



Brussels, **XXX**
[...](2018) **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 refrigerating appliances

and repealing Commission Delegated Regulation (EU) No 1060/2010

(Text with EEA relevance)

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE DELEGATED ACT

Legal and political context of the proposal

The EU Energy Labelling Framework Regulation¹ sets a framework for setting energy labelling requirements for energy-related products at EU level. Energy labelling is a key EU policy instrument for informing consumers about the energy efficiency and other environmental aspects of energy-related products placed on the internal market. The energy label is recognised and used by 85 % of Europeans².

Under this framework, household refrigerating appliances are regulated by Commission Delegated Energy Labelling Regulation (EU) No 1060/2010³.

Article 7 of the Energy Labelling Regulations for household refrigerators requires this regulation to be reviewed in the light of technological progress no later than five years after its entry into force. This review should in particular assess the verification tolerances set out in Annex VII and the possibilities for removing or reducing the values of the correction factors in Annex VIII.

In addition, in August 2017, the new Energy Labelling Framework Regulation (EU) 2017/1369 entered into force, repealing the Energy Labelling Framework Directive 2010/30/EU⁴. Under the repealed Directive, energy labels were allowed to include A+ to A+++ classes to address the overpopulation of the top classes. Over time, due to technological development, the A+ to A+++ class also became overpopulated, rendering the labels significantly less effective. To resolve this, the new framework regulation requires a rescaling of existing energy labels, back to the original A to G scale. Article 11 of the Energy Labelling framework Regulation lists five priority product groups for which new delegated acts with rescaled energy labels must be adopted at the latest on 2 November 2018. Household refrigerating appliances is one of the priority product groups.

Finally, several new policy initiatives indicate that ecodesign and energy labelling policies are relevant in a broader political context. The main initiatives in question are:

- the energy union framework strategy⁵, which calls for a sustainable, low-carbon and climate-friendly economy;
- the Paris Agreement⁶, which calls for a renewed effort in carbon emission abatement;
- the Gothenburg Protocol⁷, intended to control air pollution;

¹ Regulation (EU) 2017/1369 of the European Parliament and of the council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU. OJ L 198, 28.7.2017, p. 1 (Energy Labelling Framework Regulation)

² [Study on the impact of the energy label – and potential changes to it – on consumer understanding and on purchase decisions - . LE London Economics and IPSOS, October 2014](#)

³ Commission Delegated Regulation (EU) No 1060/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household refrigerating appliances, OJ L 314, 30.11.2010, p. 17.

⁴ Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products. OJ L 153, 18.6.2010, p. 1 (Energy Labelling Framework Directive).

⁵ [Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee, The Committee Of The Regions And The European Investment Bank - A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. COM/2015/080 final.](#) (energy union framework strategy)

⁶ [Global agreement in response to climate change of 2015 \(Paris Agreement\)](#)

- the circular economy action plan⁸, which stresses the need to include reparability, recyclability and durability in ecodesign;
- the Emissions Trading Scheme (ETS)⁹, intended to achieve cost-effective greenhouse gas (GHG) emissions reductions. GHG emissions are indirectly affected by the energy consumption of electricity-using products covered by ecodesign and energy labelling policies;
- the energy security strategy¹⁰, which aims to ensure a stable and abundant supply of energy.

General context

The review of the regulations has been carried out during several studies: a 2014 omnibus review study¹¹, a 2016 review study¹² and a 2017 complementary study¹³. The Commission Ecodesign Consultation Forum decided in May 2014 that a more extensive preparatory review study was necessary. The second review study confirmed this and concluded that setting stricter ecodesign requirements in combination with energy labelling requirements would achieve energy savings of about 10 TWh in 2030, leading to a level of 47 TWh/a. In addition, it proposed possible measures on spare parts to tackle circular economy aspects of household refrigerating appliances.

The 2017 complementary study investigated the possible role of household refrigeration in reducing food waste and concluded that refrigerating appliances could indeed contribute to the reduction of food waste.

Following the conclusions of these review studies, the main objectives of this proposal are to:

- update the current energy label for refrigerating appliances, as it no longer allows consumers to differentiate effectively and sufficiently between the appliances on the market;
- clarify the scope and set appropriate requirements for the different product groups. The current regulation has an unclear and technology-prescriptive scope, this creates uncertainty as to whether some products are in or out of the scope of the current regulations, this creates possible loopholes, and results in less appropriate requirements. This causes an unlevel playing field for industry, and Market Surveillance Authorities (MSAs) have difficulties to evaluate the scope and perform proper market surveillance.

⁷ [Protocol to abate acidification, eutrophication and ground-level ozone of 1999](#) (Gothenburg Protocol)

⁸ [Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions Closing The Loop - An EU Action Plan For The Circular Economy](#) (circular economy action plan)

⁹ https://ec.europa.eu/clima/policies/ets_en (ETS)

¹⁰ Communication of the commission to the European Parliament and the Council European Security Strategy. COM/2014/0330 final.

¹¹ [Omnibus Review Study on Cold Appliances, Washing Machines, Dishwashers, Washer-Driers, Lighting, Set-top Boxes and Pumps – VHK, VITO, Viegand Maagøe and Wuppertal institute, March 2014](#). (2014 omnibus review study)

¹² [Preparatory/review study on Commission Regulation \(EC\) No. 643/2009 and Commission Delegated Regulation \(EU\) No. 1060/2010, Final report. VHK, March 2016](#). (2016 review study)

¹³ [Preparatory/review study on Commission Regulation \(EC\) No. 643/2009 and Commission Delegated Regulation \(EU\) No. 1060/2010 – complementary research on optimal food storage conditions in refrigeration appliances – VHK, February 2017](#). (2017 complementary study)

Consistency with existing provisions in the policy area

The **current Energy Labelling Regulation for household refrigerating appliances** sets energy labelling requirements for household refrigerating appliances and in doing so complements the Ecodesign Regulation. The scope of the current regulation is household refrigerating appliances with a volume lower than or equal to 1500 l. This also includes household refrigerating appliances sold for non-household use or for the refrigeration of items other than foodstuffs and electric mains-operated household refrigerating appliances that can be battery-operated. It excludes refrigerating appliances powered by energy sources other than electricity, battery-operated appliances, custom made appliances, appliances for the tertiary sector and appliances where the primary function is not the storage of foodstuffs. This proposal clarifies the scope and makes it technologically neutral, it does not change the intended scope. The current regulation for household refrigerating appliances includes an energy label with an A+++ to G scale. This proposal suggests an energy label with an A to G scale, according to the new Energy Labelling Framework Regulation with energy efficiency classes updated in the light of technological progress. It is the aim to repeal the current ecodesign regulation as of the date of application of the revised regulation.

Ecodesign regulations, setting ecodesign requirements, are usually adopted in parallel with energy labelling measures. This is to ensure a coherent impact of the two measures: energy labelling should reward the best performing products through mandatory rating, while ecodesign should ban the worst performers. The **current Ecodesign Regulation for household refrigerating appliances** sets some generic requirements and minimum energy efficiency requirements for household refrigerating appliances. The scope is the same as the scope of the current Energy Labelling Regulation. This regulation is also being revised. It is the intention to align the application date of the revised Ecodesign and Energy Labelling Regulation simultaneously to ensure maximum interaction.

The **Energy Labelling Regulation for professional refrigeration**¹⁴ includes professional refrigerated storage cabinets and blast cabinets, condensing units operating at low or medium temperature or both, process chillers intended to operate at low or medium temperature. This proposal exempts products in the scope of the Ecodesign Regulation for professional refrigeration, therefore will not be overlapping requirements.

Energy Labelling Regulations on components - In addition to energy labelling regulations on the final products, energy labelling requirements might be applicable on the product's components. Currently, there is one component that is regulated under energy labelling is the following, that is lamps (Energy Labelling Regulation (EU) 874/2012¹⁵). The components of household refrigerating appliances are not in the scope of this regulation.

Consistency with other Union policies

The **Low Voltage Directive**¹⁶ regulates health and safety aspects including e.g. mechanical, chemical, noise related or ergonomic aspects. Apart from this, the directive seeks to ensure

¹⁴ Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers. (OJ L 177, 8.7.2015, p. 19).

¹⁵ Commission Delegated Regulation (EU) No 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires. OJ L 258, 26.9.2012, p. 1

¹⁶ Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. (OJ L 96, 29.3.2014, p. 357). (LVD)

that the covered equipment benefits fully from the Single Market. The LVD covers electrical equipment operating with a voltage between 50 and 1000 V for alternating current and between 75 and 1500 V for direct current. Falling under this category, household refrigerating appliances are covered by the scope of the LVD, but there is no overlapping in terms of the type of requirements.

The **WEEE Directive**¹⁷ set requirements on e.g. recovery and recycling of Waste of Electrical and Electronic Equipment to reduce the negative environmental effects resulting from the generation and management of WEEE and from resource use. The WEEE Directive applies directly to household refrigerating appliances. Ecodesign implementing measures can complement the implementation of the WEEE Directive by including e.g. measures for material efficiency, thus contributing to waste reduction, instructions for correct assembly and disassembly, thus contributing to waste prevention and others.

The **RoHS Directive**¹⁸ restricts the use of six specific hazardous materials and four different phthalates found in electrical and electronic equipment (EEE). Household refrigerating appliances products are directly covered by the RoHS Directive. There is no overlapping requirement with a proposed ecodesign regulation.

The **REACH Regulation**¹⁹ restricts the use of Substances of Very High Concern (SVHC) to improve protection of human health and the environment. The REACH Directive applies directly to household refrigerating appliances. There is no overlapping requirement with a proposed ecodesign regulation.

The **EMC Directive**²⁰ sets requirements for the Electro-Magnetic Compatibility performance of electrical equipment to ensure that electrical devices will function without causing or being affected by interference to or from other devices. The EMC Directive applies directly to household refrigerating appliances. There is no overlapping requirement with a proposed ecodesign regulation.

The **ETS** sets a cap on the total amount of certain greenhouse gasses that can be emitted by installations. This cap reduces over time, so that the total emissions fall. Within this cap companies receive or buy emission allowances which they can trade with one another as needed. They can also buy a limited amount of international credits. The ETS does not directly apply to household refrigerating appliances, however, it does apply to electricity production. Hence, if the electricity consumption of household refrigerating appliances reduces, the electricity companies will have to trade less or the price of carbon will reduce under the cap system. Consequently, the price of electricity will drop.

¹⁷ Directive 2012/19/EU Of The European Parliament And Of The Council Of 4 July 2012 On Waste Electrical And Electronic Equipment. (OJ L 197 of 27-07-2012, p 38). (WEEE Directive)

¹⁸ 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. (OJ L 174, 1.7.2011, p. 88). (RoHS Directive)

¹⁹ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. (OJ L 396, 30.12.2006, p. 1). (REACH Regulation)

²⁰ Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility. (OJ L 96, 29.3.2014, p. 79). (EMC Directive)

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

Legal basis

The legal basis for acting at EU level through the Ecodesign Labelling Framework Regulation is Article 114 and Article 194 of the Treaty on European Union and the Treaty on the Functioning of the European Union (TFEU)²¹ respectively. Article 114 relates to the ‘the establishment and functioning of the internal market’, while Article 194 gives, amongst others, the EU the objective ‘in the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment’ to ‘ensure security of energy supply in the Union’ and ‘promote energy efficiency and energy saving and the development of new and renewable forms of energy’.

Subsidiarity (for non-exclusive competence)

Action at EU level gives end-users the guarantee that they buy an energy efficient product and provides end-users with harmonised information no matter in which Member States they purchase their product. This is becoming all the more relevant as the online trade increases. With energy labelling at EU level, energy efficient products are promoted in all Member States, creating a larger market and hence greater incentives for the industry to develop them.

It is essential to ensure a level playing field for manufactures and dealers in terms requirements to be met before placing an appliance on the market and in terms of the information supplied to customers for sale across the EU internal market. For this reason EU-wide legally binding rules are necessary.

Market surveillance is carried out by the market surveillance authorities appointed by the Member States. In order to be effective, the market surveillance effort must be uniform across the EU to support the internal market and incentivise businesses to invest resources in designing, making and selling energy efficient products.

Finally, Regulation (EU) 2017/1369 requires the Commission to update the current energy labelling regulation for fridges, in particular as regards rescaling the label to remove the A+ to A+++ classes.

There is clear added value in requiring energy label class limits at EU-level. Without harmonised requirements at EU level, Member States would be incentivised to lay down national product-specific energy labelling requirements in the framework of their environmental and energy policies. This would undermine the free movement of products. Before the existing energy label measures were implemented, this was in fact the case for many products.

Proportionality

The Energy Labelling Framework Regulation include a built-in proportionality and significance test in Article 16(2), which state that the delegated acts shall specify product that meet the following criteria:

- (a) the product group should have significant potential for saving energy and where relevant, other resources;
- (b) models with equivalent functionality should differ significantly in the relevant performance levels within the product group;

²¹ Consolidated version of the Treaty on the Functioning of the European Union. (OJ C 326, 26.10.2012, p. 47.) (TFEU)

- (c) there should be no significant negative impact as regards the affordability and the life cycle cost of the product group;
- (d) the introduction of energy labelling requirements for a product group should not have a significant negative impact on the functionality of the product during use.

An assessment of the proposal in view of such requirements was carried out in the impact assessment. This concluded that the proposal fulfils these criteria, while achieving the objectives described in Section 1 of this Explanatory Memorandum.

Summary of the proposed action

Scenarios with different levels of energy efficiency were assessed in an impact assessment, i.e:

- (a) a business-as-usual scenario, where the current Ecodesign and Energy Labelling Regulations for household refrigerating appliances and all other relevant EU-level policies and measures are assumed to continue;
- (b) a least life cycle cost scenario with:
 - an EEI equal to that of the least life cycle cost;
 - an A to G rescaled energy label;
 - measurement methods and requirements based on the latest test standard;
 - calculation methods and requirements based on new metrics;
 - requirements to improve reparability of the appliances;
 - requirements to improve the recyclability of the appliances;
 - measures to prevent food waste.
- (c) a lenient scenario with the same requirements as the least life cycle cost scenario, but with an energy efficiency index (EEI) that is 20 % higher than the least life cycle cost;
- (d) an ambitious scenario with the same requirements as the least life cycle cost scenario, but with an EEI 25 % lower than the least life cycle cost.

The least life cycle cost scenario was retained as the preferred scenario, as this was the scenario, which fulfilled the objectives in the best way, while meeting the criteria described in the previous section.

By 2030, this scenario is estimated to result in:

- energy savings of 9,6 TWh/yr and GHG emission savings of 3,1 MtCO₂eq./a, i.e. 0,66 % of the Union's 2030 target for final energy consumption savings and 0,25 % of the EU's 2030 target for GHG-emissions savings;
- savings on annual end-user expenditure of EUR 2,8 billion and extra business revenue of EUR 0,44 billion per year;
- an alignment with technological progress and global minimum energy efficiency requirements in other economies;
- contributing to EU industry's competitiveness and leading role as high-quality manufacturers;
- safeguarding of SMEs working in niche markets.

Updated energy label

Technology for household refrigerating appliances keeps evolving, thus improving energy efficiency. At the time of entry into force of Regulation (EU) No 1060/2010, no models qualified for the A+++ energy efficiency class and the share of models qualifying for the A++ energy efficiency class was less than 10 %. Today, the top three energy efficiency classes are overpopulated, with the share of models in the A+++ label being more than 11 %, and more than 40 % in the A++ class²². This makes it more difficult to distinguish between models. Moreover, the ‘A+’, ‘A++’ and ‘A+++’ classes introduced by the Energy Labelling Framework Directive (Directive 2010/30/EU) have proved to be less effective in persuading consumers to buy more efficient products than the A to G scale²³.

The energy label proposal will apply from 1 April 2021 onwards. The efficiency classes are set out in Table 1. The G class will be empty for standard household refrigeration appliances, but will be used for wine storage and low noise appliances, for which more lenient limit values will be used. The A class is expected to be empty in 2021, in line with the new Energy Label Framework Regulation.

Table 1
LLCC - Energy efficiency classes

Energy efficiency class	New EEI (current EEI)
A	EEI ≤ 41 (13)
B	41 (13) < EEI ≤ 51 (16)
C	51 (16) < EEI ≤ 64 (20)
D	64 (20) < EEI ≤ 80 (24)
E	80 (24) < EEI ≤ 100 (30)
F	100 (30) < EEI ≤ 125 (38)
G	EEI > 125 (38)

The number of models per energy efficiency class (current Energy Labelling Regulation) extrapolated to 2030, are shown in Figure 1.

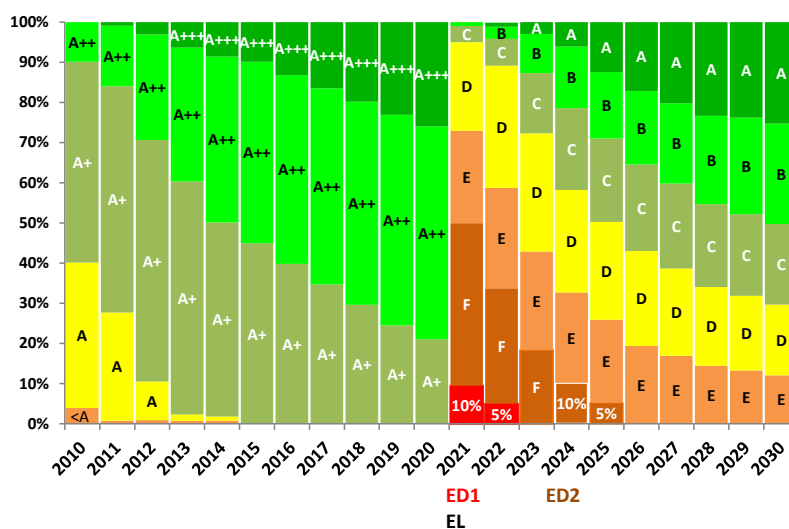


Figure 1: Energy label class distribution of standard household refrigerating appliance models available in the European Union over the period 2010-2030 (actual figures for 2010-2016 and projections for 2017-2030) with proposed LLCC-measures (APPLiA database 2016)

²² Home Appliances Europe, formerly CECED (APPLiA) database 2016

²³ Commission Staff Working Document Impact Assessment Accompanying the document Proposal for a Regulation of the European Parliament and of the Council setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU. SWD/2015/0139 final (Impact Assessment Energy Labelling Regulation)

Table 2 gives the distribution of models in each energy efficiency class according to the current EEI and current Energy Labelling Regulation (top) and according to the proposal.

Table 2
Energy label class distribution and EEI of household refrigerating appliances EU 2010-2030 (APPLiA database 2016)

EEI	class	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030						
Current EEI	22 A+++	actual (CECED database)						projection																				
	33 A++	0%	1%	3%	6%	9%	10%	13%	17%	20%	23%	26%																
	44 A+	10%	15%	26%	33%	41%	45%	47%	49%	51%	52%	53%																
	55 A	50%	56%	60%	58%	48%	45%	40%	35%	30%	25%	21%																
	75 <A	36%	27%	10%	2%	1%																						
		4%	1%	1%	1%	1%																						
New EEI	41 A							new 'virtual'						new applied														
	51 B													1%	2%	6%	12%	17%	20%	23%	24%	25%						
	62 C													0%	1%	3%	10%	15%	17%	18%	20%	22%	24%	25%				
	78 D													0%	1%	1%	1%	2%	4%	7%	15%	20%	21%	22%	21%	20%	20%	
	98 E													13%	16%	19%	22%	23%	27%	30%	32%	26%	24%	24%	22%	20%	19%	18%
	118 F													5%	5%	6%	10%	15%	18%	25%	23%	22%	21%	19%	17%	14%	13%	12%
	130 G													42%	44%	45%	42%	40%	40%	29%	18%	10%	5%					
													40%	35%	30%	25%	20%	10%	5%									
<i>wt.'d avg.</i>																												
Current EEI		48,1	45,3	41,8	39,3	37,9	36,9	35,9	35,0	34,1	33,2	24,4	26,8	26,5	18,8	19,5	19,7	20,1	19,5	18,9	18,6	18,3						
New EEI								117	116	113	110	81	89	88	63	65	66	67	65	63	62	61						

3 RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENT

Stakeholder consultations

There has been extensive consultation of stakeholders during the review studies, before and after the Consultation Forum meeting, during the open public consultation and the impact assessment. The stakeholders that responded to the above consultations were a balanced mix of Member States' representatives, industry and NGOs.

In general, industry was mostly concerned about the level of the energy efficiency requirements in combination with the date of application, mainly because all refrigerating appliances have to be tested according to the new standard and calculated according to the new metrics. Industry estimated that for an application date one year after the publication date, there would be a lack of testing capacity of 75 %. Based on this estimation, we agreed to postpone the date of application with 1 year.

Some Member States' representatives were concerned about postponing the date of application with one year. They proposed to use a conversion table to convert the EEI values according to the updated test standard and metrics into the EEI values according to the old test standard and metrics. This would allow manufacturers to start testing products that are placed on the market after the publication date of this proposal according to the new test standard and would reduce test time. However, such a conversion table is not accurate enough. Moreover, it will lead to false comparisons between different types of products and between calculated

versus measured data. Consumers rely on the energy efficiency data to select the appliance that they need, such a conversion table would distort these data. Furthermore, industry calculated that even with the conversion table, this still results in a lack of capacity of 27 %. For these reasons we did not include a conversion table in the regulation.

NGOs and citizens were most concerned about the circular economy aspects of the products such as the lifetime, repair, warranty and premature obsolescence. The introduction of more circular economy requirements was supported by recycling companies, while product manufacturers were more cautious and in some cases negative. Requirements in line with the requirements for the other white goods were taken up in the document.

Impact Assessment

An impact assessment is required when the expected economic, environmental or social impacts of EU action are likely to be significant. The impact assessment for the review of regulations (EC) No 643/2009 and (EU) No 1060/1020 was carried out between May 2017 and March 2018.

The Regulatory Scrutiny Board (RSB) delivered a positive opinion with comments on the draft of the Impact Assessment on 7 May 2018 after the meeting on 3 May.

Their main considerations (letters) and how these considerations were taken into account (dashes) are outlined below:

- (e) The report does not clearly explain how the general assessment criteria from the framework Ecodesign Directive on affordability and significant impacts apply to household refrigerating appliances. The affordability criterion is not discussed in the context of large income disparities across the EU.
 - An explanation was added on how affordability and significance was assessed. In addition, a sensitivity analysis of the life cycle costs (LCC) based on the data in the 2016 review study and the electricity prices in Germany and Romania, which are at the higher and lower end respectively of electricity prices in the EU was included.
- (f) The report does not discuss how the primary purpose of eco-labelling, to increase energy efficiency of household refrigerating appliances, could be weakened by including the objectives of the circular economy.
 - Some text was added to give a better explanation on the correction factors for better food preservation. An explanation on the effect of the circular economy requirements on the energy consumption was added. In addition, it explains better requirements make sense in this respect.
- (g) The methodology behind assessing the impacts of the proposed measures and the modelling results suggest the need to qualify the reported results;
 - More on the availability of spare parts, the effect of rescaling on the business revenue and a paragraph qualifying the conversion between the revenue and employment was added.

Choice of instrument

The proposed form of action is a directly applicable Regulation supplementing Regulation (EU) 2017/1369. This continues the current practice of the existing Energy Labelling Regulation for household refrigerating appliances.

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 refrigerating appliances

and repealing Commission Delegated Regulation (EU) No 1060/2010

(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 28 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU²⁴, in particular Article 11(5) and Article 16(1) thereof,

Whereas:

- (1) Regulation (EU) 2017/1369 of the European Parliament and of the Council empowers the Commission to adopt delegated acts as regards the labelling or re-scaling 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 refrigerating appliances were established by Commission Delegated Regulation (EU) No 1060/2010²⁵.
- (3) The Ecodesign Working Plan 2016-2019 established by the Commission in application of Article 16(1) of Directive 2009/125/EC sets out the working priorities under the ecodesign and energy labelling framework for the period 2016-2019. The Working Plan identifies the energy-related product groups to be considered as priorities for the undertaking of preparatory studies and eventual adoption of implementing measures, as well as the review of the current regulations.
- (4) Measures from the Working Plan have an estimated potential to deliver a total in excess of 260 TWh of annual final energy savings in 2030, which is equivalent to reducing greenhouse gas emissions by approximately 100 million tonnes per year in 2030. Refrigerating appliances is one of the product groups listed in the Working Plan, with an estimated 10 TWh of annual final energy savings in 2030.

²⁴ Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products (OJ L 198, 28.07.2010, p. 1).

²⁵ Commission Delegated Regulation (EU) No 1060/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household refrigerating appliances (OJ L 314, 30.11.2010, p. 17).

- (5) Household refrigerating appliances 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 introducing an A to G rescaled label.
- (6) Regulation (EU) No 1060/2010 requires the Commission to review the regulation on a regular basis in light of technological progress.
- (7) The Commission has reviewed Regulation (EU) No 1060/2010 as required by its Article 7 and analysed the technical, environmental and economic aspects of as well as real-life user behaviour. The review was carried out 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.
- (8) The review concluded that there was a need to introduce revised energy labelling requirements for refrigerating appliances.
- (9) The review concluded that the electricity of products subject to this Regulation can be further significantly reduced by implementing energy label measures focusing on refrigerating appliances.
- (10) Refrigerating appliances with a direct sales function will be subject to a separate ecodesign Regulation which is under preparation at the time of publication of this Regulation.
- (11) Chest freezers, including professional chest freezers, should be in the scope of this Regulation, as they are out of the scope of the Commission Regulation (EU) 2015/1095²⁶ and can be used in other environments than professional environments.
- (12) Wine storage appliances and low noise refrigerating appliances (such as minibars), including those with transparent doors, do not have a direct sales function. Wine bars are usually either used in household environments or in restaurants, whereas mini bars are usually used in hotel rooms. Therefore, wine storage appliances and mini bars, including those with transparent doors should be covered by this Regulation.
- (13) The electricity used by household refrigerating appliances accounts for a significant share of total household electricity demand in the Union. In addition to the energy efficiency improvements already achieved, the scope for further reducing the energy consumption of household refrigerating appliances is substantial.
- (14) The review has shown that the electricity consumption of products subject to this Regulation can be further reduced significantly by implementing energy label measures focusing on energy efficiency and annual energy consumption. In order for end-users to make an informed decision, information on airborne acoustical noise and the compartment types should also be included.
- (15) The relevant product parameters should be measured using reliable, accurate and reproducible methods. Those methods should take into account recognised state-of-the-art measurement methods including, where available, harmonised standards

²⁶ Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers. (OJ L 177, 8.7.2015, p. 19).

adopted by the European standardisation bodies, as listed in Annex I to Regulation (EU) No 1025/2012 of the European Parliament and of the Council²⁷.

- (16) To improve the effectiveness of this Regulation, products that automatically alter their performance in test conditions to improve the declared parameters should be prohibited.
- (17) The measures provided for in this Regulation were discussed by the Consultation Forum and the Member State experts in accordance Articles 14 of Regulation (EU) 2017/1369.
- (18) Regulation (EU) No 1060/2010 should therefore be repealed,

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 refrigerating appliances with a volume of more than 10 litres and of less than or equal to 1500 litres;
2. This Regulation does not apply to:
 - (a) products covered by Commission Regulation (EU) 2015/1095 with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers;
 - (b) refrigerating appliances with a direct sales function;
 - (c) mobile refrigerating appliances.

Article 2

Definitions

For the purpose of this Regulation, the following definitions shall apply:

- (1) 'mains' or 'electric mains' means the electricity supply from the grid of 230 (± 10 %) volt of alternating current at 50 Hz;
- (2) 'refrigerating appliance' means an insulated cabinet with one or more compartments that are controlled at specific temperatures, cooled by natural or forced convection whereby the cooling is obtained by one or more energy consuming means;
- (3) 'compartment' means an enclosed space within a refrigerating appliance, which is directly accessible through one or more external doors and may itself be divided into sub-compartments. For the purpose of this Regulation, unless specified otherwise, 'compartment' refers to both compartments and sub-compartments;

²⁷ Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council (OJ L 316, 14.11.2012, p. 12)

- (4) ‘external door’ is the part of a cabinet that can be moved or removed to at least allow the load to be moved from the exterior to the interior or from the interior to the exterior of the cabinet;
- (5) ‘sub-compartment’ means a permanent enclosed space in a compartment having a different operating temperature range from the compartment in which it is located;
- (6) ‘volume’ (V) means the volume of the space within the inside liner of the refrigerating appliance, equal to the sum of the compartment volumes, in dm³ or litres;
- (7) ‘compartment volume’ (V_c) means the volume of the space within the inside liner of the compartment, expressed in dm³ or litres;
- (8) ‘refrigerating appliance with a direct sales function’ means an refrigerating appliance used for the functions of displaying and selling items at specified temperatures below the ambient temperature to customers, accessible directly through open sides or via one or more doors, or drawers, or both, including those with areas used for storage or assisted serving of items not accessible by the customers;
- (9) ‘mobile refrigerating appliance’ means a refrigerating appliance used in vehicles or any other means of transportation where there is no access to the mains electricity grid, that:
 - (a) can operate reliably and safely when exposed to mechanical vibrations and a tilted position; and
 - (b) uses extra low-voltage electricity (<120V DC) or fossil fuel or both as the energy source for the refrigeration functionality, including a refrigerating appliance that, in addition to extra low voltage electricity or fossil fuel, or both, can be electric mains operated.
- (10) ‘energy efficiency index’ (EEI) means an index number for the relative energy efficiency of a refrigeration appliance expressed in percentage.

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

Article 3 **Obligations of suppliers**

- 1. Suppliers shall ensure that:
 - (a) each refrigerating appliance is supplied with a printed label in the format as set out in Annex III;
 - (b) the parameters of the product information sheet, 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, as set out in Annex VI, uploaded into the product database;
 - (e) any visual advertisement for a specific model of refrigerating appliances, including on the internet, contains the energy efficiency class and the range of efficiency classes available on the label in accordance with Annex VII;

- (f) any technical promotional material concerning a specific model of refrigerating appliances, including on the internet, 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 VII;
 - (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 refrigerating appliance model;
 - (h) an electronic product information sheet as set out in Annex VIII is made available to dealers for each refrigerating appliance model.
2. The energy efficiency class shall be based on the energy efficiency index calculated in accordance with Annex II.

Article 4

Obligations of dealers

Dealers shall ensure that:

- (a) each refrigerating appliance, at the point of sale, bears the label provided by suppliers in accordance with point (a) of Article 3, with the label being displayed in such a way as to be clearly visible;
- (b) in the event of distance selling and sale through the internet, the label and product information sheet are provided in accordance with Annexes VII and VIII;
- (c) any visual advertisement for a specific model of refrigerating appliance, including on the internet, contains the energy efficiency class and the range of efficiency classes available on the label, in accordance with Annex VII;
- (d) any technical promotional material concerning a specific model of refrigerating appliance, including technical promotional material on the internet, 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 VII.

Article 5

Obligations of internet hosting platforms

Where a hosting service provider as referred to in Article 14 of Directive 2000/31/EC allows the selling of refrigerating appliances through its internet site, the service provider shall enable the showing of the electronic label and electronic product fiche sheet provided by the dealer on the display mechanism in accordance with the provisions of Annex VIII and shall inform the dealer of the obligation to display them.

Article 6

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, set out in Annex IV.

Article 7

Verification procedure for market surveillance purposes

Member States shall apply the verification procedure laid down in Annex IX when performing the market surveillance checks referred to in Article 8(3) of Regulation (EU) 2017/1369.

Article 8

Review

The Commission shall review this Regulation in the light of technological progress and present the results, including, if appropriate, a draft revision proposal, of this review to the Consultation Forum no later *[OP – please insert date: five years after the entry into force of the present Regulation]*. This review shall in particular assess the possibility to introduce requirements on circular economy aspects such as material efficiency, reparability, durability, upgradability and recyclability.

Article 9

Repeal

Regulation (EU) No 1060/2010 is repealed as of 1 April 2021.

Article 10

Entry into force and application

This Regulation shall enter into force on the 20th day following its publication in the Official Journal of the European Union.

It shall apply from 1 April 2021. However, Articles 3(1)(a) and (b) shall apply from 1 December 2020.

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



Brussels, **XXX**
[...](2018) **XXX** draft

ANNEXES 1 to 9

ANNEXES

to the

COMMISSION DELEGATED REGULATION

**supplementing Regulation (EU) 2017/1369 of the European Parliament and of the
Council with regard to energy labelling of refrigerating appliances**

and repealing Commission Delegated Regulation (EU) No 1060/2010

ANNEX I

Definitions applicable for the Annexes

The following definitions shall apply:

- (1) 'wine storage appliance' means a dedicated refrigerating appliance for the storage of wine, with precision temperature control for the storage conditions and target temperature as defined in Annex IV, Table 3, and equipped with anti-vibration measures;
- (2) 'dedicated refrigerating appliance' means a refrigerating appliance with only one type of compartment;
- (3) 'target temperature' (T_c) means the reference temperature inside a compartment c during testing, as set out in Annex IV, Table 3, and relates to the maximum temperature for testing energy consumption expressed as the average over time and over a set of sensors;
- (4) 'Quick Response (QR) code' means a matrix barcode included on the energy label of a product model that links to that model's information in the public part of the product registration database;
- (5) 'annual energy consumption' (AE) means the average daily energy consumption multiplied by 365 (days per year) expressed in kilowatt hour (kWh), as calculated in accordance with point 3 of Annex IV;
- (6) 'daily energy consumption' (E_{daily}) means the electricity used by a refrigerating appliance over 24 hours at reference conditions expressed in kilowatt hour per 24 hours (kWh/24h), calculated in accordance with point 4 of Annex III;
- (7) 'frozen compartment' means a compartment type with a target temperature equal to or below 0 °C; that is a 0-star, 1-star, 2-star, 3-star or 4-star compartment, with storage conditions and target temperatures, as set out in Annex IV, Table 3;
- (8) 'compartment type' means the declared compartment type in accordance with the refrigerating performance parameters T_{min} , T_{max} , T_c and others as set out in Annex IV, Table 3;
- (9) 'minimum temperature' (T_{min}) means the minimum temperature inside a compartment during storage testing, as set out in Annex IV, Table 3;
- (10) 'maximum temperature' (T_{max}) means the maximum temperature inside a compartment during storage testing, as set out in Annex IV, Table 3;
- (11) '0-star compartment' and 'ice-making compartment' means a frozen compartment with a target temperature and storage conditions of 0 °C, as set out in Annex IV, Table 3;
- (12) '1-star compartment' means a frozen compartment with a target temperature and storage conditions of -6 °C, as set out in Annex IV, Table 3;
- (13) '2-star compartment' means a frozen compartment with a target temperature and storage conditions of -12 °C, as set out in Annex IV, Table 3;
- (14) '3-star compartment' means a frozen compartment with a target temperature and storage conditions of -18 °C, as set out in Annex IV, Table 3;
- (15) 'freezer compartment' or '4-star compartment' means a frozen compartment with a target temperature and storage conditions of -18 °C and which fulfils the

requirements for the specific freezing capacity as set out in point (i) and (j) of Annex IV.1;

- (16) ‘specific freezing capacity’ (x) means the rate of heat extraction by an appropriately loaded compartment to bring the temperature of the light load from +25 to –18 °C at an ambient temperature of 25 °C, expressed in kg/12h, and in accordance with point 1(i) of Annex III;
- (17) ‘chill compartment’ means a compartment which is able to control its average temperature within a certain range without adjustments of its control, with a target temperature equal to 2°C, and storage conditions ranging from -3 °C to 3 °C, as set out in Annex IV, Table 3;
- (18) ‘fresh food compartment’ means an unfrozen compartment with a target temperature of 4 °C and storage conditions ranging from 0 °C to 8 °C, as set out in Annex IV, Table 3;
- (19) ‘unfrozen compartment’ means a compartment type with a target temperature equal to or above 4 °C, that is a pantry, wine storage, cellar or fresh food compartment with storage conditions and target temperatures, as set out in Annex IV, Table 3;
- (20) ‘pantry compartment’ means an unfrozen compartment with a target temperature of 17 °C and storage conditions ranging from 14 °C to 20 °C, as set out in Annex IV, Table 3;
- (21) ‘wine storage compartment’ means an unfrozen compartment with a target temperature of 12 °C and storage conditions ranging from 5 °C to 20 °C, as set out in Annex IV, Table 3;
- (22) ‘cellar compartment’ means an unfrozen compartment with a target temperature of 12 °C and storage conditions ranging from 2 °C to 14 °C, as set out in Annex IV, Table 3;
- (23) ‘airborne acoustical noise emission’ means the sound power level of the refrigerating appliance, expressed in dB(A) re 1 pW (A-weighted);
- (24) ‘anti-condensation heater’ means a heater which prevents condensation on the refrigeration appliance;
- (25) ‘ambient controlled anti-condensation heater’ means a heater which prevent condensation on the refrigeration appliance and where the heating capacity depends on either the ambient temperature or the ambient humidity or both;
- (26) ‘auxiliary energy’ (E_{aux}) means the energy used by auxiliary devices or functions that affect the energy consumption of a refrigerating appliance and where their actual energy consumption depends on the conditions of use or operation in kilowatt hour per annum (kWh/a);
- (27) ‘through-the-door device’ means a device that dispenses chilled or frozen load on demand from a refrigerating appliance, through an opening in its external door and without opening that external door, such as are ice-cube dispensers or chilled water dispensers;
- (28) ‘variable temperature compartment’ means a compartment intended for use as two (or more) alternative compartment types (for example a compartment that can be either a fresh food compartment or freezer compartment) and which is capable of being set by a user to continuously maintain the operating temperature range applicable for each compartment type claimed. A compartment intended for use as a

single compartment type that can also meet storage conditions of other compartment types (for example a chill compartment that may also fulfil zero-star requirements) is not a variable temperature compartment;

- (29) 'network' means a communication infrastructure with a topology of links, an architecture, including the physical components, organisational principles, communication procedures and formats (protocols);
- (30) 'climate class' means the range of ambient temperatures, as set out in point 1(k) of Annex IV, in which the refrigerating appliances are intended to be used, and for which the required storage temperatures specified in Table 3 are met;
- (31) 'defrost and recovery period' means the period from the initiation of a defrost control cycle until stable operating conditions are re-established;
- (32) 'auto-defrost' means a feature by which compartments are defrosted without user intervention to initiate the removal of frost accumulation at all temperature-control settings or to restore normal operation, and the disposal of the defrosted water is automatic;
- (33) 'defrosting type' means the method to remove frost accumulation on the evaporator(s) of a refrigerating appliance, i.e. auto-defrost or manual defrost;
- (34) 'manual defrost' means not having an auto-defrost function;
- (35) 'low noise refrigerating appliance' means a refrigerating appliance with an airborne acoustical noise emission lower than 23 dB(A);
- (36) 'steady state power consumption' (P_{ss}) means the average power consumption in steady state conditions, expressed in watt (W);
- (37) 'incremental defrost and recovery energy consumption' (ΔE_{d-f}) means the extra average energy consumption for a defrost and recovery operation expressed in watt hour (Wh);
- (38) 'defrost interval' (t_{d-f}) means the representative average interval between the time of activation of the defrost heater, or the time of deactivation of the compressor if there is no defrost heater, in two subsequent defrost and recovery cycles, expressed in hour (h);
- (39) 'load factor' (L) means a factor accounting for the extra cooling load from introducing warm foodstuffs beyond what is already anticipated through the higher average ambient temperature for testing with values as set out in point 3(a) of Annex IV;
- (40) 'standard annual energy consumption' (SAE) means the reference annual energy consumption of a refrigeration appliance expressed in kWh, as calculated in accordance with point 4 of Annex IV;
- (41) 'combi parameter' (C) means a modelling parameter that takes into account the synergy effect when different compartment types are combined in one appliance, with values as set out in Annex IV, Table 4;
- (42) 'door heat loss factor' (D) means a compensation factor for combi appliances according to the number of different temperature compartments or the number of doors, whichever is lower and as set out in Annex IV, Table 5. For this factor, 'compartment' does not refer to sub-compartment;

- (43) ‘combi appliance’ means a refrigerating appliance that has more than one compartment type. An appliance with a 3- or 4-star compartment with a 2-star section or sub-compartment is not a combi appliance;
- (44) ‘2-star section’ means part of a 3-star or 4-star compartment which does not have its own individual access door or lid and in which the temperature is not warmer than $-12\text{ }^{\circ}\text{C}$;
- (45) ‘c’ means the index number suffix for a compartment type in an appliance;
- (46) ‘defrost factor’ (A_c) means a compensation factor that takes into account whether the refrigerating appliances has an auto-defrost or a manual defrost, with values as set out in Annex IV, Table 5;
- (47) ‘built-in factor’ (B_c) means a compensation factor that takes into account whether the refrigerating appliance is built-in or freestanding, with values as set out in Annex IV, Table 5;
- (48) ‘built-in appliance’ means a refrigerating appliance that is designed, tested and marketed exclusively:
- (a) to be installed in cabinetry or encased (top, bottom and sides) by panels;
 - (b) to be securely fastened to the sides, top or floor of the cabinetry or panels; and
 - (c) to be equipped with an integral factory-finished face or to be fitted with a custom front panel;
- (49) ‘freestanding appliance’ means a refrigerating appliance that is not a built-in appliance;
- (50) ‘ M_c ’ and ‘ N_c ’ means modelling parameters that take into account the volume-dependence of the energy use, with values as set out in Annex IV, Table 4;
- (51) ‘thermodynamic parameter’ (r_c) means a modelling parameter which corrects the standard annual energy consumption to an ambient temperature of 24°C , with values as set out in Annex IV, Table 4;
- (52) ‘refrigerator-freezer’ means a combi appliance that has at least one freezer compartment and one or more unfrozen or chill compartments, of which at least one is a fresh food compartment;
- (53) ‘overall dimensions’ means the space taken up by the refrigerating appliance (height, width and depth) with doors or lids closed, expressed in millimetres (mm);
- (54) ‘temperature rise time’ means the time taken, after the operation of the refrigerated system has been interrupted, for the temperature in a 3- or 4-star compartment to increase from -18 to $-9\text{ }^{\circ}\text{C}$ expressed in hours (h);
- (55) ‘winter switch’ means a control feature for a combi appliance with one compressor and one thermostat, consisting of a switching device that guarantees, even if it would not be required for the compartment where the thermostat is located, that the compressor keeps on working to maintain the proper storage temperatures in the other compartments;
- (56) ‘fast freeze’ means a feature that can be activated by the end-user according to the manufacturer's instructions, which decreases the storage temperature of the freezer or freezer compartment to achieve a faster freezing of unfrozen foodstuffs;

- (57) 'freezer' means a refrigerating appliance with only frozen compartments, at least one of which is a freezer compartment;
- (58) 'equivalent model' means a model with the same relevant technical and performance characteristics but placed on the market under a different model identifier;
- (59) 'display mechanism' means any screen, including tactile screen, or other visual technology used for displaying internet content to users;
- (60) 'tactile screen' means a screen responding to touch, such as that of a tablet computer, slate computer or a smartphone;
- (61) '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;
- (62) '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;
- (63) 'average power consumption' (P) means the average rate of energy consumption of a refrigerating appliance for a specific test condition or operation expressed in watt (W).

ANNEX II
Energy Efficiency classes

The energy efficiency class of refrigerating appliances shall be determined on the basis of the energy efficiency index (EEI) as set out in Table 1.

Table 1
Energy efficiency classes of refrigerating appliances

Energy efficiency class	Energy efficiency index (EEI)
A	$EEI \leq 41$
B	$41 < EEI \leq 51$
C	$51 < EEI \leq 64$
D	$64 < EEI \leq 80$
E	$80 < EEI \leq 100$
F	$100 < EEI \leq 125$
G	$EEI > 125$

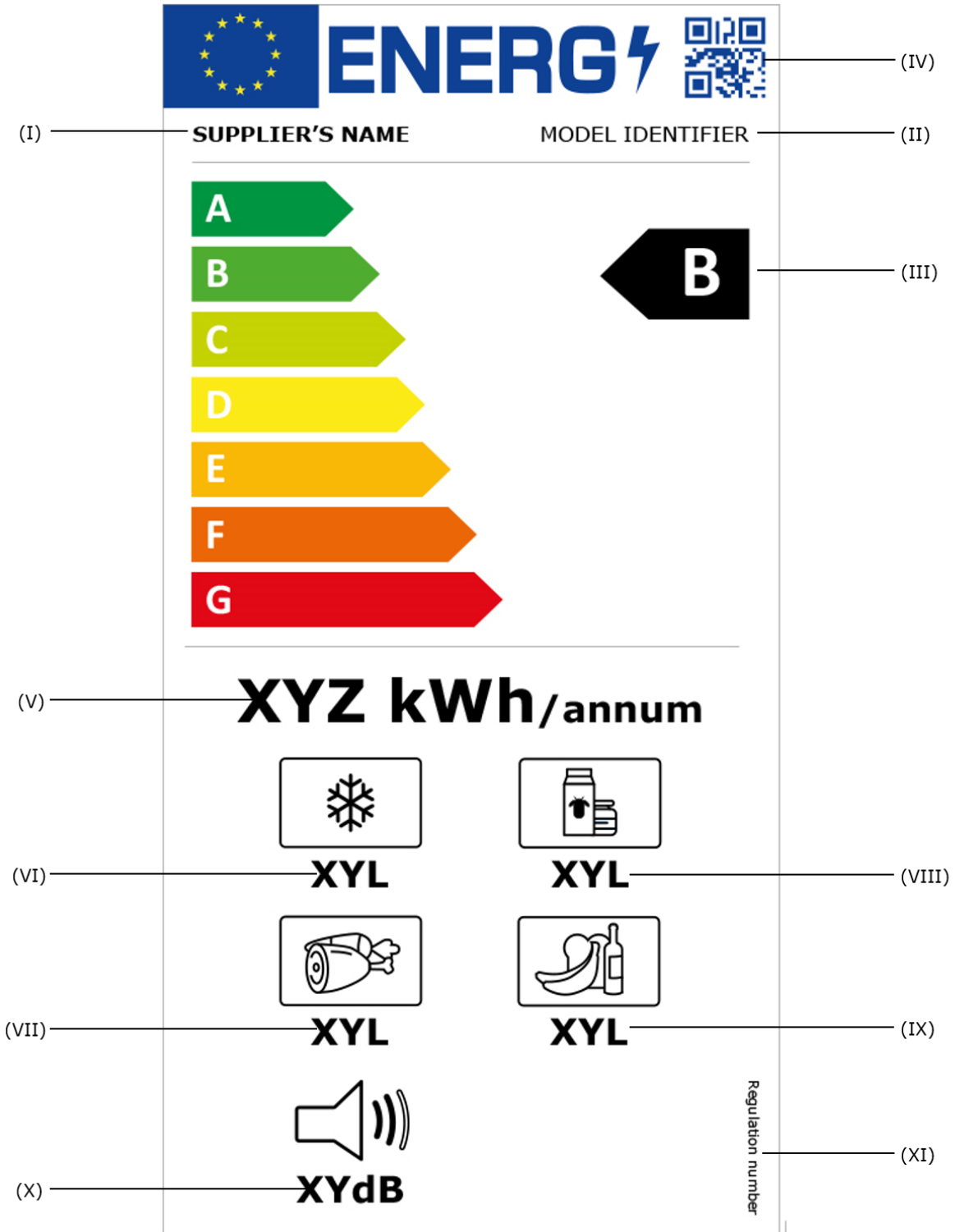
The EEI of a refrigerating appliance shall be determined in accordance with point 5 of Annex IV.

ANNEX III

Label for refrigerating appliances




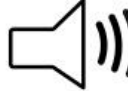
1. LABEL FOR REFRIGERATING APPLIANCES, EXCEPT FOR WINE STORAGE APPLIANCES

1.1. Label:



- 1.2. The following information shall be included in the label:
- I. supplier's name or trade mark;
 - II. supplier's model identifier;
 - III. the energy efficiency class; the head of the arrow containing the energy efficiency class of the refrigerating appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;
 - IV. the QR code;
 - V. annual energy consumption in kWh per year, *AE* rounded to the nearest integer;
 - VI. the sum of the volumes of all frozen compartments, rounded to the nearest integer; if the refrigerating appliance does not contain frozen compartments;
 - VII. the sum of the volumes of all chill compartments, rounded to the nearest integer; if the refrigerating appliance does not contain chill compartments;
 - VIII. the sum of the volumes of all fresh food compartments, rounded to the nearest integer, if the refrigerating appliance does not contain fresh food compartments;
 - IX. the sum of the volumes of all unfrozen compartments excluding the volume of the fresh food compartments, rounded to the nearest integer, if the refrigerating appliance does not contain unfrozen compartments;
 - X. airborne acoustical noise emissions expressed in dB(A) re1 pW, rounded to the nearest integer. The symbol of the airborne acoustical noise shall vary with varying airborne acoustical noise emissions, as set out in Table 2.

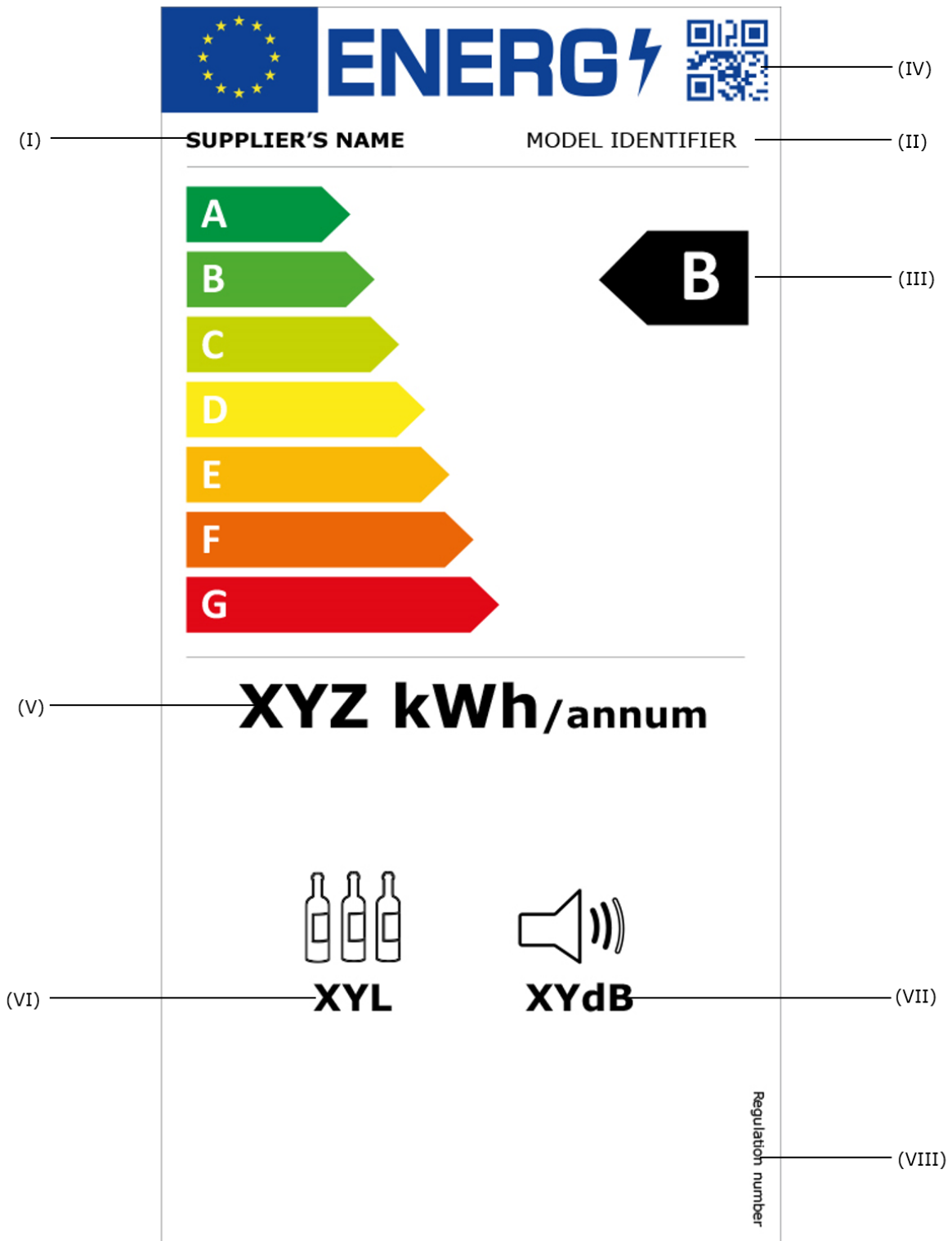
Table 2
Airborne acoustical noise

Airborne acoustical noise emissions	Symbol to be used
$< 23 \text{ dB(A)}$	
$\geq 23 \text{ dB(A)}$ and $< 36 \text{ dB(A)}$	
$\geq 36 \text{ dB(A)}$ and $< 42 \text{ dB(A)}$	
$\geq 42 \text{ dB(A)}$	

- XI. The number of this Regulation, that is *[PO- please insert the number of this Regulation]*.

2. LABEL FOR WINE STORAGE APPLIANCES

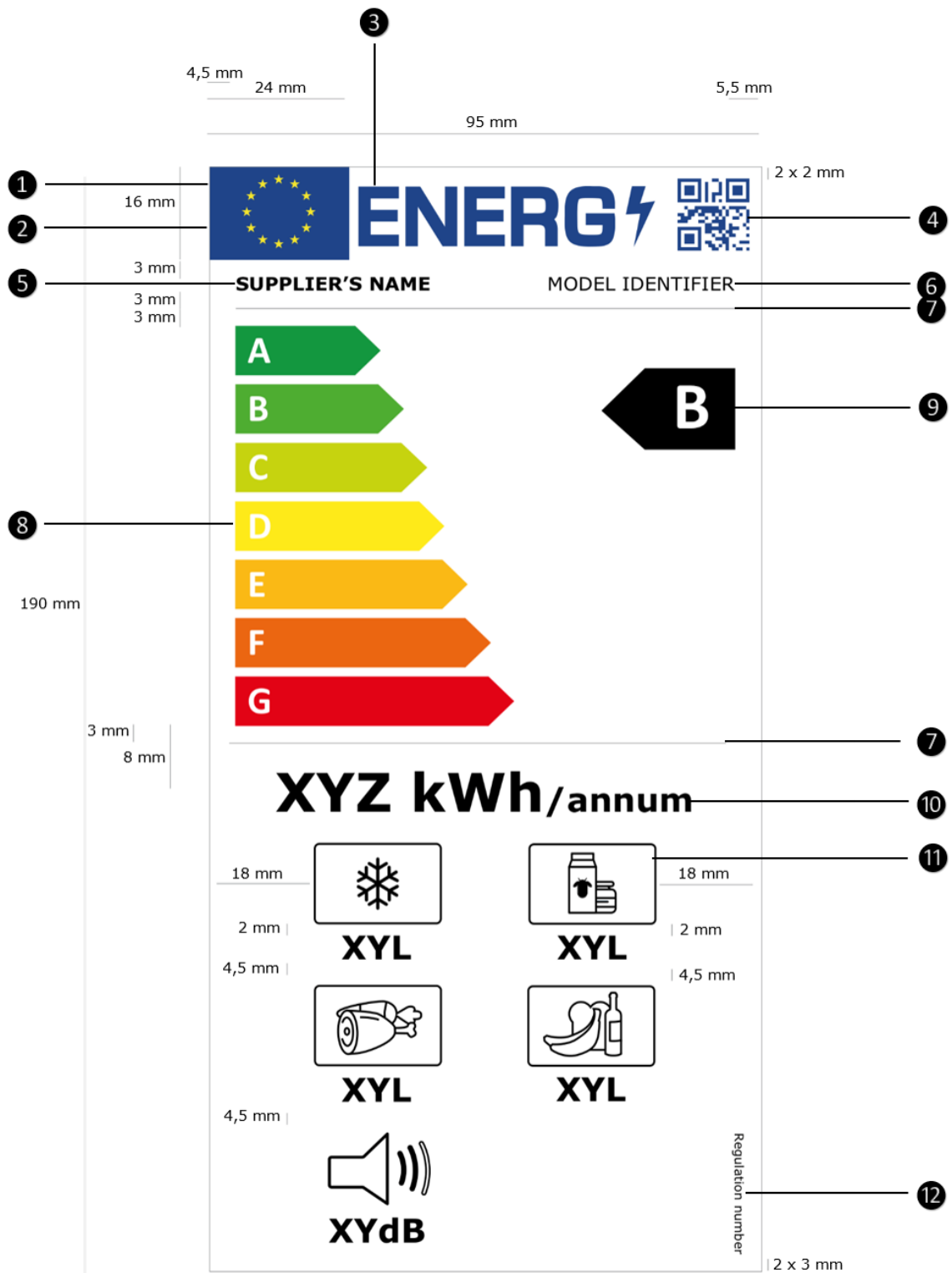
2.1. Label:



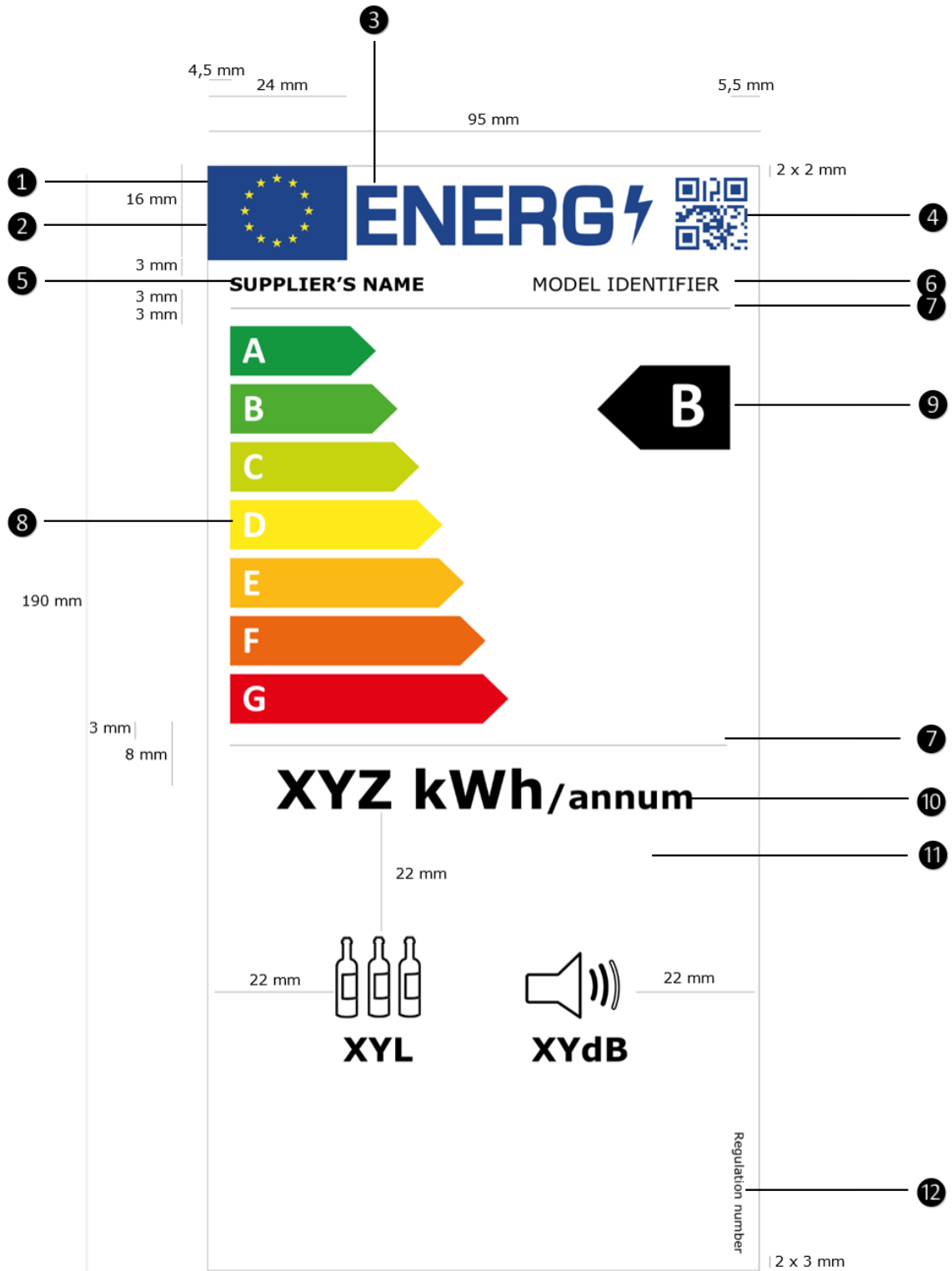
- 2.2. The following information shall be included in the label:
- I. supplier's name or trade mark;
 - II. supplier's model identifier;
 - III. the energy efficiency class; the head of the arrow containing the energy efficiency class of the refrigerating appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;
 - IV. the QR code;
 - V. annual energy consumption in kWh per year, *AE* rounded to the nearest integer;
 - VI. the number of wine bottles that can be stored in the wine storage appliance;
 - VII. airborne acoustical noise emissions expressed in dB(A) re1 pW, rounded to the nearest integer. The symbol of the airborne acoustical noise shall vary with varying airborne acoustical noise emissions, as set out in Table 2;
 - VIII. The number of this Regulation, that is *[PO- please insert the number of this Regulation]*.

3. LABEL DESIGN

3.1. Label for refrigerating appliances, except for wine storage appliances



3.2. Label for wine storage appliances



3.3. Description


Whereby:

- (a) The background of the label shall be white.
- (b) The single typeface shall be Verdana.
- (c) Colours shall be CMYK – cyan, magenta, yellow and black, following this example: 0-70-100-0: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (d) The label shall fulfil all the following requirements (numbers refer to the numbers in the black bullets in the figure above):
 - (1) the border of the label shall have weight of 1 pt;
 - (2) the colour of the background of the EU logo shall be 1,80,0,0 and the colour of the stars shall be 0,0,100,0;
 - (3) the colour of the energy logo shall be 100,80,0,0;
 - (4) the colour of the QR code shall be 100,80,0,0;
 - (5) the supplier’s name shall be in colour black in font bold, 9 pt;
 - (6) the model identifier shall be in colour black in font regular, 9 pt;
 - (7) the dividers shall be 86 mm wide and have a weight of 1 pt. The colour of the divider shall be 39,4,0,62;
 - (8) the A to G scale shall be as follows:
 - the colour of the energy rating scale shall be in colour white, and font bold, 19 pt;
 - the dimensions and colours of the energy rating scale shall be as follows:

Rating scale and class	Colours (CMYK)
<p>D: 36 mm C: 33 mm B: 29 mm A: 23 mm</p> <p>1,5 mm 1,5 mm 1,5 mm 1,5 mm 1,5 mm 1,5 mm 1,5 mm </p> <p>69 mm</p> <p>A B C D E F G</p> <p>G: 48 mm F: 44 mm E: 40 mm</p>	A-class: 100,0,100,0
	B-class: 70,0,100,0
	C-class: 30,0,100,0
	D-class: 0,0,100,0
	E-class: 0,30,100,0
	F-class: 0,70,100,0
	G-class: 0,100,100,0

(9) the energy efficiency class shall be as follows:


- the colour of the letter shall be white and the font shall be in bold, 33 pt and positioned in such a way that the edges of the rating scale arrow and the energy efficiency class arrow are aligned;
- the dimensions and colour shall be as follows:

Rating scale and class	Colours (CMYK)
	The arrow: 0-0-0-100

(10) the annual energy consumption and kWh shall be in font bold, 26 pt, "annum" shall be in font bold, 16 pt; and the text shall be centred;

(11) the pictograms shall be as follows:

- the dimensions and the colours shall be as follows:

Rating scale and class	Colours (CMYK)
	Pictogram: 0-0-0-100

- the text under the pictogram shall be in colour black, in font bold, 12 pt and shall be centred under the pictogram.

(12) the numbering of the regulation shall be in colour 0-0-0-100 and font regular 6 pt.

(e) If the label is printed over 95 mm wide and over 190 mm high, its content shall nevertheless be proportionate to the specifications above.

Measurement and calculation methods

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards, or other reliable, accurate and reproducible methods, which takes into account the generally recognised state-of-the-art methods and are in line with the provisions set out below. The reference numbers of these harmonised standards have been published for this purpose in the *Official Journal of the European Union*:

1. General conditions for testing:
 - (a) for refrigerating appliances with anti-condensation heaters that can be switched on and off by the end-user, the anti-condensation heaters shall be switched on and — if adjustable — set at maximum heating and included in the annual energy consumption (AE) as daily energy consumption (E_{daily});
 - (b) for refrigerating appliances with ambient controlled anti-condensation heaters, the ambient controlled electric anti-condensation heaters shall be switched off or otherwise disabled, where possible, during the measurement of energy consumption. The energy consumption of these heaters shall be determined from their power consumption declared by the manufacturer for a set of ambient temperature and humidity conditions and added to the auxiliary energy;
 - (c) for refrigerating appliances with through-the-door devices that can be switched on and off by the end-user, the through-the-door devices shall be switched on during the energy consumption measurement but not operating;
 - (d) for the measurement of energy consumption, variable temperature compartments shall operate at the lowest temperature that can be set by the user to continuously maintain the temperature range, as set out in Table 3, of the compartment type which has the lowest temperature;
 - (e) for refrigerating appliances that can be digitally connected to a network, the communication module shall be activated but there is no need to have a specific type of communication and/or data exchange during the energy consumption test. During the energy consumption test it has to be ensured that the unit is connected to a network;
 - (f) for the performance of chill compartments:
 - (1) for a variable temperature compartment rated as a fresh food and/or chill compartment, the EEI shall be determined for each temperature condition and the highest value shall be applied;
 - (2) a chill compartment shall be able to control its average temperature within a certain range without user-adjustments of its control, this can be verified during the energy consumption tests at 16 °C and 32 °C ambient temperature.
 - (g) for adjustable volume compartments, when the volumes of two compartments are adjustable relative to one another by the user, the energy consumption and the volume shall be tested when the volume of the compartment with the higher target temperature is adjusted to its minimum volume;

- (h) for 2-star compartments or sections:
 - (1) a 2-star compartment or section is separated from the 3-star or 4-star volume by a partition, container, or similar construction;
 - (2) the rated volume does not exceed 20 % of the total volume of the compartment.
- (i) the specific freezing capacity is calculated as 12 times the light load weight, divided by the freezing time to bring the temperature of the light load from +25 to -18 °C at an ambient temperature of 25 °C expressed in kg/12h; the light load weight is 3,5 kg per 100 litre of freezer volume, and should be at least 2,0 kg;
- (j) for 4-star compartments, the freezing time to bring the temperature of the light load from +25 to -18 °C at all ambient temperatures, an ambient temperature of 25 °C, is smaller than or equal to 24h;
- (k) for the determination of the climate classes, the acronym for the ambient temperature range, that is SN, N, ST or T:
 - (1) the extended temperate (SN) has a temperature range from 10 °C to +32 °C;
 - (2) the temperate (N) has a temperature range from 16 °C to 32 °C;
 - (3) the subtropical (ST) with a temperature range from 16 °C to 38 °C; and
 - (4) the tropical (T) has temperature range from 16 °C to 43 °C.

2. Storage conditions and target temperatures per compartment type:

Table 3 sets out the storage conditions and target temperature per compartment type.

3. Determination of the annual energy consumption (AE):

- (a) For all refrigerating appliances, except for low noise refrigerating appliances:

The energy consumption shall be determined by testing at an ambient temperature of 16 °C and 32 °C.

To determine the energy consumption, the average air temperatures in each compartment shall be equal to or below the target temperatures specified in Table 3 for each compartment type claimed by the supplier. Values above and below target temperatures may be used to estimate the energy consumption at the target temperature for each relevant compartment by interpolation, as appropriate.

The main components of energy consumption to be determined are:

- a set of steady state power consumption values (P_{SS}) in W, each at a specific ambient temperature and at a set of compartment temperatures, which may be above or below target temperatures;
- the representative incremental defrost and recovery energy consumption (ΔE_{d-f}), in W, for products with one or more auto-defrost systems (each with its own defrost control cycle) measured at an ambient temperature of 16 °C (ΔE_{d-f16}) and 32 °C (ΔE_{d-f32});
- defrost interval (t_{d-f}), in h, for products with one or more defrost systems (each with its own defrost control cycle) measured at an ambient temperature of 16°C (t_{d-f16}) and 32°C (t_{d-f32}). The defrost interval t_{d-f} shall be determined for each system under a range of conditions;

- for each test performed the steady state power consumption and defrost and recovery energy consumption are added to form a daily energy consumption $E = 0.001 \cdot 24 \cdot (P_{ss} + \Delta E_{d-f} / t_{d-f})$ in kWh/24h, specific to the settings applied;
- auxiliary energy (E_{aux}) in kWh/a. The auxiliary energy is limited to the ambient controlled anti-condensation heater.

Table 3
Storage conditions and target temperature per compartment type

Group	Compartment type	Note	Storage conditions		T_c note [1]
			T_{min}	T_{max}	
Name	Name	no.	°C	°C	°C
Unfrozen compartments	Pantry	[2]	+14	+20	+17
	Wine storage	[3][7]	+5	+20	+12
	Cellar	[2]	+2	+14	+12
	Fresh food	[2]	0	+8	+4
Chill compartment	Chill	[4]	-3	+3	+2
Frozen compartments	0-star & ice-making	[5]	n.a.	0	0
	1-star	[5]	n.a.	-6	-6
	2-star	[5][6]	n.a.	-12	-12
	3-star	[5][6]	n.a.	-18	-18
	freezer (4-star)	[5][6]	n.a.	-18	-18

Notes:

[1] T_c is the target temperature for testing energy consumption and is the average over time and over a set of sensors.

[2] T_{min} and T_{max} are the average values measured over the test period (average over time and over a set of sensors).

[3] The average temperature variation over the test period for each sensor shall be no more than $\pm 0,5$ K. During a defrost and recovery period the average of all sensors is not permitted to rise more than 1.5 K above the average value of the compartment.

[4] T_{min} and T_{max} relate to instantaneous values during the test period.

[5] T_{max} relates to the maximum value measured over the test period (maximum over time and over a set of sensors).

[6] If the compartment is of the auto-defrosting type, the temperature (defined as the maximum of all sensors) is not permitted to rise more than 3.0 K during a defrost and recovery period.

[7] T_{min} and T_{max} relate to the average values measured over the test period (average over time for each sensor) and define the maximum allowed temperature operating range

n.a.=not applicable

Each of these parameters shall be determined through separate (sets of) tests. To improve the efficiency and accuracy of testing, the test period is not fixed, but is determined by whether a ‘steady state’ is reached.

The AE , expressed in kWh/a and rounded to two decimal places, shall be calculated as follows:

$$AE = 365 \cdot E_{daily} / L + E_{aux};$$

with the load factor $L = 0.9$ for dedicated 3 star and 4 star appliances or combi appliances with only 3- and 4-star compartments and $L=1.0$ for all other appliances,

and with the daily energy consumption E_{daily} in kWh/24h and rounded to three decimal places calculated from the daily energy consumption at an ambient temperature of 16 °C (E_{16}) and at an ambient temperature of 32 °C (E_{32}) as follows:

$$E_{daily} = 0.5 \cdot (E_{16} + E_{32});$$

where E_{16} and E_{32} are derived by interpolation of the energy test at the target temperatures set out in Table 3.

- (b) For low noise refrigerating appliances:

The energy consumption shall be determined as provided for in point 3(a), but at an ambient temperature of 25 °C instead of at 16 °C and 32 °C.

The daily energy consumption E_{daily} in kWh/24h and rounded to three decimal places for the calculation of the AE is then as follows:

$$E_{daily} = E_{25}$$

where E_{25} is derived by interpolation of the energy tests to the target temperatures listed in Table 3.

4. Determination of the standard annual energy consumption (SAE):

- (a) For all refrigerating appliances:

The Standard Annual Energy consumption SAE , in kWh/a and rounded to two decimal places, is calculated as follows:

$$SAE = C \cdot D \cdot \sum_{c=1}^n A_c \cdot B_c \cdot [V_c/V] \cdot (N_c + V \cdot r_c \cdot M_c)$$

where c is the compartment index and n is the total number of compartment types; V_c (in dm³ or litres, rounded to the first decimal placemal) is the compartment volume; V (in dm³ or litres, rounded to the nearest integer) is the volume with $V \leq \sum_{c=1}^n V_c$, r_c , N_c , M_c and C are modelling parameters specific to each compartment with values as set out in Table 4; and A_c , B_c and D are the compensation factors with values as set out in Table 5.

When carrying out the calculations above, for the variable temperature compartments, the compartment type with the lowest target temperature for which it is declared suitable is chosen.

- (b) Modelling parameters per compartment type for the calculation of the SAE :

The modelling parameters are set out in Table 4.

- (c) Correction factors per compartment type in the calculation of the SAE :

- (d) The correction factors are set out in Table 5.

5. Determination of the energy efficiency index (EEI):

The energy efficiency index (EEI), expressed in % and rounded to the first decimal place, calculated as:

$$EEI = AE / SAE$$

Table 4
The values of the modelling parameters per compartment type

Compartment type	r_c^a	N_c	M_c	C
Pantry	0,35	75	0,12	between 1,15 and 1,56 for refrigerator-freezers ^b , 1,15 for other combi appliances, 1,00 for dedicated refrigerating appliances
Wine storage	0,60			
Cellar	0,60			
Fresh food	1,00	138	0,12	
Chill	1,10			
0-star & ice-making	1,20	138	0,15	
1-star	1,50			
2-star	1,80			
3-star	2,10			
Freezer (4-star)	2,10			

^a $r_c = (T_a - T_c) / 20$; with $T_a = 24$ °C and T_c with values as set out in Table 3.

^b C for refrigerator-freezers is determined as follows:

where $frzf$ is the freezer volume $V_{freezer}$ as a fraction of total volume with $frzf = V_{freezer} / V$:

- if $frzf \leq 0,3$ then $C = 1,3 + 0,87 \cdot frzf$;
- else if $0,3 < frzf < 0,7$ then $C = 1,87 - 1,0275 \cdot frzf$;
- else $C = 1,15$.

Table 5
The values of the correction factors per compartment type

Compartment type	A_c		B_c		D			
	Manual defrost	Auto-defrost	Freestanding appliance	Built-in appliance	$\leq 2^a$	3^a	4^a	$> 4^a$
Pantry	1,00		1,00	1,04	1,00	1,02	1,035	1,05
Wine storage								
Cellar								
Fresh food								
Chill								
0-star & ice-making	1,00	1,10	1,00	1,10	1,00	1,02	1,035	1,05
1-star								
2-star								
3-star								
Freezer (4-star)								

^a number of doors or compartments, whichever is lowest.

ANNEX V

Product information sheet

1. The information in the product information sheet of refrigerating appliances shall be provided in the order of and according to the information set out in Table 5. If the refrigerating appliance contains multiple compartments of the same type, the lines for these compartments shall be repeated. If a certain compartment type is not present, the compartment parameters and values shall be ‘-’.

Table 5: Product information sheet

Supplier’s name or trade mark:				
Supplier’s address:				
Model identifier:				
Type of refrigerating appliance:				
Low-noise appliance:	[yes/no]	Design type:	[built-in/freestanding]	
Wine storage appliance:	[yes/no]	Climate class:	[extended temperate/temperate/subtropical/ tropical]	
Other refrigerating appliance:	[yes/no]			
General product parameters:				
Parameter		Value	Parameter	Value
Overall dimensions (millimetre)	Height	x	Volume (dm ³ or l)	x
	Width	x		
	Depth	x		
Annual energy consumption (kWh/year)	x	Energy efficiency class	[A/B/C/D/E/F/G]	
Airborne acoustical noise emissions (dBA re1 pW)	x			

Compartment Parameters:

Compartment type		Compartment parameters and values			
		Compartment Volume (dm ³ or l)	Recommended temperature setting for optimised food storage (°C)	Specific freezing capacity (kg/12 h)	Defrost type (auto-defrost=A, manual defrost=M)
Pantry	[yes/no]	x	x	-	[A/M]
Wine storage	[yes/no]	x	x	-	[A/M]
Cellar	[yes/no]	x	x	-	[A/M]
Fresh food	[yes/no]	x	x	-	[A/M]
Chill	[yes/no]	x	x	-	[A/M]
0-star or ice-making	[yes/no]	x	x	-	[A/M]
1-star	[yes/no]	x	x	-	[A/M]
2-star	[yes/no]	x	x	-	[A/M]
3-star	[yes/no]	x	x	x,x or -	[A/M]
4-star	[yes/no]	x	x	x,x	[A/M]
2-star section	[yes/no]	x	x	-	[A/M]
Variable temperature compartment	compartment types	x	x	x,x or -	[A/M]

Light source parameters^a:

Type of light source	[type]
Energy efficiency class	[A/B/C/D/E/F/G]

Additional information:

Weblink to the manufacturer's website, where the information in Annex II.4.(a) of Regulation *[OP – please insert Regulation number of the accompanying Ecodesign Regulation]* is found:

^a as determined in accordance with Regulation (EU) *[OP – please insert Regulation number of the Ecodesign Regulation for light sources and separate control gears]*¹.

¹ Commission Delegated Regulation (EU) *[OP – please insert Regulation number]* of *[OP- please insert date]* supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with

2. One product information sheet may cover a number of refrigerating appliances supplied by the same supplier.
3. 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 points 1 or 2 not already displayed on the label shall also be provided.

regard to energy labelling of light sources and repealing Commission Delegated Regulation (EU) No 874/2012. (*[OP please insert OJ reference]*).

ANNEX VI
Technical documentation

1. The technical documentation referred to in Article 3(d) shall include the following elements:
 - (a) the information as set out in point 1 of Annex V;
 - (b) the information as set out in Table 6. If the refrigerating appliance contains multiple compartments of the same type, the lines for these compartments shall be repeated. If a certain compartment type is not present, the compartment parameters and values shall be '-'. If a parameter is not applicable, the values of that parameter shall be '-'.

Table 6: Additional information to be included in the technical documentation

A general description of the refrigerating model, sufficient for it to be unequivocally and easily identified:

Product specifications:

General product specifications:

Parameter	Value	Parameter	Value
Minimum ambient temperature (°C), for which the refrigerating appliance is suitable	x	Maximum ambient temperature (°C), for which the refrigerating appliance is suitable	x
Annual energy consumption (kWh/year)	x	Auxiliary energy (kWh/year)	x
Standard energy consumption (kWh/year)	x	EEI (%)	x
Temperature rise time (h)	x,xx	Combi parameter	x,xx
Door heat loss factor	x,xx	Load factor	x,xx
Anti-condensation heater type	[manual on-off/ambient controlled/other/none]		

Additional product specifications for refrigerating appliances, except for low noise refrigerating appliances:

Parameter	Value	Parameter	Value
Daily energy consumption at 16 °C (kWh/24h)	x,xxx	Daily energy consumption at 32 °C (kWh/24h)	x,xxx
Incremental defrost and recovery energy consumption ^a at 16 °C (Wh)	x	incremental defrost and recovery energy consumption ^a at 32 °C (Wh)	x
Defrost interval ^a at 16 °C (h)	x,xx	Defrost interval ^a at 32 °C (h)	x,xx

Additional product specifications for low noise refrigerating appliances:

Parameter	Value	Parameter	Value
Daily energy consumption at 25 °C (kWh/24h)	x,xxx	Defrost interval ^a at 25 °C (h)	x,xx

Compartment specifications^b:

Compartment type ^c	Compartment parameters and values					
	Target temperature in °C	Thermodynamic parameter	N _c	M _c	Defrost factor	Built-in factor
Pantry	x	x,xx	x	x,xx	x,xx	x,xx
Wine storage	x	x,xx	x	x,xx	x,xx	x,xx
Cellar	x	x,xx	x	x,xx	x,xx	x,xx
Fresh food	x	x,xx	x	x,xx	x,xx	x,xx
Chill	x	x,xx	x	x,xx	x,xx	x,xx
0-star or ice making	x	x,xx	x	x,xx	x,xx	x,xx
1-star	x	x,xx	x	x,xx	x,xx	x,xx
2-star	x	x,xx	x	x,xx	x,xx	x,xx

3-star	x	x,xx	x	x,xx	x,xx	x,xx
4-star	x	x,xx	x	x,xx	x,xx	x,xx
2-star section	x	x,xx	x	x,xx	x,xx	x,xx
Variable temperature compartment	x	x,xx	x	x,xx	x,xx	x,xx

For combi appliances with one thermostat and one compressor:

Winter switch	[yes/no]
---------------	----------

For appliances with a frozen compartment:

Fast freeze	[yes/no]
-------------	----------

Additional information:

The references of the harmonised standards or other reliable accurate and reproducible methods applied:

A list of all other equivalent models, where the information was obtained on the same basis:

^a only for products with one or more auto-defrost systems

2. Where the information included in the technical documentation file for a particular refrigerating appliance model has been obtained by calculation on the basis of design, or extrapolation from other equivalent models, the documentation shall include details of:
 - (a) such calculations or extrapolations, or both; and
 - (b) tests undertaken by suppliers to verify the accuracy of the calculations undertaken.

ANNEX VII

Information to be provided in visual advertisements, in promotional material, in distance selling, except distance selling on the internet

1. In visual advertisements, 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 as set out in point 4 of this Annex.
2. In promotional material, 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 as set out in point 4 of this Annex.
3. Any paper based distance selling shall show the energy class and the range of efficiency classes available on the label as set out in point 4 of this Annex.
4. The energy class and the range of efficiency classes shall be shown, as indicated in Figure 1, with:
 - (a) an arrow containing the letter of the energy class;
 - (b) the colour of the arrow matching the colour of the energy class, and;
 - (c) the range of available efficiency classes.



Figure 1: Coloured arrow example, with range of energy classes indicated

By derogation, if the visual advertisements, promotional material or paper based distance selling is printed in black and white, the colour of the arrow can be in black and white in that visual advertisements, promotional material or paper based distance selling.

5. Telemarketing based distance selling must specifically inform the customer of the energy class of the product and of the range of energy classes available on the label, and that the consumer can access the full label and the product information sheet through a free access website, or to by requesting a printed copy.
6. For all the situations mentioned in points 1 to 3, it must be possible for the customer to access the full label and the product information sheet through a link to the product database website, or to request a printed copy.

ANNEX VIII

Information to be provided in the case of distance selling through the Internet

1. The appropriate label 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 label is clearly visible and legible and shall be proportionate to the size specified in point 1.3 and 2.3 of Annex III for refrigerating appliances. 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.
2. The image used for accessing the label in the case of a nested display shall:
 - (a) be an arrow in the colour corresponding to the energy efficiency class of the product on the label;
 - (b) indicate the energy efficiency class of the product on the arrow in white in a font size equivalent to that of the price; and
 - (c) have one of the following two formats:



3. In the case of a nested display, the sequence of display of the label shall be as follows:
 - (a) the image referred to in point 2 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.
4. The appropriate product information sheet made available by suppliers in accordance with Article 3(1)(b) 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 or by referring to the product registration database established under Regulation (EU) 2017/1369, in which case the link used for accessing the product information sheet shall clearly and legibly indicate 'Product information sheet'. If a 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

Verification procedure for market surveillance purposes

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, 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 information sheet 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 (that is 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) and (b) are not achieved, the model and all models that have been listed as equivalent 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 models in the supplier's technical documentation shall be considered not to comply with this Delegated 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 once a decision has been taken on the non-compliance of the model according to points 3 and 6.

The Member State authorities shall use the measurement and calculation methods set out in Annex IV.

The Member State authorities shall only apply the verification tolerances set out in Table 7 and shall only use the procedure set out 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

Parameters	Verification
Volume	The determined value shall not more than 3 % or 1 litre lower — whichever is the greater value — than the declared value.
Freezing capacity	The determined value shall not be more than 10 % lower than the declared value.
Annual energy consumption	The determined value shall not be more than 10 % higher than the declared value.
Airborne acoustical noise emissions	The determined value shall not be higher the declared value.
Temperature rise time	The determined value shall not be more than 15 % higher than the declared.