LONGTIME®

CERTIFICATION STANDARDS

CONSULTATION V.2

ETHIKIS AD CIVIS
COOPERATIVE AND PARTICIPATIVE COMPANY WITH LIMITED LIABILITY - 828 520 874 00037 - RCS DE CASTRES
HEAD OFFICE : 433 CHE D'EMBROUYSSET 81370 ST SULPICE LA POINTE
PRO@ETHIKIS.COM - 09 72 17 05 61

SOMMAIRE

I. INTRODUCTION

EN 45554 standards, the LONGTIME® specific reference documents specify the elements relating to the study of the robustness, reliability and reparability of the associated product family.
All the qualitative, semi-quantitative or quantitative data are the result of a research and consultation process, as required by the standards in force, and take into account the bibliographical references (scientific studies, regulations, standards, etc.) and all the stakeholders involved.) and all stakeholders, namely: 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 all stakeholders who can contribute, subject to added value and the availability of networks and information.
The definition of the pre-requisites in terms of quality, energy threshold, emission thresholds, classification of the parts as well as the definition of the thresholds of the scales are the result of the analysis of the consultations carried out and the taking into account of the best eco-design practices available on the market.
The specific LONGTIME® standards are revised at the latest every 3 years.

LONGTIME®'s vision

This project is part of a dynamic societal movement with the desire to go ahead of the regulations. This label is made by citizens, for citizens. It brings the certainty that the product bearing the label is made for a long term use, as 80% of the consumers wish and that it is economically repairable.

LONGTIME® is a simple, strong and efficient tool, created to inform the consumer concerned about the global impact of his purchases, but also the consumer who wants to acquire a product with a fair longevity/price ratio. It also tends to put on the front of the stage the manufacturers anxious to propose products whose lifespan is optimized.

Label's goals

The aim of this approach is to encourage a different type of consumption, thus aiming to produce differently. Almost all citizens want a transformation of the consumer society with a real change of technical-economic paradigm in order to consume better and more sustainably.

The ecological interest is of course major, we have on a world scale multiplied in a few decades our consumption of raw materials to exceed today, 60 billion tons per year. The label influences the preservation of planetary resources, by a better use of them and the reduction of waste.

Intuitively, therefore, buying a product with a longer lifespan limits the use of our planet's resources, reduces over-consumption and allows us to get away from disposable products and waste. It is not a question of looking for "immortal" products but of fighting against the short life span of products.

Scope of application

The label is applicable to different product families as soon as there is an assembly of parts. LONGTIME® tends to cover domestic appliances, electronics, portable electrical appliances, furniture, leisure equipment, professional equipment... The range of products is therefore very wide but excludes the automobile, textile products (except leather goods), food, cosmetics and chemicals.

Organization of the repository

The criteria are broken down into several categories and each criteria presentation follows the following scheme:

Criteria category

Number and name of the criteria
Each criterion has an identification number in I.X.X format and a name to define its topic

CROSS-CUTING CRITERIA
Criterion applicable to all product categories

- Product Specific Requirement (PSR)

Specific criterion whose scope is adapted to the product category of the standard. Please note that this document is not category-specific. No PSR is presented.

Mean of proof
Details of evidence required and/or relevant to the assessment of the criterion and its PSR.
Please note that this document does not detail the means of proof associated with the various cross-cutting criteria presented.

Control system

The evaluation of the respect of the criteria of the standard is carried out by an approved and independent control body.
Each criterion is evaluated according to a compliant/non-compliant approach.
More details on the control system in the labeling process are available on the LONGTIME® labeling conditions online : https://www.longtimelabel.com/conditionslongtime.

Standards and regulations

The standards or regulations cited in the reference system use the most recent versions and/or equivalences published in the Official Journal of the European Union.

II. Definition of the product scope

Introduction of a description of the product family and the primary, secondary or tertiary functions involved in each sectoral reference framework.

1. Product scope

- Specifies the scope of study for products included in each industry standard

2. Outside product scope

- Specifies the scope of study in terms of products excluded from each sector standard

III. Terms and definition

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

Criticality
Degrees of resolution of the failure. Apprehended here by the detection (diagnosis and localization) and the severity (price of the parts and/or technical difficulty of the repair) of the breakdown.

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

FMEA
Tools for Failure Mode, Effects and Criticality Analysis.

IOT
Internet of Things; this function corresponds to the fact of being able to connect one's product to the internet in order to obtain additional remote control and/or regulation functionalities.

Not in use
It corresponds to a state of non-operation of the device.

Non-proven technology
Whose operation brings an innovation compared to the previous technologies and whose reliability is not proven.

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

Permanent assembly
It is a set of components forming a single part or part of a product that 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. Example of permanent assembly techniques: welding, crimping, clinching, stamping, gluing and adhesives.

Product of "great use"
Product of very frequent use and which in case of failure causes
A significant disruption in the management of daily life: refrigerator, washing machine, boiler / water heater, telephone, computer, stove...

PSR
« Product Specific Requirement », corresponds to the specifications of the criterion applicable to the types of equipment specified in the scope of the standard.

Unit cost price « UCP »
Understood as the sum of the price of the parts composing a product.

Routine maintenance
Maintenance recommended by the manufacturer to keep the product in optimal working condition.

Serialization
Practice by which the producer limits the use of spare parts to original parts approved by the manufacturer by a software means.
E.g.: associate the serial numbers of the components of a product with the global serial number of the product.

Step (disassembly)
Operation leading to the removal of a part, fixture(s) or a tool change.

Sub-assembly
A set of inseparably connected components that form a block and perform a function. The sub-assembly can be separated from the product.

Usage constraint
It corresponds to the forces that apply to the part.

« General public » tools
Common tools, for general use, available to any public in classic distribution. (cf: EN 45554 standard tool list - screwdriver for slotted head, crosshead or internal 6-lobe screws, wrench for hexagon socket screws, combination wrench, universal pliers, half-

round nose pliers, diagonal cutting pliers, multi-socket pliers, vice grip pliers, universal terminal stripping and crimping pliers, lever, tweezers, steel-headed hammer, universal knife (cutting pliers with retractable blade), multimeter, voltage tester, soldering iron, glue gun, magnifying glass.)

« Experienced public » tools
Tools requiring skills for their use and whose cost can represent a brake (torque wrench, soldering iron...).

« Professional » tools
Tools requiring specific knowledge or conditions of use and whose acquisition cost represents an investment.

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

IV. Nomenclature of parts

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

V. Priorisation by categories of parties

1. Covering parts

Includes all of the product trim parts, such as covers, to protect the internal components from the outside.

2. Functional parts

Parts related to the operation or use of the product.

3. Priority parts

Parts related to the operation or use of the product and characterized by a proven criticality in case of malfunction or failure (sometimes called critical parts).

4. Security features

Regroups all the active and passive parts necessary to protect against risks related to the use of the product.

5. Vulnerable parts

Parts exposed to a high user accidental breakage rate.

6. Consumable parts 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.

7. Aesthetic parts or accessories

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

VI. ACCESSIBILITY SCALES

The accessibility scale has 3 levels and aggregates data related to reparability, including :

- Part disassembly depth in number of steps
- Disassembly time in minutes
- Skill level required to complete the task
- Tools required for the process

A	≤ 3 steps | ≤ 10 min | every user | general public tools
B	≤ 10 steps | ≤ 30 min | experienced user or repairer | tools for the general public, tools for the experienced public
C	≤ 20 steps | ≤ 60 min | experienced user or repairer | tools for the general public, tools for the experienced public, professional tools

The scales shown in the table above are orders of magnitude that should not be exceeded, but these thresholds can be more precisely defined in the criteria calling for accessibility scales.

For each sector standard, details are given of the conditions for calculating the number of dismantling stages.

- Ex: The disassembly countdown starts when the product is disconnected from its power source.

VII. Eligibility

Commitment of the candidate

The applicant's eligibility for quality certification must be consistent with its existing values and strategies.

The company has not been accused or found responsible (information / material evidence, subpoena) for ethical violations, commercial practices clearly contrary to quality and ethics (practice of programmed obsolescence, industrial espionage, tax fraud) or major environmental during the last 10 years or considerable and adapted efforts have been put in place to: repair the damage caused, avoid its recurrence, reduce its impacts.

The manufacturer has all the necessary rights on the products and is the only holder of the property rights of any kind on the products including in particular as regards the drawings and models, patents and marks relating to it.

The products are not subject to any dispute of any kind from any third party.

The products are not likely to offend public order or morality, to provoke protests from third parties, or to contravene legal provisions in force.

For the marketing of products, the manufacturer agrees to its obligations and strictly complies with all legal provisions (directives, regulations, standards, laws) relating to the protection of human health, safety and environmental protection in force in the geographical areas of distribution of the products and in relation to its product categories. For the European Economic Area, the products must thus obey the European legislation and be in conformity with the "CE" marking for the products concerned.

VIII. LABEL CRITERIA

1. Environmental and/or energetic performance

1. Health, safety and environmental protection

Within the framework of respect for human health, the safety of persons and installations and the protection of the environment, the producer proves that it deploys actions according to a level of requirement that complies at least with the prerogatives of the European directives 2011/65/EU and (EC) No 1907/2006 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Example of a sub-criterion based on the types of products studied:

- Product materials and all parts intended to come into direct or indirect contact with foodstuffs comply with the requirements of Regulation (EU) No 10/2011 and ban the use of Bisphenol A.

- For large companies (> 5000 employees), the main site(s) involved in the production of the product has (have) a certification linked to an international environmental management standard.

2. Energy and/or environmental performance

As part of the reduction of impacts linked to energy consumption or the emission of pollution, the producer demonstrates the performance environmental and/or energy of its products.

The producer proves that he deploys actions according to a level of requirement, at least, to the prerogatives of European directives and/or regulations (EU) 2009/125/EC (including his execution measures) on eco -design energy -related products and (EU) 2017/1369 (including delegated regulations) on the energy labeling of products.

Example of a sub-criterion based on the types of products studied:

- The product is equipped with an energy management system resulting in a consumption of 0 Watt/h in "Off" mode thanks to:
  - An automatic switch-off device
  - And/or a deep sleep device
  - And/or a user-accessible mains switch

- The energy efficiency of the electric motor is greater than XX% in the torque operating range between 40% and 80% of the maximum torque applied in normal operation.

3. End -of -life management of equipment

As part of the end-of-life equipment management, the producer proves that he deploys recovery actions, Effective valuation and processing of used products according to a level of requirement compliant with prerogatives of European directives 2012/19/EU of July 4, 2012 relating to the prevention and treatment of waste according to the target product group.

Example of a sub-criterion based on the types of products studied:

- The manufacturer deploys effective incentive campaigns to recover used products.

4. Packaging management

As part of the fight against waste production, the manufacturer is making efforts to reduce the share of plastic waste Unavailable of its packaging thanks to:

- use of reusable packaging, or
- or minimum 70% by weight of all recoverable packaging waste
- and manual separability of the components of non-valorizable packaging of more than 25 grams in unique components for non-remediable packaging.

2. Conception

5.Sustainable design

The producer identifies the functions of the product and its parts as well as the associated use constraints.

It testifies to choice of sustainable design, optimized by reliability and/or repairability strategies .

Example of sub-criteria that can be applied depending on the type of product studied. For each example, methods of proof are associated but are not mentioned here:

- Durability of the hydraulic system
  - System resistance to pressure and heat loads
    - Hose materials and sizing adapted to thermal and mechanical stresses (pressure) according to function and location
    - Seals adapted to thermal (hot water) and/or mechanical (pressure) stresses, depending on their function and location
  - Resistant to the stresses of use, particularly limescale and micro-particles
    - Filter in front of hydraulic circuit
    - Fasteners adapted to thermal and mechanical (pressure) loads

- Durability of the electric motor unit
  - Resistance and protection of the electric motor against external aggression with minimum IP54 protection class
  - Protection against overheating
    - Optimizing the compromise between sealing and cooling

    - Cooling fan
    - Overheating risk management with safety element
  - No brushless motor technology, brushless motor only

- Battery durability
  - BMS card for managing cell operating status
    - Management and optimization of cell temperature and resistance
    - Cell balancing management
    - Efficient deep discharge management
  - Battery reliability with high-performance energy management
    - Retention of at least 80% of battery charge capacity at 800 cycles
  - Reliability of housing and connectors
    - Robust battery/tool connectors
  - Resistance of cells to operating conditions
    - Optimized electrical connection system between cells, adapted to battery size and mechanical constraints
    - Optimizing the compromise between ventilation and airtight

- Managing exogenous failures
  - Resistance to damage (friction, torsion) and cord pull-out
    - Optimized cable positioning to prevent premature wear
    - Use of a cord with excellent mechanical resistance to bending in normal use

- Specific measures to promote repairs :
  - No serialization practices

6. Production

The producer justifies processes allowing him to control and maintain a constant quality of manufacturing and assembly in production.

7. Reliability plan

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

8. Rupture technology

The producer informs the share of rupture technology embedded by the product and identifies the functions associated with it. It demonstrates the reliability of this technology all the more if it concerns a primary function.

9. Supply chain

Within its value chain, the producer details the quality management of actors who provide him with direct goods or services with its manufacturing phases.

10. Study and breakdown rate

The producer ensures the monitoring of breakdown rates and/or indicators to monitor the reliability of the product at least until the marketing of the latest unit of the model concerned.

11. Prolonged immobilization

The producer identifies the risk of failure linked to a prolonged immobilization period. He informs the end user of the conditions of use necessary to prevent risk of failures.

12. Subset

The producer limits the presence of subsets in the design of the product. It technically justifies their presence (s) in sustainability and demonstrates the economic interest in the user.

3. EVOLUTIONARY

13.Software

The producer monitors the maintenance of the original performance of his product during updates to the operating system and/or firmware and operates a differentiation between evolutionary updates and corrective updates.

Example of requirements that can be applied to the criterion and adapted according to the type of product studied:

- The minimum availability time for updates is 8 years.

14. Reset

The product has user data management process allowing its reuse.

Example of a sub-criterion based on the type of product studied:

- Password reset and deletion of personal data are carried out via functions integrated into the product.
- Factory settings can be restored via an integrated function.

4. REPAIRABILITY

15. Disassembly of the parties

The time and/or the disassembly depth are adapted to the product category.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = 3-step disassembly depth and less than 5 minutes disassembly time
- Functional part = 15 steps and 25 minutes
- Product Priority Parts = 10 steps and 20 minutes
- Safety part = 10 steps and 20 minutes
- Vulnerable parts = 5 steps and 15 minutes
- Consumables, wear and tear, accessories = 3 steps and 5 minutes

16. Fixings and parts connectors

Connectors and fixings have characteristics of amovibility and reusability adapted to the product category.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = Class A connectors and fasteners; Removable and reusable
- Functional Part = Class B; Removable
- Priority Part = Class B; Removable
- Safety part = Class B; Non-removable
- Vulnerable parts = Class A; Removable and reusable
- Consumable part, wear, accessory = Class A; Removable and reusable

17. Tools

The tools necessary for repair and/or disassembly must be adapted to the product category.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = Feasible without tools or with basic tools; Class A
- Functional part = Feasible with specific tools; Class B maximum
- Priority Parts = Feasible without tools or with basic tools; Class A
- Safety part = Feasible with specific tools; Class B maximum
- Vulnerable parts = Feasible without tools or with basic tools; Class A
- Consumable parts, accessory wear = Feasible without tools or with basic tools; Class A

18. Working environment

The repair scenarios specific to the product are carried out in a working environment adapted to the category of the parts of the product.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = Operating environment; Class A

- Functional part = Workshop environment; Class B
- Priority parts = Operating environment; Class A
- Safety part = Operating environment; Class A
- Vulnerable parts = Operating environment; Class A
- Consumable parts, accessory wear = Operating environment; Class A

19. Level of competence

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

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = Novice skill; Class A
- Functional part = Generalist skill; Class B
- Priorities section = Generalist skill; Class B
- Safety part = Expert skill; Class C
- Vulnerable parts = Generalist skill; Class B
- Consumables, wear and tear = Novice skill; Class A

20. Interface of spare parts

Connection interfaces have standardization characteristics adapted to the different parts of the product.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = Standard or proprietary part with standard interface; Class A or Class B
- Functional part = Standard or proprietary part with standard or non-standard interface; Class A, B or C
- Priority Parts = Standard or proprietary parts with standard interface; Class A or Class B
- Safety part = Standard or proprietary part with standard interface; Class A or Class B
- Vulnerable parts = Standard or proprietary parts with standard interface; Class A or Class B
- Consumables, accessory wear parts = Standard or proprietary parts with standard interface; Class A or Class B

21. Availability time for spare parts

The time to provide replacement parts is consistent with the expected durability of the product category and its different parts. The duration of accessibility is assessed from the marketing of the latest unit of the model concerned.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = 14 years
- Functional part = 10 years
- Priority Parts = 10 years
- Safety part = 10 years
- Vulnerable parts = 14 years
- Consumables, wear and tear = 14 years

22. Accessibility of spare parts to target audiences

The manufacturer ensures the provision of spare parts for target groups adapted to the category of parts.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Covering part = Accessible to all without restrictions; Class A
- Functional Part = Accessible to all without restriction; Class A
- Priorities = Accessible to all without restriction; Class A
- Safety part = Accessible to all without restrictions; Class A
- Vulnerable parts = Accessible to all without restrictions; Class A
- Consumables, wear and tear = Accessible to all without restrictions; Class A

23. Price of spare parts

The producer details the methods of sale of his spare parts.
He makes every effort so that the accumulation of spare parts is limited to the maximum sales price VAHT of the product.

The value of one of the spare parts will not exceed the percentage of the maximum sales price recommended VAHT.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Price percentage: 25% (usually between 20 and 35%

24. Rental costs of spare parts

The producer delivers spare parts to the real shipping and preparation costs or offers alternative solutions reducing the reception cost spare parts.

25. Spare parts delivery times

The producer demonstrates his ability to provide spare parts in less than 15 working days to interested parties.

5. Support

26. Product identification

The producer uses a method allowing the unequivocal identification of the product by interested parties.

27. Documentation relating to failure scenarios

The producer makes the relevant information and instructions relating to the resolution of failure and/or maintenance scenarios accessible.

These are also adapted to the product category and groups of target audiences.

Example of the documentation required for each type of product studied.

- Documentation exhaustive (Classe A Tableau A.10 de la norme EN45554) :
  - Disassembly diagram or exploded view = Accessible to the general public without restriction; Class A
  - Wiring and connection diagrams = Accessible to the general public without restriction; Class A
  - PCB schematics = Accessible to service providers without restrictions; Class B
  - A technical manual with instructions for resolving failure scenarios = Accessible to the general public without restrictions; Class A
  - A list of repair and test equipment required = Accessible to the general public without restrictions; Class A
  - Component and diagnostic information (such as minimum and maximum theoretical values for measurements) = Accessible to repair service providers without restrictions; Class B

28. Support for diagnosis of failure

The producer communicates information and/or deploys diagnostic assistance mechanisms facilitating the identification of failure scenarios.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Diagnostic support system with intuitive or coded interface and public access to the reference table

29. User information issued

The producer delivers with the product a notice with the advice of use and maintenance of the product.

This information must be exhaustive and relevant in order to reduce the exogenous failure rate and encourage responsible useful methods.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- The manufacturer clearly informs the user of the usage scenario(s) that will reduce 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.).

30. Format of user information

The Maintenance and Maintenance Booklet is clear, simple and accessible (Police Size, Vocabulary, Language and suitable print quality), in order to be easily understandable by end users.

31. Access to use information

Information relating to the use and maintenance of the property must be available in digital version on request or free access For the end user.

6. AFTER -SALES SERVICE

32. Internal failure resolution policy

The producer, in the event of failure of his products, carries a policy of repair or reconditioning rather than replacement unless the repair is more expensive than replacement.

33. Contact of the after-sales service

The maximum time for the opening of a after-sales service must not exceed 2 working days.

34. Return services

The producer makes available to the end user return services adapted to the product category and coherents compared to his distribution network, regardless of the state of guarantees.

Example of requirements that can be applied to the criterion and adapted to the type of products studied

- Basic return service with minimum return conditions by post or distribution/collection point (Class B)

35. Restitution condition

The return of the original packaging cannot be required for the management of the product in repair from the moment where it is packed and protected as much as it could be when purchasing.

36. Great utility product

For categories of product considered to be "great utility", the producer deploys effective means in order to reduce the time its repair processes up to return of the product to the end user.

37. Guarantee time

The guarantee time with presumption of defect anteriority cannot be less than 24 months.

Example of additional requirements that can be applied to the criterion and adapted to the type of products studied

- Minimum 5-year warranty on priority electric motor/compressor parts.

38. Exclusion of warranty

The manufacturer shows that abusive exclusions with regard to the normal use scenarios of the product do not appear in its conditions of work of guarantees.

Examples of abusive exclusions identified

- Micro-scratch
- Presence of scale

IX. Bibliographic resources

This paragraph lists the main bibliographical resources useful for drawing up sector-specific standards. It evolves according to the target product groups.

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

Norme EN 60335-2... Appareils électrodomestiques Partie {xx} : Règles particulières pour les {...}

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)

Règlement Délégué(UE) 2019/2015 complétant le règlement (UE) 2017/1369 en ce qui concerne l'étiquetage énergétique des sources lumineuses et abrogeant le règlement délégué (UE) no 874/2012