white, aligned on a single row.
22. **Energy efficiency class**
    — Arrow: width: 26 mm, height: 14 mm, 100 % black.
    — Text: Calibri bold 29 pt, capitals and white; '+' symbols: Calibri bold 18 pt, capitals, white, aligned on a single row.
23. **Energy**
    — Text: Calibri regular 11 pt, capitals, 100 % black.
24. **Weighted annual energy consumption**
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
    — Value: Calibri bold 42 pt, 100 % black;
    — Second line:Calibri regular 17 pt, 100 % black.
25. **Weighted annual water consumption**
    — Pictogram as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
    — Value: Calibri bold 24 pt, 100 % black;
    — Second line: Calibri regular 16 pt, 100 % black.
26. **Rated capacity**
    — Pictogram as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
    — Value: Calibri bold 24 pt, 100 % black;
    — Second line: Calibri regular 16 pt, 100 % black.
27. **Spin-drying efficiency class**
    — Pictogram as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
    — Value: Calibri regular 16 pt, horizontal scale 75 %, 100 % black and Calibri Bold 22 pt, horizontal scale 75 %, 100 % black.
28. **Airborne acoustical noise emissions**
    — Pictograms as depicted
    — Border: 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.

— Value: Calibri bold 24 pt, 100 % black; and Calibri regular 16 pt, 100 % black.

29. Supplier's name or trade mark

30. Supplier's model identifier

31. The supplier's name or trademark and model identifier should fit in a space of 92 × 15 mm.

32. **Numbering of the Regulation**: Calibri bold 12 pt, 100 % black.

ANNEX V

Product information sheet

1. The information in the product information sheet of household washing machines or of the washing cycle of the household washer-dryers 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 trade mark;
    b. supplier's model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household washing machine or household washer-dryer model from other models with the same trade mark or supplier's name;
    c. rated washing capacity in kg for the 40 °C cotton programme;
    d. energy efficiency class determined in accordance with Annex III for household washing machines and for the washing cycle of household washer-dryers;
    e. weighted energy consumption (E_t) per cycle in kWh per cycle, rounded to two decimal places; it shall be described as: 'Energy consumption "X,YZW" kWh per cycle, for cotton 40 °C programme at a combination of full and partial loads. Actual energy consumption will depend on how the appliance is used';
    f. the energy consumption ($E_{t,60,full}$ $E_{t,40,full}$ $E_{t,40,½}$, $E_{t,40,1/4}$) of the 60 °C cotton programme at rated washing capacity and of the 40 °C cotton programme at rated washing capacity, half rated washing capacity and a quarter of the rated washing capacity;
    g. the energy consumption, water consumption, time programme duration and noise emissions of the washing and spinning phases of the most energy consuming washing programme at rated washing capacity;
    h. weighted power consumption of the on-mode, the power consumption of the off mode and of any mode before starting the washing cycle, in watts rounded to the nearest integer;
    i. the duration of the left-on mode (T_l) in minutes;
    j. weighted water consumption (W_C) in litres per cycle, rounded to the nearest integer; it shall be described as: 'Water consumption "X,Y" litres per cycle, for cotton programmes at 40 °C at a combination of full and partial loads. Actual water consumption will depend on how the appliance is used';
    k. weighted duration (t) in hours:minutes per cycle, rounded to the nearest minute; it shall be described as: 'The average duration of cotton 40 °C programme is "hh:mm". Actual duration will depend on how the appliance is used.';
    l. spin-drying efficiency class determined in accordance with Annex II, expressed as 'spin-drying efficiency class "X" on a scale from G (least efficient) to A (most efficient)'; this may be expressed by other means provided it is clear that the scale is from G (least efficient) to A (most efficient);
    m. maximum spin speed attained for the 40 °C cotton programme at full or partial loads, whichever is the lower, and remaining moisture content attained for the 40 °C cotton programme at full or partial loads, whichever is the greater;
    n. household washing machines:
        i. indication that the '40 °C cotton programme' is the washing programmes to which the information in the label and the product information sheet relates, that this programme are suitable to clean normally soiled cotton laundry

ii. the programme time of the ‘40 °C cotton programme’ at full and partial loads in hours:minutes and rounded to the nearest minute;

o. airborne acoustical noise emissions expressed in dB(A) re 1 pW and rounded to the nearest integer during the washing and spinning phases for the 40 °C cotton programme at rated washing capacity;

p. airborne acoustical noise emissions class for the washing and spinning phases for the 40 °C cotton programme at rated washing capacity in accordance with Annex II;

q. if the household washing machine is intended to be built-in, an indication to this effect.

2. The information in the product information sheet of household washer-dryers 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 trade mark;

b. supplier’s model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household washing machine or household washer-dryer model from other models with the same trade mark or supplier’s name;

c. rated washing-drying capacity in kg of cotton for the complete operation cycle at cotton 40°C programme in combination with drying to cupboard dry status or rated drying capacity to cupboard dry status if a segmented operation cycle is used

d. energy efficiency class determined in accordance with Annex III;

e. weighted energy consumption (E_t) per cycle in kWh per kg, rounded to two decimal places; it shall be described as: ‘Energy consumption “X,YZW” kWh per kg per cycle, for an average complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry at full and half loads. Actual energy consumption will depend on how the appliance is used’;

f. the energy consumption ($E_{t,full}$ and $E_{t,\ half}$) of a complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry at rated washing-drying capacity and at half rated washing-drying capacity or at drying capacity and half drying capacity if a segmented operation cycle is used ;

g. weighted power consumption of the on-mode, the power consumption of the off mode and of any mode before starting the complete operation cycle, in watts rounded to the nearest integer;

h. the duration of the left-on mode (T_l) if the household washer-dryer is equipped with a power management system;

i. weighted water consumption (W_C) in litres per cycle, rounded to the nearest integer; it shall be described as: 'Water consumption “X,Y” litres per cycle, for complete operation cycles at cotton 40 °C programme in combination with drying at cupboard dry at full and partial loads. Actual water consumption will depend on how the appliance is used and on the hardness of the water.'

j. weighted duration (t) in hours:minutes per cycle, rounded to the nearest minute; it shall be described as: ‘The average duration of a complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry is “hh:mm". Actual duration will depend on how the appliance is used’;

k. Household washer-dryers:

i. indication that the complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry is the programme to which the information in the label and the product information sheet relates,

that the programme is suitable to wash&dry normally soiled cotton laundry;

ii. the programme time of the complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry at full and partial load in hours:minutes and rounded to the nearest minute;

l. airborne acoustical noise emissions expressed in dB(A) re 1 pW and rounded to the nearest integer during the washing, spinning and drying phases for the complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry at rated washing-drying capacity or at rated drying capacity;

m. airborne acoustical noise emissions class for the washing, spinning and drying phases for the complete operation cycle at cotton 40 °C programme in combination with drying at cupboard dry at rated washing-drying capacity or at rated drying capacity in accordance with Annex II;

n. if the household washer-dryer is intended to be built-in, an indication to this effect.

3. One product information sheet may cover a number of household washing machines or household washer-dryer models supplied by the same supplier.
4. The information contained in the product information sheet 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 or in point 2 not already displayed on the label shall also be provided.

ANNEX VI

Technical documentation

1. The technical documentation referred to in Article 3(c) shall include:
   (a) the name and address of the supplier;
   (b) a general description of the washing machine or washer-dryer model, sufficient for it to be unequivocally and easily identified;
   (c) where appropriate, the references of the harmonised standards applied;
   (d) where appropriate, the other technical standards and specifications used;
   (e) identification and signature of the person empowered to bind the supplier;
   (f) an indication stating whether the household washing machine or household washer-dryer model releases or not silver ions during the washing cycle as follows: 'This product may release/does not release silver ions during the washing cycle.';
   (g) technical parameters for measurements as follows:
      i. energy consumption;
      ii. programme time;
      iii. water consumption;
      iv. power consumption in 'off-mode';
      v. power consumption in 'left-on mode';
      vi. 'left-on mode' duration;
      vii. remaining moisture content;
      viii. airborne acoustical noise emissions;
      ix. maximum spin speed;
   (h) the results of calculations performed in accordance with Annex III.
2. Where the information included in the technical documentation file for a particular household washing machine or household washer-dryer model has been obtained by calculation on the basis of design, or extrapolation from other equivalent household washing machines (household washer-dryers, respectively) or both, the documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by suppliers to verify the accuracy of the calculations undertaken. The information shall also include a list of all other equivalent household washing machine or household washer-dryer models where the information was obtained on the same basis.

ANNEX VII

Information to be provided in the case of distance selling, except distance selling on the Internet

1. Any paper based distance selling must show the energy class and the range of available efficiency classes as following the example below, with the colour of the arrow matching the letter of the energy class:

It must be possible for the customer to access the full label and the product information sheet through a free access website, or to request a printed copy.

2. Telemarketing based distance selling must specifically inform the customer of the energy class of the product and the range of energy classes available on the label, and that they can access the full label and the product information sheet through a free access website, or to request a printed copy.

ANNEX VIII

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 and visual technology used for displaying internet content to end-users;
   (b) 'nested display' means visual interface where an image or data set is accessed by 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 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(1)(f) shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the label is clearly visible and legible and shall be proportionate to the size specified in point A.2 of Annex VI for household washing machines and the washing cycle of the household washer-dryer and point B.2 of Annex IV for household washer-dryers. 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 on the label;
   (b) indicate on the arrow energy efficiency class of the product 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;
   (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 in a font size equivalent to that of the price.

The appropriate product information sheet made available by suppliers in accordance with Article 3(1)(g) shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the product information sheet is clearly visible and legible. The product information sheet may be displayed using a nested display, in which case the link used for accessing the product information sheet shall clearly and legibly indicate ‘Product information sheet’. If nested display is used, the product information sheet shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the link.

ANNEX IX

Product compliance verification by market surveillance authorities

The verification tolerances set out in 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.

When verifying the compliance of a product model with the requirements laid down in this Regulation, for the requirements referred to in this Annex, the authorities of the Member States shall apply the following procedure:

(1) The Member State authorities shall verify one single unit of the model.

(2) The model shall be considered to comply with the applicable requirements if:

(a) the values given in the technical documentation pursuant to Article 3(3) of Regulation (EU) 2017/1369 (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the supplier than the corresponding values given in the test reports; and

(b) the values published on the label and in the product fiche are not more favourable for the supplier than the declared values, and the indicated energy efficiency class is not more favourable for the supplier than the class determined by the declared values; and

(c) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 7.

(3) If the results referred to in points 2(a) or (b) are not achieved, the model and all models that have been listed as equivalent household washing machine or washer-dryer models in the supplier's technical documentation shall be considered not to comply with this Regulation.

(4) If the result referred to in point 2(c) is not achieved, the Member State authorities shall select three additional units of the same model for testing. As an alternative, the three additional units selected may be of one or more different models that have been listed as equivalent models in the supplier's technical documentation.

(5) The model shall be considered to comply with the applicable requirements if for these three units, the arithmetical mean of the determined values complies with the respective tolerances given in Table 7.

(6) If the result referred to in point 5 is not achieved, the model and all models that have been listed as equivalent household washing machine or washer-dryer models in the supplier's technical documentation shall be considered not to comply with this Regulation.

(7) The Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay after a decision being taken on the non-compliance of the model according to points 3 and 6.

Member States' authorities shall use measurement procedures which take into account the generally recognised, state-of-the-art, reliable, accurate and reproducible measurement methods, including methods set out in documents whose reference numbers have been

published for that purpose in the *Official Journal of the European Union*. The Member State authorities shall use the measurement and calculation methods set out in Annex III.

The Member State authorities shall only apply the verification tolerances that are set out in Table 7 and shall only use the procedure described in points 1 to 7 for the requirements referred to in this Annex. No other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

Table 7: Verification tolerances for measured parameters

Measured parameter	**Verification tolerances**
Energy consumption	The measured value shall not be greater than the rated value of E_t by more than 10 %. Where three additional units need to be selected, the arithmetic mean of the determined values of these three units shall not exceed the declared value of the energy consumption by more than 6%.
Programme time	The measured value shall not be longer than the rated values T_t by more than 10 %.
Water consumption	The measured value shall not be greater than the rated value of Wt by more than 10 %.
Remaining moisture content	The measured value shall not be greater than the rated value of D by more than 10 %.
Spin speed	The measured value shall not be less than the rated value by more than 10 %.
Power consumption in off mode and left-on mode (P_o and P_l)	The measured value of power consumption P_o and P_l of more than 0.50 W shall not exceed the declared values of P_o and P_l by more than 10 %. The determined values of power consumption P_o and P_l of less than or equal to 0.50 W shall not exceed the declared values of P_o and P_l by more than 0.050 W.
Power consumption in modes before the initation of the cleaning programme (P_b)	The measured values of power consumption P_b of more than 1W shall not exceed the declared values of P_b by more than 10%. The determined values of power consumption P_b of less than or equal to 1 W shall not exceed the declared values of P_b by more than 0.10W
Power consumption in networked-standby mode (P_n)	The measured values of power consumption P_n of more than 2W shall not exceed the declared values of P_n by more than 10%. The determined values of power consumption P_n of less than or equal to 2 W shall not exceed the declared values of P_n by more than 0.20W
Duration of the left-on mode	The measured value shall not be longer than the rated value of T_l by more than 10 %.
Airborne acoustical noise emissions	The measured value shall meet the rated value.

ANNEX X

Displaying the energy class and the range of efficiency classes in visual advertisements and in promotional material

1. For the purposes of ensuring conformity with the requirements laid down in Article 3(1)(e) and Article 4(1)(c), the energy class and the range of efficiency classes available on the label shall be shown on visual advertisements as follows, with the colour of the arrow matching the letter of the energy class::

2. For the purposes of ensuring conformity with the requirements laid down in Article 3(1)(f) and Article 4(1)(d) the energy class and the range of efficiency classes available on the label shall be shown in promotional material as follows,, with the colour of the arrow matching the letter of the energy class: