LONGTIME®

Certification standard

Domestic pellet stoves

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I. GENERAL INFORMATION

Based on the EN45550 series of standards, and consistent with EN45552 and EN45554, the LONGTIME® specific standards specify elements relating to the study of the robustness, reliability and repairability of the associated product family.
All qualitative, semi-quantitative and quantitative data are derived from a research and consultation process, as required by current standards, and take into account bibliographical references (scientific studies, regulations, standards, etc.) and all stakeholders involved.) and all stakeholders, i.e.: marketers (manufacturers, importers, distributors), their suppliers and/or subcontractors, product experts (repairers, installers, professional testers), spare parts professionals, reconditioners, consumers, consumer associations, environmental associations and any other stakeholder who can contribute, subject to added value and the availability of networks and information.

LONGTIME® vision

This project is part of a dynamic social movement, the aim of anticipating regulations. . This label is made by citizens, for citizens. It provides the certainty that the product bearing the label is manufactured for long-term use, as desired by the majority of consumers, and that it is economically repairable.
LONGTIME® is a simple, powerful and effective tool, designed to inform consumers who are concerned about the overall impact of their purchases, as well as those who wish to acquire a product with a fair longevity/price ratio. It also aims to put the spotlight on manufacturers keen to offer products with an optimized lifespan.

Label objectives

The aim is to encourage a different kind of consumption, with a view to producing differently. Virtually all citizens would like to see a transformation of the consumer society, with a real paradigm shift in technical and economic thinking, in order to consume better and more sustainably.
As studies « Modélisation et évaluation environnementale de produits de consommation et biens d'équipement » and « Évaluation environnementale et économique de l'allongement de la durée d'usage de biens d'équipements électriques et électroniques a l'échelle d'un foyer » from the Agence De l'Environnement et de la Maîtrise de l'Énergie Française (ADEME) show, the ecological interest is major: in the space of a few decades, we have multiplied our consumption of raw materials to over 60 billion tonnes a year.
The label helps to preserve the planet's resources by making better use of them and reducing waste.

Intuitively, then, buying a product with an optimized lifespan encourages the rational use of our planet's resources, reduces over-consumption and helps us to move away from disposable and wasteful products. It's not a question of looking for "immortal" products, but rather of fighting against the short lifespan of products.

Extending the lifespan of a pellet stove by a few years can reduce the results of indicators for impact categories linked to phases of the lifecycle upstream of use.

In the other impact categories, the benefit of extending the lifespan will largely depend on the energy efficiency of the replacement product, as well as its performance in terms of output and particle emissions, bearing in mind that the average lifespan of pellet stoves is estimated at around 12 years.
So replacing a pellet stove early, before it is 12 years old, would hardly seem to be advantageous from an environmental point of view, as the technology seems to have reached its performance limit.

Fields of application

The label is applicable to various product families as long as there is an assembly of parts. LONGTIME® aims to cover domestic appliances, electronics, hand-held electrical appliances, furniture, leisure equipment, professional equipment, etc. The range of products is therefore very broad, but excludes automotive, textile (excluding leather goods), food, cosmetics and chemical products.

Reference system organization

The criteria are broken down into 3 main families and grouped into 9 categories. The criteria are presented as follows:

Criteria category

The criteria are grouped into 3 main categories

Criteria subcategory

Each of the 3 main criterion categories has sub-categories that allow us to refine the field. The reference system comprises a total of 9 sub-categories

1. Criteria number and name

Each criterion is identified by a number and a name corresponding to its specific theme. In all, there are 38 criteria.

Time marker

Associated with each criterion Cf table below

CROSS-CUTTING CRITERIA
Criterion applicable to all product categories

- Product Specific Requirement (PSR)

Specific criterion whose scope is adapted to the product category of the standard.

Means of proof: Details of the means of proof required and/or relevant to the assessment of the criterion and its PSR.

A time marker is assigned to each label criterion according to the classification shown in the table below:

Criteria **TO**	These criteria must be met to qualify for certification after the initial audit (year N).
Criteria **T1**	These criteria must be met by at least 70% at the time of the audit. Corrective action will be taken to achieve 100% compliance by year N+1.

Control system

Compliance with the standard's criteria is assessed by an independent, accredited inspection body.
Each criterion is assessed according to a compliant/non-compliant approach.
For more details on the control system used in the labeling process, click here:
https://www.longtimelabel.com/conditionslongtime

Standards and regulations

The standards and regulations cited in the standard are based on the most recent versions and/or equivalents published in the Official Journal of the European Union.

General mode of proof

A series of documents and administrative procedures are useful for establishing proof of compliance with various criteria:

- Visual inspection by mandated third-party auditor during in-situ audit
- All European legislation applicable to the product family, in particular: technical specifications referred to in article 12, paragraph 5 of the RÈGLEMENT (UE) 2017/1369 present in the European Commission's product conformity database (CE marking database), EMC, ROHS, WEEE, machine safety directives
- Technical specifications for components, materials, coatings and internal or supplier processes
- Quality certification and type 1 or 2 label (Iso 9001, Iso 14001)
- Quality assurance
- Test data
- After-sales service data
- Any documentation/software to support compliance, such as :
  - Internal product data sheet
  - Functional analysis tool
  - Design study (function, materials, usage constraints)
  - Performance and endurance testing
  - Qualification phase and test
  - Failure rate study
  - Operating instructions
  - Maintenance manual
- Terms and conditions of sale

I. PRODUCT SCOPE DEFINITION

The Wood Pellet Stoves standard focuses on domestic heating appliances used to produce heat continuously and efficiently, using only wood pellets as an energy source. Pellet stoves, also known as pellet stoves, work by burning compressed wood residue in a combustion tank, and use a heat exchange system to transfer the calories produced to the ambient air. In some cases, it is possible to run the stoves on wood.

They are equipped with an automatic pellet feed system using a worm screw, coupled with a control system to manage the quantity of fuel used according to heating requirements. A turbine evacuates the smoke and combustion gases via the flue. Wood pellet stoves are used to heat rooms or spaces in residential, commercial or industrial buildings. They are appreciated for their high efficiency, low environmental impact and ability to provide constant, pleasant heat.

Product scope

- Domestic wood pellet stoves
- Combined pellet and log-burning domestic stoves

Outside product scope

- Coal stoves
- Wood-burning stoves
- Combination stoves (wood/coal)
- Special boilers for solid fuels, manual and automatic loading
- Solid fuel open fires and inserts
- Liquid fuel stoves
- Supplementary heaters of all types

In the rest of the standard, ‘**domestic wood pellet stoves**’ is replaced by ‘**pellet stoves**’.

II. NOMENCLATURE OF PARTS

This chapter details a typical nomenclature, representative of the target product group but not exhaustive. The various parts present in the BOM will then be prioritized by type of part.

- **Product Body Assembly**
  - Chassis
  - Legs
  - Facades, panels, and trim elements (side, front, rear)
  - Control panel
  - Access door(s)
  - Sealing joint(s) for access door

- **Flue door assembly**
  - Door frame
  - Door handle
  - Fire door hinges
  - Slide(s)
  - Glass ceramic(s)
  - Deflector(s)
  - Fire door seal(s)

- **Display and control unit (start-up, settings, programmes, etc.)**
  - Analogue or digital display
  - Control panel protection system
  - Control button(s) (mechanical, tactile, touch-sensitive)
  - Programme selector, switch
  - Status indicator(s)
  - Remote control or portable programming unit

- **Electrical and electronic assembly**
  - Electronic power / supply board or module
  - Electronic control card or module
  - Electronic display card or module
  - IOT connection and communication board or module (radio, wifi, bluetooth)
  - Management and regulation card or module (NTC or thermostat)
  - Fume extraction motor turbine encoder
  - General cut-off module (switch)
  - Filter or interference suppression module
  - Capacitors (endless screw, self-cleaning crucible)
  - Triac
  - Door opening detection system
  - Electronic locking system (switch, position contactor)
  - Internal cables, connection cables
  - Power supply cable
  - Electrical terminal block
  - Fuses and/or resettable thermal circuit breaker
  - Electromechanical safety thermostat (Klixon type)

- Amperometric/overcurrent protector (worm gear)
- Other overheating/overcurrent protection device

- **Pellet tank assembly**
  - Pellet tank
  - Tank grille
  - Worm gear motor
  - Worm screw
  - Tank gasket
  - Tank closure system (lid, hinge(s))

- **Combustion chamber assembly**
  - Firebox (sides & bottom)
  - Crucible
  - Crucible gasket
  - Crucible cleaning system (tilting grate, lower auger)
  - Motorised air flap system
  - Ash recovery system (ash drawer, ash drawer grate)
  - Fume extraction motor turbine
  - Smoke extraction fan encoder
  - Smoke extraction turbine seal
  - Spark plug
  - Hot air motor fan (tangential or centrifugal)
  - Differential pressure switch
  - Flow sensor or flow meter
  - Room temperature sensor
  - Flue gas temperature sensor (NTC type)
  - Pellet level sensor

- **Sealing and stabilisation of mechanical connections**
  - Sealing mechanism (other O-rings, rings, lips, silicone, etc.)
  - Holding mechanism (screws, bolts, circlips, washers, etc.)
  - Stabilising mechanism (spring, spacer, bucket, bearing, etc.)
  - Translation mechanism (slides)

III. PRIORITIZATION BY PARTY CATEGORY

Product housing

This covers all the parts used to protect the product's internal components from the outside world.

- **Product body assembly**
  - Legs
  - Fronts, panels and trims (side, front, rear)
  - Control panel

Functional parts

Parts related to the operation or use of the product without additional features.

- **Product body assembly**
  - Frame
  - Access hatch(s)
  -
- **Flue door assembly**
  - Door frame
  - Door handle
  - Fire door hinges
  - Slide(s)
  - Deflector(s)

- **Display and control unit (start-up, settings, programmes, etc.)**
  - Control button(s) (mechanical, tactile, touch-sensitive)
  - Programme selector, switch
  - Status indicator(s)

- **Electrical and/or electronic assembly**
  - IOT connection and communication card or module (radio, wifi, bluetooth)
  - General cut-off module (switch)
  - Filter or interference suppression module
  - Capacitors (endless screw, self-cleaning crucible)
  - Triac
  - Electronic locking system (switch, position contactor)
  - Internal cables, connection cables
  - Power supply cable
  - Electrical terminal block

- **Pellet tank assembly**
  - Pellet tank
  - Tank grate
  - Worm screw

- Tank closure system (lid, hinge(s))

- **Combustion chamber assembly**
  - Crucible cleaning system (tilting grate, lower auger)
  - Ash recovery system (ash drawer, ash drawer grate)
  - Room temperature sensor
  - Pellet level sensor

- **Sealing assembly and stabilisation of mechanical connections**
  - Sealing mechanism (O-ring, ring, lips, silicone, etc.)
  - Holding mechanism (screws, bolts, circlips, washers, etc.)
  - Stabilising mechanism (spring, spacer, bucket, bearing, etc.)
  - Translation mechanism (slides)

Priority parts

Parts that are functional but critical in the event of malfunction or breakdown (sometimes called critical parts).

- **Fireplace door assembly**
  - Fire door hinges
  - Slide(s)

- **Display and control assembly (start-up, settings, programmes, etc.)**
  - Analogue or digital display

- **Electrical and electronic assembly**
  - Electronic power / supply board or module
  - Electronic control card or module
  - Electronic display card or module
  - Management and regulation card or module (NTC or thermostat)
  - Fume extraction motor-turbine encoder
  - Door opening detection system
  - Resettable thermal fuses and/or circuit breaker
  - Electromechanical safety thermostat (Klixon type)
  - Amperometric/overcurrent protector (auger)
  - Other overheating/overcurrent protection device

- **Pellet tank assembly**
  - Worm gear motor

- **Combustion chamber assembly**
  - Firebox (sides & bottom)
  - Smoke extraction motor turbine
  - Air flap motorisation system
  - Smoke extraction fan encoder
  - Hot air motorised fan (tangential or centrifugal)
  - Differential pressure switch

- Flow sensor or flow meter
- Flue gas temperature sensor (NTC type)

Vulnerable parts

Parts exposed to a high rate of accidental user breakage.

- **Flue door assembly**
  - Glass-ceramic(s)

- **Display and control unit (start-up, settings, programmes, etc.)**
  - Control panel protection system
  - Remote control
  - Portable programming unit

Consumable or maintenance parts

Consumable parts are those parts that need to be replaced more or less frequently, depending on the pattern of deterioration over the product's lifetime. Maintenance parts require regular servicing to keep the product in optimum working order.

- **Product body assembly**
  - Access hatch seal(s)

- **Flue door assembly**
  - Firebox door gasket(s)

- **Pellet tank assembly**
  - Tank gasket(s)

- **Combustion chamber assembly**
  - Crucible assembly
  - Crucible gasket
  - Spark plug
  - Smoke extraction turbine seal

Aesthetic parts or accessories

Aesthetic parts that do not interfere with product operation. Elements that may be useful for the operation of an object or for adding additional functions without being part of it.

- **Accessory parts**
  - Not identified according to the LONGTIME® standard definition

IV. CLASS OF REPARABILITY CRITERIA

1. Class system

The criteria in the "Repairability" family use a system of classes to prioritize the level of requirement for each type of part.
These classes range from A to E.
Class A represents best practice in reparability. The lower classes (B, C, up to D or E) reflect a decreasing level of relevance of practices, but should always be considered in relation to market practices.

The definition of classes is the subject of a study for each repository, in order to identify best market practices.

2. Disassembly depth of parts

The dismantling step count starts when the safety conditions for the user are met. A step is an operation leading to the removal of a part or a tool change. Example:

- Remove cover by sliding with hand = 1 step
- Remove cover by unscrewing 4 Phillips screws = 1 step
- Remove cover by unscrewing 2 Phillips and 2 Torx screws = 2 steps

VI. EXPOSURE TO EXOGENOUS FAILURES

Definition

An exogenous failure refers to a defect or problem in the manufactured product that occurs due to external factors or conditions beyond the control of the manufacturer or producer.
As opposed to an endogenous failure, which is linked to internal problems (design, manufacturing, quality), an exogenous failure is generally the result of unforeseeable external circumstances (e.g. extreme environmental conditions, transport accidents, inappropriate handling by the end-user, component failures from third-party suppliers, etc.).
Managing exogenous failures in product manufacturing may involve implementing quality control measures, rigorous testing, supply chain management, warranties and return policies to deal with problems that may arise due to these external factors.

Exogenous failure criteria

Importance of the phase: Indicator used to assess the role of a specific phase according to its recurrence or time in relation to the other phases.

- Weighting at 1: Time or occurrence of the phase in which the product is located in relation to the other phases between 0% and 30%.
- Weighting 2: Time or occurrence of the phase in which the product is found in relation to the other phases between 30% and 60%.
- Weighting at 3: Time or occurrence of the phase in which the product is found in relation to the other phases greater than 60%.

User risk :

Reflects the ability to respect conditions of use in the face of the weight of the constraints of use.
Associated levels :

- Low: the user scrupulously respects the product's rules of use, particularly for quality and safety reasons.
- Medium : the user generally respects the product's rules of use
- High : the user generally respects the product's rules of use

Product handling :

Reflects the possibility of false handling, shocks, falls.
Associated levels :

- Low : Not handled
- Medium : Handling without moving or dismantling
- High : Handling with moving or dismantling

Weather exposure :

Refers to exposure to rain, hail, frost, wind, sand, lightning, dust, salt spray...
Associated levels :

- Low : No exposure (indoors)

- Medium : Indirect exposure (hold, station concourse)
- High : Direct exposure (outdoors)

Definition of the different phases

- **Inactivity:** The device is powered, but is not performing any active tasks. It is in a state in which it is not being used for specific functions and is not performing background operations.

- **Standby:** The device is in a low-power state, with main components reduced to a minimum, but capable of maintaining certain functions or responding to interactions.

- **Loading:** This consists of opening the stove's pellet tank and refilling it.

- **Combustion:** This is when the stove is lit by the candle and the pellets are burnt in the brazier. The appliance is operational, performing tasks, and consumes a quantity of energy due to its active operation. This is the phase when the appliance is most in demand and uses all its available functions to meet the user's needs.

- **Cleaning/Maintenance/Servicing:** This phase involves regular servicing of the appliance to optimise its performance and ensure that it runs smoothly over the long term. It includes tasks related to physical and software maintenance, aimed at preventing problems and improving the lifespan of the device.

- **Storage/Restore:** This phase corresponds to the period during which the device is not actively used for a prolonged period.

Phase	Importance of the phase	User risk	Product handling	Weather exposure	Overall risk
Inactivity	1	Medium	Low	Low	Low
Standby	3	Low	Low	Low	Low
Loading	2	Medium	Low	Low	Low
Combustion	3	Low	Low	Low	Low
Cleaning/ Maintenance	1	Medium	Medium	Low	Medium
Storage/ Restore	3	Low	Low	Low	Low

Assessment of the overall risk of exogenous failure : LOW

This product category is subject to a low risk of exogenous failure. The main risks of external failure for stoves are as follows:

- Failure to comply with operating instructions and manufacturers' recommendations for installation and adjustment of the stove

- Failure to follow the maintenance plan, including cleaning the stove
- Inadvertent knocks on the door glass or when loading pellets

VII. LABEL CRITERIA

Reliability

Conception

1. Stress resistance

T0 Criteria

The producer identifies the functions of the product and its components, as well as the associated critical use constraints. He demonstrates sustainable design choices, optimized by reliability and/or repairability strategies.

General mode of proof supplemented by a set of data appropriate to the sub-criteria, including the application of product-related test standards:

- *Warranty and non-warranty failure rates with averages below the industry average*
- *Accelerated life testing Due to the limited duration of the test, scientific and robust projection calculations (acceleration factor) are used to extrapolate the results to the maximum total life of the product, demonstrating stress resistance above the market sector average.*
- *The methodologies used may be based on general standards, on mandatory standards linked to safety directives and including elements of resistance to stress in use, or on voluntary standards.*
  - *EN 60335-1 COMPIL 15 Household and similar electrical appliances - Safety - Part 1: general requirements*
  - *EN 60335-2-30 Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters*
  - *EN 60675 Direct acting domestic electrical space heating appliances - Methods of measurement of performance*
  - *EN 50564 - Electrical and electronic appliances for household and office use - Measurement of low power consumption*
  - *EN 60068-2-38 (resistance of components to temperature and humidity)*
  - *EN 45552 : General method for assessing the durability of energy-related products*
  - *EN 60721: Classification of environmental conditions*
  - *IEC 60605 : Reliability testing of equipment*
  - *IEC 61123 : Reliability testing - Pass rate compliance test plans*
  - *EN 61124 : Reliability testing - Compliance test plans for constant failure rate and constant failure severity*
- *Instruments used for testing: all instruments used for testing must be calibrated and a valid calibration report must be available. Calibration must be carried out prior to testing. Calibrations must be traceable to national standards.*

❖ **Resistance to mechanical stress**

- Robust control modules with high resistance to repeated handling

- Ignition control with resistance to closing cycles ≥10 000 cycles
- Thermostat control with resistance to closing cycles ≥ 20,000 cycles

Mode of proof: Wear resistance of ASTM-F1578-07 controls if market data is not sufficiently robust

- Impact resistance with robust materials and outer cladding, exposed glass and pellet stove glass made of ceramic glass

Mode of proof: Characterisation of materials or hardness tests in accordance with EN 15186 or impact resistance tests (e.g. IZOD, Charpy)

- Preventive or amperometric thermal protection for electric motors (rotor) using fuses, thermal-magnetic circuit breakers and/or overload relays in particular
  - Smoke extraction fan
  - Worm gear motor

General mode of proof

- Wear resistance of the door and its hinges to 5000 opening/closing cycles with no anomalies at the end of the test:
  - The door must not be abnormally noisy when in use compared with nominal operation.
  - The door must not be operated with a play > 2 mm compared with the initial play on the 3 axes of travel X,Y,Z

Mode of proof: Fatigue and fracture mechanics tests: type ISO 12135, ASTM E399, ASTM E647. Characterisation of parts and processes using technical data, wear and ageing tests. Manufacturer commitment with minimum 5-year warranty.

❖ **Resistance to thermal stress**

- Selection of materials capable of withstanding high temperature cycles, particularly for the combustion chamber, and with a suitable coefficient of thermal expansion (CTE)

Mode of proof: Thermal shock test (MIL-STD-202 and MIL-STD-810) or CFD thermal simulation. Quality commitment via manufacturer's warranty.

- Protection of electrical and electronic components from high temperatures in the combustion chamber and flue gas system
  - Use of heat sinks
  - Optimised thermal architecture with decoupling of heat-sensitive components, insulation and adapted product design
  - And/or use of a natural or motorised fan cooling system

General mode of proof

- Monitoring the risk of overheating using thermal sensors combined with a regulation function and/or controlled de-energisation (thermal circuit breaker) and more specifically for the following parts:
  - Hot air fan

- Pellet tank

General mode of proof

- Aesthetic durability of materials and cladding finishes in the face of heating cycles

Mode of proof: IEC 60068-2-2:B or MIL-STD-810H - Method 501.7

❖ **Resistance to electrical stress**

- Main switch or switch-mode power supply to reduce capacitor fatigue
  - Capacitor with third-party quality certification type

- Resistant to electrical surges and mains variations
  - EOS protection circuit or overvoltage fuse
  - Robustness and sizing of critical components (relays, triac, capacitors)
  - Protection of electrical and electronic components against the risk of electrostatic discharge

Mode of proof:

- *EOS robustness test (e.g. IEC-61000-4-5)*
- *Relays and contactors certified for 200,000 cycles minimum on the characteristics of the French electrical network. Temperature limiter certified for 20,000 cycles at 256 Vac/10A and 10,000 cycles at 256 Vac/16A.Regulatory compliance of capacitors by third party (ENAC type).*
- *Regulatory compliance of capacitors by third party (ENAC type).*
- *Demonstration of dielectric strength, power maintenance and leakage current suppression in accordance with the electrical safety standard in force and certified by an approved third party.*

❖ **Resistance to sealing stress**

- Resistance of electronic components to conditions of use and more particularly to dust, granule particles and humidity (induced or direct)
  - Sealing of electrical and electronic contacts ensured by the product design or by design elements compatible with the objectives of promoting repairability

- Selection of materials and/or metals and alloys demonstrating physico-chemical properties of corrosion resistance suitable for use in a domestic environment with an ambient humidity level of between 40 and 70%

Mode of proof: Characterisation of parts and processes using technical data, wear and ageing tests.

Production

2. Production line

T0 Criteria

The manufacturer has the processes in place to control and maintain consistently high manufacturing and assembly quality during the production phase.

- The main site(s) involved in the production of the product is/are certified to an international quality management standard.
  - Site involved in the manufacture of the control system ISO 9001
  - Site involved in the manufacture of the ISO 9001 electronic cards
  - Site involved in the manufacture of the furnace assembly (side elements & bottom)
  - Site involved in the manufacture of the fume extraction motor-turbine assembly ISO 9001

Mode of proof: Annual quality control of the production site and its production line by a third party as a minimum. Demonstration of compliance with ISO 9001 principles by verification of quality procedures or equivalence with other certifications. For companies with more than 250 employees and for subsystems identified in PSR (in the case of subcontracting), ISO 9001 certification issued by an accredited third-party inspection body.

3. Logistics

T0 Criteria

The manufacturer reduces risks to the reliability of components and assemblies through efficient quality processes for managing supply, packaging, storage, handling and transport conditions.

- The condition of products in stock and materials that can be processed is regularly checked, and dedicated labels indicate use-by dates if necessary.
- The environment of the storage areas is controlled and specifically adapted to the components and materials of the pellet stoves.
- Specific product handling procedures are defined and monitored to prevent any damage to the product during handling (delivery, handling, transport).

General mode of proof

4. Supply chain

T0 Criteria

Within its value chain, the producer details the performance of its quality management linked to the reliability of its suppliers' goods or services in direct relation to its manufacturing phases.

- Particular attention will be paid to the following elements:
  - Relays (third-party quality certification required)
  - Capacitor (third-party quality certification required)
  - Thermostat (third-party quality certification required)
  - Power cable and wiring (third-party quality certification required)
  - Electronic board(s)
  - Vermiculite

- For companies with more than 250 employees and for subsystems identified in PSR (in the case of subcontracting), ISO 9001 certification issued by an accredited third-party inspection body.

Mode of proof:

- *Annual quality control of production sites and the production chain by at least a third party. Demonstration of compliance with ISO 9001 principles through verification of quality procedures or equivalence with other certifications.*
- *In the case of subcontracting by direct purchase for the subsystems identified in the PSR, ISO 9001 certification issued by an accredited third-party inspection body.*
- *For subcontracting companies with fewer than 50 employees, or in the case of product development based on the manufacturer's specifications, verification of the quality system, the history of collaboration and the failure rates associated with the associated system.*

Quality control

5. Reliability plan

T0 Criteria

The producer provides a history of product versions and identifies the changes implemented to improve product durability.

- The manufacturer is able to demonstrate the following points:
  - Identification and monitoring of failures by the technical departments of the manufacturer or its subsidiaries, with supporting statistics
  - Documented reporting of failures according to structured and systematic processes to central departments (Technical/Quality/R&D)
  - Handling and processing of reports by R&D departments, with concrete modifications made to products to constantly improve their reliability and durability.
  - Tracking of modifications made, and statistical measurement of their impact to attest to the effectiveness of the improvements made.

Mode of proof: demonstration of quality management to the appointed inspection body during the on-site audit.

6. Breakthrough technology

T0 Criteria

The producer provides information on the share of breakthrough technology embodied in the product, and identifies the functions associated with it. He demonstrates the reliability of this technology, all the more so if it concerns a primary function.

General mode of proof

7. Breakdown rate

T1 Criteria

The producer tracks actual failure rates and/or indicators by product part in order to monitor product reliability at least until the last unit of the model concerned has been put on the market.

❖ Particular attention will be paid to failures in the following parts:

Thermal control failure :

- Temperature sensor (NTC) faulty
- Thermostat faulty
- Resistor faulty

Electronic failure :

- Electronic control board faulty (capacitor, relay, Triac)
- Short-circuit (electronic board, component, printed circuit)
- Electronic display board or board component faulty
- Display module malfunctioning (backlight, LED, etc.)
- Control device failure (buttons, touch system, electronic board, programmer)

General mode of proof

User information

8. Product identification

T0 Criteria

The producer uses a method that allows unequivocal identification of the product and its version by interested parties in order to maximize maintenance and failure management processes.

General mode of proof

9. Completeness of usage information

T0 Criteria

The manufacturer publishes a manual detailing the product's use and care instructions, and provides the user with a maintenance plan. This information, which is also available online, must be exhaustive and relevant in order to reduce exogenous failure rates and encourage responsible use.

❖ The manufacturer clearly informs the user of the usage scenario(s) that will reduce the electric radiator's energy consumption as much as possible and explains the differences in consumption between the different operating modes if necessary (ready to operate, deep standby, complete shutdown, etc.).

General mode of proof

10. Usage information format

T1 Criteria

The manufacturer publishes a clear, simple and accessible user and maintenance manual (font size, vocabulary, language and print quality), so that it can be easily understood by end-users.

General mode of proof

11. Prolonged immobilization

T0 Criteria

The manufacturer identifies the risks of failure associated with prolonged product downtime. He informs the end user of the conditions of use necessary to prevent these risks.

- Applicable: Product family sensitive to non-use in the event of prolonged immobilization: risk of battery degradation.

- Consistent duration of non-use: 1 year.

General mode of proof

Repairability

Technical repairability

12. Disassembly of parts

T0 Criteria

The disassembly depth is adapted to the category of product parts and the disassembly time is consistent with the type of profile normally capable of carrying out the process.

- Class A: ≤ 5 steps and less than 10 minutes
- Class B: between 6 and 10 steps and less than 20 minutes
- Class C: between 11and 20 steps and less than 45 minutes
- Class D: between 11 and 20 steps and less than 60 minutes

Types of parts	Class
Product housing	A
Functional	C
Priority	B
Vulnerable	B
Consumable	A

General mode of proof

13. Part fasteners and connectors

T0 Criteria

Fasteners and connectors have removability and reusability characteristics appropriate to the category of product parts. A system is in place for locating these non-visible fasteners.

- Class A : Removable and reusable
- Class B : Removable but non reusable
- Class C : Neither removable nor reusable

Types of parts	Class
Product housing	A
Functional	B
Priority	B
Vulnerable	A
Consumable	A

❖ The fasteners of the various priority parts of the product having both a mechanical and an electrical function must be removable and reusable (Class A standard EN45554).

❖ Battery fasteners are removable and reusable, or are supplied with the new battery. More generally, in the event that the fastening system cannot be reused, it must be supplied with the replacement part to enable the failure or maintenance scenario to be resolved.

General mode of proof

14. Tools

T0 Criteria

The tools required for repair and/or disassembly must be suitable for the category of product parts.

- Class A: repairs feasible without the use of tools, with tools supplied or with basic tools
- Class B: repairs feasible with tools specific to the product family
- Class C: repairs feasible with other commercially available tools
- Class D: repairs feasible with proprietary tools
- Class E: repair not feasible with any existing tool

Types of parts	Class
Product housing	A
Functional	A
Priority	A
Vulnerable	A
Consumable	A

❖ Tolerance allowed for proprietary tools supplied or loaned on request, at no extra cost, with spare part.

- ❖ The battery is removable. It is considered removable when it can be removed individually from the equipment, without tools or with the help of common commercially available tools, or with tools supplied free of charge with the equipment or battery.

General mode of proof

15. Working environment

T0 Criteria

Product-specific repair scenarios are carried out in a working environment adapted to the product part category.

- Class A: use environment
- Class B: workshop environment
- Class C: production environment

Types of parts	Class
Product housing	A
Functional	A
Priority	A
Vulnerable	A
Consumable	A

General mode of proof

16. Competence level

T1 Criteria

The level of technical skill required to carry out a repair is consistent with the category of parties involved.

- Class A: Novice skills
- Class B: Generalist skills
- Class C: Expert skills
- Class D: Manufacturer or approved expert
- Class E: Impossible to achieve with existing skills

Types of parts	Class
Product housing	A
Functional	B
Priority	B
Vulnerable	A
Consumable	A

- ❖ In particular, the battery is replaceable by end-users with novice repair skills.

General mode of proof

17. Spare parts interface

T0 Criteria

The various parts of the product and their connection interfaces are standardized to meet the repairability expectations of the product family.

- Class A: Standard part with standard interface
- Class B: Standard or proprietary part with standard interface
- Class C: Proprietary part with non-standard interface

Types of parts	Class
Product housing	B
Functional	B
Priority	B
Vulnerable	B
Consumable	B

❖ Serialization practices are prohibited.

❖ Replacement parts may be adaptable or compatible spare parts, second-hand parts, reconditioned parts, reused parts or parts from the circular economy, without preventing the product from functioning properly once the part has been integrated into it.

General mode of proof

Organizational reparability

18. Spare parts availability time

T0 Criteria

The availability time for spare parts is at least equal to the expected service life of the product category and its individual parts. The availability period is measured from the time the last unit of the model concerned is put on the market.

- Class A: Long-term accessibility
- Class B: Medium-term accessibility
- Class C: Short-term accessibility
- Class D: No information on the duration of accessibility

Types of parts	Class	Availability of spare parts
Product housing	A	15 years
Functional	A	15 years
Priority	A	15 years
Vulnerable	A	15 years

Consumable	A	15 years

- In the event that a replacement part is not available from the manufacturer or his distribution network, the manufacturer shall clearly provide the user, via the documentation made available to him, with the information and/or characteristics of the parts enabling him to use instead an adaptable or compatible replacement part available on the market for a period at least equal to that specified in the above table.

General mode of proof

19. Accessibility of spare parts to target audiences

T1 Criteria

The producer ensures the availability of spare parts for the target groups normally suited to the category of parts..

- Class A: Accessible to end users
- Class B: Accessible to independent repair service providers
- Class C: Accessible to service providers approved by the manufacturer
- Class D: Accessible only to the manufacturer

Types of parts	Class
Product housing	A
Functional	A
Priority	A
Vulnerable	A
Consumable	A

- The various sub-assemblies listed in the nomenclature of parts section must be replaceable by equivalent components. However, replacement components need not be identical to the original components.

General mode of proof

20. Terms and conditions for the sale of spare parts

T1 Criteria

The manufacturer details the terms of sale of its spare parts. They reflect the product nomenclature and are not sold as a group, unless justified by coherent and verifiable design, calibration and/or economic reasons.

General mode of proof

21. Spare parts prices

T1 Criteria

The manufacturer makes every effort to ensure that the cumulative price of spare parts is limited to 120% of the product's recorded selling price. The value of a spare part may not

exceed a maximum percentage of the recommended selling price excluding VAT. A tolerance is allowed for parts whose PRU exceeds the specified percentage.

- Percentage set at 10%.
- The manufacturer studies and clearly proposes to the user, through the information medium of his choice, repair scenarios enabling repair costs to be limited to 20%.

General mode of proof

22. Shipping costs for spare parts

T1 Criteria

The producer delivers the spare parts at the actual cost of shipping and preparation, or offers alternative solutions that reduce the cost of receiving the parts.

General mode of proof

23. Spare parts delivery times

T1 Criteria

The manufacturer demonstrates its ability to supply spare parts to interested parties within 5 working days.

General mode of proof

24. Documentation of failure scenarios

T1 Criteria

The manufacturer makes available relevant information and instructions for resolving failure scenarios and/or implementing the maintenance plan.

These are also adapted to the product category and target audience groups. The minimum duration of information availability is specified below.

- Class A = Accessible to all without restriction
- Class B = Accessible to independent repair service providers
- Class C = Accessible to repair service providers authorised by the manufacturer
- Class D = Accessible to the manufacturer only

- Suitable formats for complete information communication follow the IEEE 1874 standard

Documentation	Class	Documentation availability time
Disassembly and reassembly diagrams if necessary, or exploded views	A	15 years
Wiring and connection diagrams	A	15 years
Diagrams of electronic boards	B	15 years
A technical manual with instructions for troubleshooting failure scenarios	A	15 years

A list of necessary repair and testing equipment	A	15 years
Information regarding components and diagnostics (such as minimum and maximum theoretical values for measurements)	A	15 years

General mode of proof

25. Support for fault diagnosis

T0 Criteria

The producer communicates information and/or deploys diagnostic support mechanisms to help identify failure scenarios.

- Class A = Intuitive interface
- Class B = Coded interface with public reference table
- Class C = publicly accessible hardware/software interface
- Class D = Proprietary interface
- Class E = Impossible, whatever the type of interface

❖ Class A :

- Diagnostic support system with an intuitive or coded interface that provides public access to the reference table
- The manufacturer's or distribution partners' website for the stove features a fault diagnosis interface in the form of a failure tree for products that do not have an intuitive or coded diagnostic support system

General mode of proof

Scalability

26. Reset settings and passwords

T0 Criteria

In the event of repair or transfer to a third party, the product's user data management processes enable secure, high-performance reuse.

- Class A = Integrated reset
- Class B = External reset
- Class C = Service reset
- Class D = No reset

❖ Class A : The restoration of factory values is performed through a function integrated into the product.

General mode of proof

27. Software

T0 Criteria

The manufacturer ensures that the original performance of its product is maintained when updating the operating system and/or firmware, and differentiates between evolutionary and corrective updates. Users are informed of the consequences of updates, and their consent is required.

❖ The minimum availability time for updates is 8 years.

General mode of proof

Quality of after-sales service

28. Internal failure resolution policy

T1 Criteria

In the event of product failure, the manufacturer pursues a policy of repair or reconditioning rather than replacement, unless repair is more expensive than replacement, taking into account the wishes of users.

General mode of proof

29. Service contact

T1 Criteria

The producer demonstrates that the opening of a SAV file does not exceed 2 working days.

❖ Given the type of product family, the maximum lead time is 24 hours.

General mode of proof

30. Return services

T0 Criteria

The manufacturer provides end-users with return services adapted to the product category and consistent with its distribution network, regardless of the status of warranties.

- Class A = Complete return options
- Class B = Basic return options
- Class C = No return option

❖ Class B: Basic return service with minimum return conditions by post or distribution/collection point

General mode of proof

31. Return condition

T0 Criteria

The return of the original packaging cannot be demanded for the repair of the product, as long as it is packaged and protected as much as it could have been at the time of purchase.

General mode of proof

32. Useful product

T1 Criteria

In its network, and for product categories considered "highly useful", the manufacturer minimizes the repair process time until the product is returned to the end-user.

- Not applicable

33. Warranty time

T0 Criteria

The warranty period with presumed anteriority of defect may not be less than 24 months.

- Minimum warranty period of 3 years for all parts of the product.
- Minimum warranty period of 5 years for the burner, vermiculite, and all components of the hearth

General mode of proof

34. Warranty exclusions

T0 Criteria

In its general warranty conditions, the manufacturer does not introduce any abusive exclusion(s) with regard to the normal use of the product.

Examples of abusive exclusions identified:

- Surface micro-scratch
- Dust trace
- Soot residue

General mode of proof

Lifecycle

Sustainability

35. Health, safety and environmental protection

T0 Criteria

With regard to human health, the safety of people and installations, and environmental protection, the manufacturer proves that it is taking action at a level that complies at least with the requirements of European directives 2011/65/EU and (EC) No 1907/2006 on the restriction of the use of certain hazardous substances in equipment, and/or action to preserve the ecosystems that are most affected.

Mode of proof: For products distributed in geographical areas potentially covered by regulatory prerogatives establishing requirements similar to the European market in terms of limiting the use of certain hazardous substances in EEE, proof of compliance with these regulatory requirements will be used as a method of proof in compliance with the RSPs of this criterion if necessary.

- For large companies (workforce > 5000), the main site(s) involved in the production of the product must be certified to an international environmental management standard.

- Regardless of the size of the company, the foundries involved in the manufacture of the heating element, tank and crucible are certified to an international environmental management standard.

Mode of proof: ISO 14001 certification issued by an accredited third-party inspection body.

- In order to reduce the impact of the manufacturing phase, the manufacturer deploys at least one of the following two characteristics:
  - Pellet stove paints or other coating products are only water-based or are bio-based
  - The site responsible for the 'coating, painting' phase has third-party quality certification linked to environmental management, such as ISO 14001

- Combustion chambers, crucibles, tanks and casings from foundries are made from at least :
  - 17% for steel
  - 28% for stainless steel
  - 80% for cast iron
  - 80% for aluminium

Mode of proof: Composition and characterisation of paints. Third-party quality certification demonstrating the ecological aspect of the paints used, in accordance with recognised test standards. Proof of origin of the materials used to make up the facades.

- Life Cycle Assessment (LCA) : The characteristics of the product and the manufacturer's practices result in a minimum **class B** among the classes listed below.

Requirements	**Class**					
	A	**B**	**C**	**D**	**E**	**F**
The product's LCA is critically reviewed by a third party. The review report must include at least : - The number of years of experience in the field of LCA/PCF - Number of carbon footprints reviewed	x					

- Number of carbon footprints completed						
The product LCA is based on the specific product mode.	x	x				
The product LCA is based on the product's family of models, but not the specific product model			x	x	x	
The full LCA report including all assumptions is publicly available and based at least partially based on real material data (Full Material Declarations)	x	x	x			
Concrete actions are taken to reduce the impact of the most impacting phase(s) of the life cycle	x	x	x	x		

Mode of proof: LCA report produced by a qualified consultancy. Public commitment to carry out an LCA corresponding to the Class indicated below, within 12 months of the audit.

36. Energy and/or environmental performance

T0 Criteria

To reduce the impact of energy consumption or pollution emissions, the manufacturer demonstrates the environmental and/or energy performance of its products.
It proves that it is taking action at a level that complies, as a minimum, with the prerogatives of European directives and/or regulations (EU) 2009/125/EC (including its implementing measures) on the eco-design of energy-related products and (EU) 2017/1369 (including delegated regulations) on the energy labeling of products if the product claiming the LONGTIME® label is concerned.

Mode of proof: for products distributed in geographical areas potentially covered by regulatory prerogatives establishing requirements for energy efficiency, eco-design and energy labelling similar to the European market, proof of compliance with these regulatory requirements will be used as a method of proof in compliance with the RSPs of this criterion if necessary.

General mode of proof

- Pellet stoves have the following environmental characteristics:
  - Seasonal energy efficiency (ηs) ≥ 79%
  - Carbon monoxide (CO) emissions ≤ 300 expressed at 13% O2 in mg/Nm3
  - Nitrogen oxide (NOX) emissions ≤ 200 mg/Nm3 expressed at 13% O2 in mg/Nm3
  - Emissions of fine particles (PM) ≤ 20 mg/Nm3 expressed at 13% O2 in mg/Nm3
  - Emissions of volatile organic compounds (VOC) ≤ 60mg/Nm3 expressed and PM+VOC ≤ 70mg/Nm3 at 13% O2 in mg/Nm3

Mode of proof: Test report by an approved in-house laboratory or third-party laboratory in accordance with standard EN 16510-2-6, EU Regulation 2015/1185, the current Green Flame label or other equivalent third-party certification.

- Pellet stoves are equipped with a control mechanism that manages the room temperature.

- In order to reduce energy consumption in the home, pellet stoves have at least 3 of the following energy management features:
  - Set temperatures are displayed in units that can be understood by the end user, and are adjusted in steps of between 0.1 and 0.5 degrees maximum.
  - A precise adjustment/calibration system to match the setpoint temperature to the actual average temperature in the room. This system must be adjustable in steps of at least 0.2 degrees and over a minimum range of -5°C/+5°C.
  - In the 'comfort' function, pellet stoves have a behavioural indicator system that visually encourages the user to reduce consumption. This visual indicator operates an educational scale between 19° and 24°. (Example: green at 19° to red at 24°).
  - The setpoint temperatures must be programmable over different operating timescales, with adjustment possible for each range and not just via a non-adjustable predefined operating mode.

Mode of proof: Eco-design measures assessed by the Inspection Body mandated during the audit and supplemented by the documentation and technical specifications referred to in Article 12(5) of REGULATION (EU) 2017/1369, which are available in the European Commission's Product Conformity Database.

37. Equipment end-of-life management

T0 Criteria

As part of the management of end-of-life equipment, the manufacturer proves that it deploys actions for the collection, recovery and effective treatment of used products according to a level of requirement that complies at least with the prerogatives of European directives 2012/19/EU of July 4, 2012 on waste prevention and treatment depending on the target product group.

- The characteristics of the product and the manufacturer's practices result in a Class A among the classes listed below.

Class A	For major markets (>10% of certified product sales) where certified products are sold, the manufacturer offers a take-back program that promotes and practices reuse and/or refurbishment of parts and products, as opposed to recycling alone, while legally complying with applicable EPR regulations.
Class B	For all markets where certified products are sold and where EPR regulations apply, the Brand Owner participates in accredited EPR programs or offers a reuse/recycle program that qualifies for exemption from participation in EPR programs. In all markets not subject to EPR regulation, the brand owner voluntarily offers a take-back option involving accredited reuse/recycling facilities.
Class C	For all markets where certified products are sold and where EPR regulations apply, the manufacturer participates in accredited EPR schemes or operates a reuse/recycling scheme that qualifies for exemption from participation in EPR schemes (legal compliance).

Mode of proof: In geographical distribution areas covered by regulatory prerogatives establishing product collection and recycling requirements, proof of compliance with these regulatory requirements will be used as a means of evidence in compliance with the RSPs of this criterion if necessary.

38. Packaging management

T1 Criteria

As part of the fight against waste production, the manufacturer is making efforts to eliminate the proportion of non-recyclable plastic waste from its packaging through :

- At least 95% of the weight of packaging waste consists of recycled and/or recyclable and/or reusable materials
- Manual separability of non-reusable and non-valorizable packaging components weighing more than 25 grams in a single component.
- Product packaging must not contain lead (Pb), cadmium (Cd), mercury (Hg) or hexavalent chromium (Cr6).
- Plastic packaging material must not contain halogens bound to organic substances.

Mode of proof: Composition and characterization of packaging.

VIII. TERMS AND DEFINITIONS

Depending on the sector, specific definitions for different product categories (parts, functions, etc.) may be added to the recurring definitions below.

Actual failure
Failure that is effectively linked to a malfunction of the product and not to an exogenous problem (e.g. unpowered socket, incorrectly connected power cable, poorly locked lid, etc.).

Adaptable or compatible spare part
These are parts that can be adapted to several models and brands of the same product, more or less faithful copies of original parts that are not manufactured to the original manufacturer's specifications and are not sold in the original manufacturers' packaging.

After-sales service file

An After Sales Service File is a record documenting the handling of a customer request or issue following the purchase of a product. It includes all relevant information about the customer interaction, the issue reported, steps taken to resolve it, and any communication between the customer and the company. In cases where customer support teams manage the initial contact, the file may be passed on to the after-sales service team for further handling when needed, ensuring that all necessary actions are taken to resolve the issue.

The response time for handling such requests does not exceed an average of duration described in criteria 33. There may be flexibility for periods of high demand (e.g., during product launches or holidays) that are justifiable in relation to market practices.

An automated email confirming receipt of the request is not considered sufficient for compliance to criteria 33.

AMDEC / FMEA
Tools for Failure Mode and Effect Analysis / Analyse des Modes de Défaillance, de leurs Effets et de leur Criticité.

Breakthrough technology
A technology that introduces a major advance over existing solutions or practices. It is distinguished by its significant impact on performance, functionality or efficiency, and can change standards or redefine an industry. Unlike incremental improvements, a breakthrough technology often disrupts the market or the field of application, offering substantial benefits or opening up new possibilities. This can apply to both hardware and software innovations.

Circular economy part (CEP)
PIEC are second-hand goods within the meaning of art. L. 321-1 of the French Commercial Code, and cannot be universally defined, but are defined on a case-by-case, sector-by-sector basis.
For the time being, CEIPs are defined in consumer law for the following sectors: automobiles, household appliances, electronics, motorized DIY and gardening tools, sports and leisure equipment and motorized personal transport devices.

For household electrical and electronic equipment, art. R. 224-30 code de la consommation states: "For the application of article L. 224-109, parts from the circular economy are understood to be components and elements resulting from an operation of preparation with a view to their reuse" where article 541.1.1 defines "preparation with a view to reuse" as any operation of control, cleaning or repair with a view to recovery by which substances, materials or products that have become waste are prepared in such a way as to be reused without any further operation.

Competence level

Solving a failure scenario may require skills such as the ability to identify and locate the failure, access the affected area in the product, handle the appropriate tools, and manage any risks associated with the product, the environment and the operator. Depending on the level of technical skill required to carry out the repair, several levels are defined:

- **Novice:** When no specific repair experience or qualifications are required to carry out the failure scenario resolution process.

- **Generalist:** When the resolution of a scenario is not achievable by a novice, but can be achieved by a person with general knowledge of basic repair techniques and necessary safety measures

- **Expert:** When a scenario cannot be solved by a novice or generalist, but can be solved by people with specific expertise or experience related to the product group in question.

- **Manufacturer:** When the resolution of a scenario is not feasible by a novice, generalist or expert, but can be performed by the manufacturer or a person specifically trained and accredited by the manufacturer.

- **Unfeasible:** When a scenario cannot be solved by any of the defined profiles.

Compostable packaging

Container designed with materials capable of decomposing naturally under the action of micro-organisms present in the composter to become a natural or organic component of the substrate.

Criticality

The criticality of a failure refers to the importance or impact of this failure on the correct operation of a product. It is assessed on the basis of the severity of the consequences the failure could have, particularly in terms of safety/costs, and the frequency of occurrence.

Data management process

Refers to the set of practices and procedures put in place by an organization to collect, store, process, protect and manage the personal information of individuals using their products.

Disassembly depth

Corresponds to the sum of the steps required to access each part individually and to separate it from the equipment, with a view to its replacement.

Electrodomestic

Product powered by electrical energy and intended for domestic use only.

EOS
An acronym for Electrical Overstress, meaning an undesirable state of electrical overload that could lead to product damage or failure.

Expected service life
Period during which the user expects the product to perform as intended.

Experienced tools
Tools that require skill to use and whose cost can be a barrier (torque wrench, soldering iron, etc.).

External source parts
Parts external to the manufacturer's production facility, sourced from an identified supplier.

Fair Mined Material
Fair Mined Material refers to raw materials used in the device for which the manufacturer can credibly demonstrate active efforts to improve at least one of the following aspects during the extraction stage: working conditions, workers' income, or environmental protection. This means that the manufacturer is committed to ethical practices by ensuring better labor conditions, fair compensation for workers, and/or implementing measures to minimize environmental impact in the sourcing of these materials.

Full Material Declarations
Full Material Declarations (FMD) in the context of a Product Life Cycle Assessment (LCA) refer to comprehensive and detailed disclosures of all materials and substances used in a product. This includes a complete list of every material, chemical, and component that makes up the product, along with relevant information about their quantities, sources, and potential environmental or health impacts.

General-purpose tools
Common, general-purpose tools available to the general public in standard distribution and as specified in the EN 45554 tool list: screwdrivers (slotted head, cross-head, 6-lobe internal screws), wrenches (hexagon socket, combination wrenches), pliers (universal, half-round nose, diagonal cutting, multi-socket, vice, for stripping and crimping terminals), pry bar, tweezers, steel-headed hammer, universal knife (cutting pliers with retractable blade), multimeter, voltage tester, soldering iron, glue gun, magnifying glass.

High-utility product
A product that is used very frequently and which, in the event of failure, causes a significant disruption to day-to-day management: refrigerator, washing machine, boiler/water heater, telephone, computer, hob, etc.

HS
Out of order; corresponds to the end of the functional state.

IOT

Internet of Things; this function refers to the ability to connect a product to the Internet for additional remote control and/or regulation functions.

Manual
Comprehensive guide or instructional resource that provides detailed information on how to use, operate, maintain, or assemble a product, system, or process. It can take various forms, including printed booklets, digital documents (such as PDFs), illustrated tutorials, or video instructions. Its purpose is to offer clear, step-by-step guidance to users, ensuring they can correctly and efficiently engage with the product or service it accompanies.

No use
Corresponds to a state of non-operation of the device.

Non-recyclable packaging
Packaging that cannot be effectively recovered, recycled or reused after use.

O.S
Operating System is a set of programs that direct the use of a computer's resources by application software.

Permanent assembly
This is an assembly of components forming a single part or component of a product, which cannot be disassembled without destroying or altering its intended use.
To remove the connection between two assemblies or parts, it is necessary to deform, degrade or destroy at least one of the parts forming the assembly. Examples: welding, crimping, clinching, stamping, gluing and adhesives.

Primary data or information
Information directly measured or collected by the professional in one or more installations representative of the professional's activities.

Product/part unit cost price (PRU)
Understood as the sum of the price of the parts making up a product/of the components of a part.

Professional tools
Tools requiring special knowledge or conditions of use, and whose acquisition cost represents an investment.

Professional user
Means any natural or legal person, to whom a product has been made available for use in the course
of their industrial or professional activities

Proprietary tool
A specific tool, not commercially available, belonging exclusively to one party or company, by virtue of which its use by another party (end user, customer, repairer) involves copyright, a license and/or a cost.

PSR
"Product Specific Requirement, corresponds to the criterion specifications applicable to the types of equipment specified within the scope of the standard.

Reconditioned part
A second-hand product or spare part, within the meaning of Article L. 321-1 of the French Commercial Code, may be qualified as a "reconditioned product" or be accompanied by the term "reconditioned", provided the following conditions are met:

- The product or spare part has undergone tests on all its functionalities in order to establish that it complies with legal safety requirements and the use to which the consumer can legitimately expect it to be put.
- If necessary, the product or spare part has undergone one or more operations to restore its functionality. This intervention includes the deletion of all data recorded or stored in connection with a previous use or a previous user, before the product or part changes ownership."

Recyclable material or product
Characteristic of a product, packaging or associated component that can be taken from the waste stream by available processes and programs, and which can be collected, processed and put back into use as raw materials or products.(based on ISO 14021).

Recycled material or product
Product or material that is manufactured entirely or partially from recovered or reused materials, diverted from the waste stream after their initial use. These materials have undergone a transformation process, such as mechanical, chemical, or other forms of recycling, to be reintroduced into the production chain for creating new products or materials.

Recycling excludes the direct reuse of products or components without prior transformation and focuses on reducing the use of new raw materials.

Regular maintenance
Maintenance recommended by the manufacturer to keep the product in optimum working order.

Removable fastener
Corresponds to an original fastening system which can be removed during disassembly without damaging the product, but which cannot be reused during reassembly (e.g. plastic clamp, rivet).

Replacement or spare part
A replacement part is a separate part intended to replace a defective or degraded part having the same or a similar function of a good in operation; (Source: Annexes to the European Regulations laying down ecodesign requirements in accordance with Directive 2009/125/EC).

Return conditions for a repair process

- Complete returns conditions: special arrangements are in place to encourage the return of the product for a repair process, whether to the manufacturer, a partner or a repairer: free shipping, home pick-up, free replacement product during the repair process, free repair. These special arrangements are available both under warranty and out-of-warranty.
- Basic return conditions: users wishing to repair their product have the option of returning it for repair, but there are no special arrangements in place to facilitate this process (charges, etc.).
- No return solution: the end-user has no way of returning the product to the manufacturer or one of its partners for repair.

Reusable packaging
Container designed to be used over and over again, reducing the need for disposable packaging.

Reusable fastener
Corresponds to an original fastening system removed during disassembly without altering the product, and which can be reused during reassembly (e.g. screws, clips).

Reused parts
To date, there is no official definition of "re-use parts", but a definition of "re-use" provided in Article L. 541-1-1 of the French Environment Code, which defines it as follows:
Reuse: "an operation by which products or components that are not waste, are used again for a use identical to that for which they were designed".

Selling price of a spare part
Deduction of delivery costs: The principle adopted is to calculate without including transport or delivery costs. If these costs are included in the pricing of the general sales conditions, it is the responsibility of the producer or importer to deduct them for the calculation of the ratio. Specifically, for the price of spare parts, two methods are possible for deducting transport or delivery costs: individually for each part on list 2 or as a flat rate (in absolute value or as a percentage). The same applies to the price of new equipment.

Spare part(s) included in a set: If one or more parts are included in a set offered for sale or any other inseparable sub-assembly of parts, the price of the relevant part is the price of that sub-assembly.

Parts not managed by the producer or importer: If parts from list 2 are not managed by the producer or importer, the price of the parts to be considered is the price listed in the supplier's general sales conditions at the time of the index calculation.

Product options with the same reference: If options are offered for the same reference and do not affect the technical characteristics, then the price ratio calculation should be based on the price of the spare parts and the price of the most common version of the product concerned.

Criterion 25 is established by calculating the ratio between: the ex-tax price of the spare part and the ex-tax price of the relevant equipment model, where each price is understood as the ex-tax price from the current price list at the time of the certification process and listed in the general sales conditions of the manufacturer or importer, or in any other relevant contractual document if not available.

If a manufacturer or importer has, for the parts or equipment concerned, several price lists depending on the different categories of distributors or sellers, the prices used for the index calculation are those from the price list that accounted for the highest share of the manufacturer's or importer's turnover for the type of parts or equipment concerned during the last closed fiscal year.

Serialization
Practice by which the manufacturer limits the use of spare parts to only those original parts that it approves, in particular by means of software.
Example: associating the serial numbers of a product's components with the product's overall serial number.

Spare part
A spare part is a distinct part that is an integral part of a product, essential to fulfill its primary function. It is not supposed to be replaced as part of normal use of the product, but may be replaced following accidental damage, long-term wear and tear, premature wear due to incorrect use or maintenance, or misplacement. In such cases, the spare part is exchanged for a replacement part.

Spare parts interface

Refers to the way in which parts connect or integrate with the existing components of a product. Depending on the type of part and the type of interface used to connect them, a classification is established: A standard part is a component, a part, manufactured to recognized specifications and standards, commonly used and compatible with various products or systems.

- **Standard part with standard interface:** Designates a standard part, manufactured according to recognized specifications and standards, commonly used and compatible with various products or systems, and whose connection or interaction with other components, devices or systems is based on standardized or widely used and accepted specifications.

- **Standard part with proprietary interface:** Refers to a standard part, manufactured according to recognized specifications and standards, commonly used and compatible with various products or systems, and whose connection or interaction with other components, devices or systems is based on specifications specific to a particular manufacturer or company.

- **Proprietary part with non-standard interface:** Refers to a non-standard part, exclusive to a product or company, usually produced in-house or under license. This type of part may have unique specifications that make it incompatible with other

products or brands. In addition, it may be designed with a specific connection to other components, devices or systems, also based on specifications specific to a particular manufacturer or company.

Step (disassembly)
Operation leading to part removal or tool change.

Sub-assembly
A set of inseparably connected components that form a block and perform a function. The sub-assembly may be separate from the product.
Example: Soldered motor and electronic board

Usage stress
This corresponds to the forces applied to the part.

Used parts
Used goods are goods which, at any stage of production or distribution, have come into the possession of a person for his or her own use, by the effect of any act for valuable consideration or free of charge, or have undergone alterations which do not allow them to be offered for sale as new (Source: Article L321-1 of the French Commercial Code).

Waste
Any substance or object, or more generally any movable asset, which the holder discards or intends or is required to discard. (Source: Directive n°2008/98/CE of November 19, 2008 on waste)

Working environment
When solving failure scenarios, a number of different working environments can be identified.

- **Operating environment:** Corresponds to the environment in which the product is used and does not express any specific requirements relating to the working environment for the resolution of failure scenarios.
- **Workshop environment:** Corresponds to an environment which does not require a production environment (class C), but where failure resolution scenarios cannot be carried out in the operating environment.
- **Production environment:** Corresponds to an environment necessary for the resolution of failure scenarios which is comparable to that in which the product was manufactured.

IX. BIBLIOGRAPHICAL RESOURCES

This paragraph lists the main bibliographical resources used to draw up the sector reference guide, which are likely to evolve according to the target product groups.

EN 16510-2-6 Domestic solid fuel-burning appliances - Part 2-6: Mechanically-fired pellet stoves, inserts and cookers

NF EN 60335-1 COMPIL 15 Appareils électrodomestiques et analogues - Sécurité - Partie 1 : exigences générales

EN 60384-14 Condensateurs fixes utilisés dans les équipements électroniques - Partie 14 : spécification intermédiaire - Condensateurs fixes d'antiparasitage et raccordement à l'alimentation

Norme EN 45552 Méthode générale pour l'évaluation de la durabilité des produits liés à l'énergie

Norme EN 45554 Méthodes générales pour l'évaluation de la capacité de réparation, réutilisation et amélioration des produits liés à l'énergie

Norme IEC 60384-14 Condensateurs fixes utilisés dans les équipements électroniques – Partie 14: Spécification intermédiaire – Condensateurs fixes d'antiparasitage et raccordement à l'alimentation

DIRECTIVE 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques

Règlement (CE) no 1907/2006 concernant l'enregistrement, l'évaluation et l'autorisation des substances chimiques, ainsi que les restrictions applicables à ces substances (REACH)

DIRECTIVE 2012/19/UE relative aux déchets d'équipements électriques et électroniques (DEEE)

DIRECTIVE (UE) 2018/2001 DU PARLEMENT EUROPÉEN ET DU CONSEIL du 11 décembre 2018 relative à la promotion de l'utilisation de l'énergie produite à partir de sources renouvelables

DIRECTIVE 2014/35/UE du 26 février 2014 relative à l'harmonisation des législations des États membres concernant la mise à disposition sur le marché du matériel électrique destiné à être employé dans certaines limites de tension(refonte) low voltage directive (LVD)

DIRECTIVE 2014/30/UE du 26/02/2014 relative à l'harmonisation des législations des États membres concernant la compatibilité électromagnétique (refonte)

RÈGLEMENT (UE) 2015/1188 du 28/04/2015 portant application de la directive 2009/125/CE en ce qui concerne les exigences d'écoconception applicables aux dispositifs de chauffage décentralisés

Norme EN 45552 Méthode générale pour l'évaluation de la durabilité des produits liés à l'énergie

Norme EN 45554 Méthodes générales pour l'évaluation de la capacité de réparation, réutilisation et amélioration des produits liés à l'énergie

X. JOURNAL DES ÉVOLUTIONS

N° Version Cible	Date Version	Résumé de l'action	Rédacteur
Annexe Sectorielle V1 Pellet stoves	March 2021	Creation of the 1er specifications	Preguesuelo F
V2 Standard Pellet stoves and Combined pellet and log-burning domestic stoves	November 2024	Update of criteria	Preguesuelo F

XI. ACKNOWLEDGEMENTS

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