



Certification PSR

Flush mechanism

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I. INTRODUCTION

Drawing on the standards of the NF EN 45550 series, and in line with NF EN 45552 and NF EN 45554, the LONGTIME® sector-specific standards specify requirements relating to the assessment of robustness, reliability and repairability for the associated product family.

All qualitative, semi-quantitative and quantitative data are derived from a research and consultation process, as required by the applicable standards, and take into account bibliographic references (scientific studies, regulations, standards, etc.) as well as input from all relevant stakeholders, namely: economic operators placing products on the market (manufacturers, importers and distributors), their suppliers and/or subcontractors, product experts (repairers, installers and professional testers), spare parts professionals, refurbishers, consumers, consumer associations, environmental organisations, and any other stakeholders able to contribute relevant added value, subject to the availability of networks and information.

The definition of prerequisites relating to quality, energy thresholds, pollutant emission thresholds, the classification of parts, and the definition of thresholds for accessibility scales are based on the analysis of the consultations conducted and on consideration of the best available ecodesign practices on the market.

Vision of LONGTIME®

This project is part of a dynamic societal movement with the desire to move ahead of regulations. This label is made by citizens, for citizens. It provides certainty that the product carrying the label is manufactured for long-term use, as desired by 80% of consumers, and that it is economically repairable.

LONGTIME® is a simple, strong, and effective tool, created to inform the consumer actor concerned about the overall impact of their purchases, but also the consumer wishing to acquire a product with a fair longevity/price ratio. It also tends to bring to the forefront manufacturers keen to offer products with an optimized lifespan.

Label objectives

This approach involves encouraging different consumption, therefore aiming to produce differently. Almost all citizens want a transformation of the consumer society with a real change in the technical-economic paradigm in order to consume better and more sustainably.

The ecological interest is of course major; on a global scale, we have increased our consumption of raw materials in just a few decades to now exceed 60 billion tonnes per year. The label influences the preservation of planetary resources through better use of them and the reduction of waste.

Intuitively, therefore, obtaining a good with an optimized lifespan promotes reasoned use of our planet's resources, reduces overconsumption and allows us to move away from disposable

items and waste. It is not a question of looking for “immortal” products but of fighting against the too-short lifespan of products.

As appliances containing a relatively low proportion of electronic components, juicing appliances show low impact indicator results across all impact categories associated with the use phase. It is therefore particularly relevant to extend the service life of household juicing appliances as much as possible in order to effectively spread the environmental impacts associated with the production and manufacturing phases over a longer period of use, while ensuring a more rational use of materials.

Fields of application

The label is applicable to different product families as long as there is an assembly of parts. LONGTIME® tends to cover domestic, electronic, portable power appliances, furniture, leisure equipment, professional equipment, etc. The range of products is therefore very vast but excludes automobiles, textile products (excluding leather goods), food, cosmetics and chemicals.

Organization of the certification PSR

The criteria are broken down into several categories, and the presentation of the criteria follows the following diagram:

Criteria category

The criteria are grouped into 11 main categories

Criterion number and name

Each criterion has an identification number in I.X.X format and a name allowing its theme to be defined.

Requirement level (KO/Major/Minor)

See table below

TRANSVERSE CRITERION

Criterion applicable to all product categories

❖ Spécification ou Product Specific Requirement (PSR)

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

Means of proof

Details of the means of proof required and/or relevant for the evaluation of the criterion and its PSRs

A level of requirement is assigned to each label criterion according to the classification indicated in the table below:

KO	These criteria must be respected to qualify for labeling after the initial audit (year N).
Major	These criteria must be respected at least 80% during the audit. They will lead to the implementation of corrective actions to reach 100% by year N+1.
Minor	These criteria must be respected at least 50% during the audit. They will lead to the implementation of corrective actions to reach 80% by year N+1 and 100% by year N+2.

Control system

The assessment of compliance with the benchmark criteria is carried out by an approved and independent inspection body.

Each criterion is assessed using a compliant/non-compliant approach

More details on the control system in the labeling process are available on the [LONGTIME® labeling conditions online](#).

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

Flush mechanisms are devices that control the flow of water in toilets. They are designed to ensure effective waste removal while limiting water consumption. Generally comprising a fill valve and an actuation mechanism, these systems operate automatically or manually. When the flush is activated, the outlet valve opens, allowing the water stored in the cistern to flow into the toilet bowl. Once the flush is complete, the fill valve replenishes the cistern for the next use.

Product scope

- › Push-button flush mechanisms
- › Cable-operated flush mechanisms
- › Mechanically linked flush mechanisms (yoke, plate)
- › Flush mechanisms for concealed cistern/support-frame systems

Outside the product scope

- › Pressure/pneumatic flush mechanisms
- › Variable-flow flush mechanisms
- › Automatically activated flush mechanisms

- Pull-chain/single-flush mechanisms

In the remainder of this standard, “**flush mechanism**” is referred to as “**flush**” where appropriate.

III. TERMS AND DEFINITIONS

Depending on sectoral standards, definitions specific to different product categories (parts, functions, etc.) can be added to the recurring definitions below.

AMDEC / FMEA

Tools allowing the Analysis of Failure Modes, their effects, and their Criticality / Failure Mode and Effect Analysis.

Permanent assembly

It is a set of components forming a single piece or part of a product and cannot be dismantled without destruction or alteration of the use for which it is intended.

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, bonding, and adhesives.

Constraint of use

It corresponds to the forces that apply to the part.

Criticality

The criticality of a failure refers to the importance or impact of this failure on the proper functioning of a product. It is evaluated according to the severity of the consequences that the failure could cause, particularly in terms of safety/costs, and the frequency of occurrence.

Actual failure

Failure that is actually linked to a malfunction of the product and not to an exogenous problem. (e.g. power outlet not powered, power cable not properly connected, lid not properly locked, etc.)

Expected lifespan

Period during which the user expects their product to perform as intended.

Seasonal energy efficiency for space heating

The ratio (Ns), expressed as a %, between the space heating demand for a designated heating season, covered by a heating device, and the annual energy consumption required to meet this demand.

Household appliances

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

Compostable packaging

Container designed with materials capable of decomposing naturally under the action of microorganisms present in the composter to become a natural or organic element of the substrate.

Reusable packaging

Container designed to be used multiple times, reducing the need for disposable packaging.

Non-recoverable packaging

Refers to a type of packaging that cannot be effectively recovered, recycled, or reused after use.

Regular maintenance

Maintenance recommended by the manufacturer to keep the product in optimal operating condition.

Working environment

When resolving failure scenarios, several working environments may be listed.

EOS

Acronym for Electrical Overstress, reflecting a state of undesirable electrical overload likely to lead to damage or failure of the product.

Step (disassembly)

Operation leading to the removal of a part or a tool change.

Reusable attachment

Corresponds to an original fixing system removed during disassembly without altering the product and which is reusable during reassembly (e.g. screws, clips).

Removable attachment

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

HS

Out of service; corresponds to exiting the functional state.

Spare parts interface

Refers to how parts connect or integrate with 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 according to recognized specifications and standards, commonly used and compatible with various products or systems.

IOT

Internet of Things or Internet of Objects; This function corresponds to the fact of being able to connect your product to the internet in order to obtain additional remote control and/or regulation functionalities.

Competence level

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

Non usage

It corresponds to a non-operating state of the device.

O.S

Operating System, or operating system, is a set of programs that direct the use of a computer's resources by application software.

“General public” tools

Common tools, for general use, available to the general public in traditional distribution and as specified in the EN 45554 standard tools list: screwdriver (slotted head screw, cruciform, 6 internal lobes, wrench (hexagon socket screw, mixed), pliers (universal, half-round nose, diagonal cutting, power strip, vice, for stripping and crimping terminals, pry bar, tweezers, hammer with steel head, utility knife (cutting pliers with retractable blade), multimeter, voltage tester, soldering iron, glue gun, magnifying glass.

“Experienced Audience” tools

Tools requiring skills to use and whose cost can represent a barrier (torque wrench, soldering iron, etc.).

“Professional” tools

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

Proprietary tool

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

External source parts

Parts external to the manufacturer's production body, coming from an identified supplier.

Unit cost price “PRU” of a product/part

Understood as the sum of the price of the parts making up a product/components of a part.

“Great utility” product

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

Disassembly depth

Corresponds to the sum of the steps allowing individual access to each part and detaching it from the equipment, with a view to its replacement.

Data management process

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

PSR

“Product Specific Requirement” corresponds to the criterion specifications applicable to the types of equipment specified within the scope of the framework.

Serialization

Practice by which the producer limits the use of spare parts to only original parts that he approves, in particular by software means.

Example: associate the serial numbers of the components of a product with the overall serial number of the product.

Subset

Set of connected components inseparable from each other which form a block and provide a function. The subassembly can be separated from the product.

Example: Motor and welded electronic card

Disruptive technology

Technology whose operation brings an innovation or a major technological advance compared to previous ones and whose reliability has not yet been fully proven over time.

IV. NOMENCLATURE OF PARTS

List of parts representative of the target product group but not-exhaustive.

- **Actuation button assembly**
 - Button(s)
 - Mechanical transmission rod
 - Button mounting bracket
- **Actuation cable assembly**
 - Button/cable transmission mechanism

- › Cable/vertical translation screw transmission mechanism
- › Cable assembly mounting bracket on the outlet mechanism
- › Actuation cable
- › Float assembly
- › Float body
- › Float arm
- › Float seal
- › Fastening device
- › Adjustment pivot (depending on model)
- › Counterweight (optional)
- › Float-height adjustment mechanism
- › **Water outlet mechanism assembly**
 - › Vertical translation cylinder
 - › Vertical translation mechanism retaining cylinder
 - › Base fitting to the toilet bowl outlet
 - › Actuation/fill valve or diaphragm
 - › Valve seal
 - › Drain/base seal
 - › Bowl seal
 - › Mechanical-link stabilisation assembly
 - › Retaining mechanism (screws, bolts, circlips, washers, etc.)
- › **Mechanical-link stabilisation assembly**
 - › Retaining mechanism (screws, bolts, circlips, washers, etc.)

V. ACCESSIBILITY SCALE

The accessibility scale has 3 levels and aggregates data related to repairability; notably :

- › The dismantling depth of the part in number of steps
- › Dismantling time in minutes
- › The level of skill required to complete the task
- › The tools needed for the process

A	≤ 3 steps ≤ 5 mins any user consumer tools
B	≤ 5 steps ≤ 10 mins experienced user or repairer general public tools, experienced public tools
C	≤ 7 steps ≤ 12 mins experienced user or repairer general public tools, experienced public tools, professional tools

The scales indicated in the table above are orders of magnitude not to be exceeded but these thresholds can be limited more precisely in the criteria calling for accessibility scales.

If all the relevant safety instructions are followed, the dismantling process starts when the product is connected to the gas cylinder.

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

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 rarely respects the product's rules of use

Product handling:

Reflects the possibility of improper 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)

Phase	User risk	Mobility of	Product	Weather	Overall risk
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		the system	handling	exposure	
Inactivity	Low	Low	Low	Low	Low
Installation	High	Low	Low	Low	Medium
Pressing the button	Low	Low	Low	Low	Low
Emptying the tank	Low	Low	Low	Low	Low
Cleaning	Low	Low	Low	Low	Low

Assessment of the overall risk of exogenous failure:

LOW

The main risks of external failures for this product category primarily take the form of:

- Incorrect installation: torque specifications not adhered to (over-tightened or under-tightened), components incorrectly positioned or broken during installation
- Poor maintenance: wear and tear on mechanical components and seals

Particular attention must therefore be paid to resistance to stresses that are not caused by the user and which are listed in Chapter [I.1.1. State of the art and technical solutions](#).

VII. ELIGIBILITY

Candidate commitment

The candidate's eligibility in a quality certification process must be consistent with their existing values and strategies.

The company has not been accused or found responsible (information/material evidence, subpoena), of ethical violation, of commercial practices clearly contrary to quality and ethics (practice of planned obsolescence, industrial espionage, fraud -tax) or major environmental impact over the last 10 years where considerable and appropriate efforts have been put in place to: repair the damage caused, prevent it from happening again, reduce their impacts.

The manufacturer has all the necessary rights over the products and is the sole holder of property rights of any kind over the products, including in particular the designs, patents and trademarks relating thereto.

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

The products are not likely to harm public order or good morals, to provoke protests from third parties, or to contravene the legal provisions in force.

For the marketing of the 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 the protection of the environment prevailing in the geographic areas of product distribution and in relation to its product categories. For the European Economic Area, products must therefore obey European legislation and be in compliance with the "CE" marking for the products concerned.

VIII. LABEL CRITERIA

Environmental performance and/or energy mandate

PR.1. Protection of health, safety and environment

Criterion Prerequisites

Within the framework of respect for human health, the safety of people, installations and protection of the environment, the producer proves that he deploys actions according to a level of requirements compliant at least with the prerogatives of the European directives 2011/65/EU and (EC) No 1907/2006 relating to the limitation of the use of certain dangerous substances in electrical and electronic equipment where necessary.

- ❖ For large companies (with a workforce of more than 5,000), the main site(s) involved in the production of the product hold certification to an international environmental management standard.

Method of proof: ISO 14001 certification issued by an accredited third-party audit body.

- ❖ The manufacturer is reducing the proportion of non-recyclable plastic waste in its packaging by:
 - At least 95 per cent by weight of all recycled and/or recyclable and/or reusable packaging waste
 - Manual separability of non-recyclable packaging components weighing more than 25 grams into individual components for non-reusable packaging
 - Packaging made from bio-based materials must hold recognised third-party quality certification proving the sustainable management of resources

Method of proof: Composition and characterization of packaging

PR.2. Energy and/or environmental performance

Criterion Prerequisites

As part of reducing the impacts linked to energy consumption or pollution emissions, the producer demonstrates the environmental and/or energy performance of its products. It proves that it deploys actions according to a level of requirements consistent, at a minimum, with the prerogatives of the European (EU) directives and/or regulations 2009/125/EC (including its implementing measures) on the ecodesign of energy-related products and (EU) 2017/1369 (including delegated regulations) on energy labeling of products if the product claiming the LONGTIME® label is concerned.

Method of proof: For products distributed in geographical areas potentially covered by regulatory prerogatives establishing requirements in terms of energy efficiency, eco-design and energy display similar to the European market, proof of compliance with these requirements regulatory requirements will serve as a method of proof in compliance with the PSR of this criterion if necessary.

- ❖ The flush mechanism must incorporate a water-saving system enabling the user to activate a reduced flush of at least 50 per cent of the nominal volume.
- ❖ An adjustment feature allows the mechanism to be adapted to the performance of the toilet bowl it is to be fitted to, thereby ensuring water savings.
- ❖ The mechanism contains a minimum of 20 per cent recycled material by total weight.

Method of proof: Eco-design measures assessed by the monitoring body appointed for the audit. A study is carried out to determine the number of litres of water saved compared with the use of a single-button flush mechanism.

PR.3. End-of-life management of equipment

Criterion Prerequisites

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

- ❖ End-of-life instructions are clearly communicated to the end consumer.

Method of proof: Eco-design measures assessed by the monitoring body appointed for the audit.

Conception

I.1.1. State of the art and technical solutions

Criterion KO

The manufacturer identifies and records in a technical data sheet the operational constraints of the product and its various components. It provides justification for its design choices and for reliable, high-quality technical solutions in light of these constraints. Tests on the product and/or its sub-assemblies, based on the standards/specifications/ norms set out in this criterion, are carried out in accredited laboratories or in an in-house laboratory using officially calibrated measuring equipment. They demonstrate a resistance to stress that exceeds the industry average for the market.

- ❖ Resistance to mechanical stress:
 - Mechanical forces acting on the button, valve, seal, cable, and mechanism
 - Mechanical wear caused by highly repetitive movements

Method of proof: Caractérisation des processus et des revêtements par des données techniques, des tests d'usure et de vieillissement.

- *EN 12541: Sanitary fittings – Flush valves and urinal valves with automatic hydraulic shut-off, PN 10*
- *EN 14055: Flush cisterns for toilets and urinals*
- *ISO 1431-1: Vulcanised or thermoplastic rubber — Resistance to ozone cracking / Part 1: Static and dynamic elongation tests*
- *EN 681-1/A3 and -2: Rubber seals – Specification of materials for seals for pipe joints used in the water and drainage sector – Part 1: Vulcanised rubber; Part 2: thermoplastic elastomers*

- ❖ Resistance to sealing stresses/resistance to liquids and corrosion

- Resistance of the button and its seal to cleaning chemicals
- Resistance of the components within the cistern, in particular metals, plastics and seals, to the various chemical elements present in the flush water: chlorine, limescale, iron
- Resistance to the ingress of particles and foreign matter: dust, hair and other small items likely to cause malfunctions if they enter the mechanical components
- Corrosion resistance of metal components: screws, nuts, rods

Method of proof specifics :

- *Compliance with the IP rating appropriate to the operating conditions, as defined in standard EN 60529.*
- *ASME A112.19.2 / CSA B45.1 – joint leak-tightness test*
- *ISO 4633: Rubber seals, gaskets for pipes in water supply and drainage systems*
- *Chemical resistance: ISO 175 type*
- *EN 681-1/A3 and -2: Rubber seals – Specification for materials for seals for pipe joints used in the water and drainage sector – Part 1: vulcanised rubber and Part 2: thermoplastic elastomers*

General methods of providing evidence for this criterion:

- *CE marking database*
- *Supplier quality data (technical specification sheet, ISO 9001:2015, certification, etc.)*
- *Any documentation or software supporting compliance, such as:*
 - *Internal product technical data sheet*
 - *Functional analysis tool*
 - *Design study (operation, materials, usage constraints)*
- *Failure rates under warranty and out of warranty: The product must demonstrate failure rates below the sector average for the market.*
- *Accelerated life tests. As the duration of the test is limited, scientific and robust projection (acceleration factor) is used to extrapolate the results to the product's maximum total service life, demonstrating resistance to stress greater than the industry average*
- *The methodologies used may be based on the following standards:*
 - *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 – Conformity test plans for the success rate*
 - *EN 61124: Reliability testing – Conformity test plans for constant failure rate and constant failure intensity*
 - *EN 61649: Weibull analysis*
 - *EN 62506: Accelerated testing methods for products*
- *Tests specifically relating to the product family, based on mandatory standards linked to safety directives and including aspects of resistance to operational stresses*
- *ASME A112.19.2 / CSA B45.1 – Ceramic sanitary ware*
- *Tests specifically relating to the product family and/or its components, based on voluntary standards, demonstrating resistance to stresses exceeding the sectoral market average:*

- EN 60068-2-38:2009 (temperature and humidity resistance of components)
- Certification framework for SANITARY WARE (NF 017), including, in particular, 200,000 cycles completed without failure under the specified conditions.
- EN 997: Toilet bowls and toilet bowls with attached cisterns incorporating an integrated siphon
- NF D12-203: Sanitary ware – Flush cisterns for toilet bowls
- EN 14124: Tap for filling flush cisterns with an internal overflow

I.1.2. Production

Major criterion

The manufacturer has processes enabling it to control and maintain constant quality of manufacturing and assembly in production.

- ❖ The main site(s) involved in the production of the product shall hold certification to an international quality management standard.

Method of proof: Compliance with the principles of ISO 9001 shall be demonstrated through verification of the applicable quality procedures or through equivalent requirements covered by other certifications. For companies with more than 250 employees, ISO 9001 certification issued by an accredited third-party certification body is required.

I.1.3. Consumable parts and accessories

Major criterion

Consumable parts, accessories, and parts requiring regular maintenance comply with accessibility scale A.

- ❖ Accessibility scale limited to 5 steps and 3 minutes

Consumable parts: parts intended to be replaced, subject to wear during use of the device.

- **Not identified according to the definition set out in the LONGTIME® standard.**

Accessories parts: parts that are essential to the operation of the system but are not part of it.

- **Not identified according to the definition set out in the LONGTIME® standard.**

- **Centrifugal juicer assembly**
 - Centrifugal grating disc
 - Centrifugal strainer

Maintenance parts: components requiring maintenance at recommended intervals in order to keep the product in optimum working order.

- › **Drainage mechanism assembly**

- › Valve seat seal
- › Drain plug/base seal
- › Toilet bowl seal

- › **Float assembly**

- › Float seal

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

I.1.4. Security elements

Criterion KO

The replacement and/or rearming of product and/or user safety elements is provided by the manufacturer. These elements respect accessibility scale B.

These are all the active and passive parts necessary to protect against risks associated with the use of the product.

- ❖ Accessibility scale limited to 5 steps and 5 minutes

- › **Not identified according to the definition set out in the LONGTIME® standard.**

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

I.1.5. Vulnerable parts

Criterion KO

Vulnerable parts include parts exposed to a high rate of accidental user breakage. The replacement of these parts complies with accessibility scale B.

- ❖ Accessibility scale limited to 5 steps and 5 minutes

- › **Not identified according to the definition set out in the LONGTIME® standard.**

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

I.1.6. Non usage

Minor criterion

The manufacturer identifies the consequences of non-use of the product and must inform the consumer in the recommendations for use of the minimum use necessary for the proper functioning of the product.

❖ Not applicable

I.1.7. Unproven technology

Criterion KO

The manufacturer provides information on the unproven technology in its product. It must provide the means implemented to guarantee its reliability or ensure that the normal use of the product does not depend on this technology.

Method of proof: Real-time demonstration to the inspection body mandated during the on-site audit.

I.1.8. External source parts

Minor criterion

The manufacturer records external source parts purchased and/or subprocessed. It must provide information relating to their origin and quality.

I.1.9. Reliability plan

Minor criterion

The manufacturer provides its own FMEA, FMEA or internal audit and identifies the changes implemented to improve the reliability and/or repairability of the product. Corrections or improvements already made to the product are indicated.

I.1.10. sub-assembly

Major criterion

The product design must only use subassemblies on technical justification or proof of reliability. Without technical justification, the subassemblies must be subject to a standard reconditioning and/or exchange route where the manufacturer demonstrates the economic interest for the user.

Scalability

I.2.1. Software

Major criterion

The manufacturer ensures that the original performance of its product is maintained during OS updates, without a time limit. The manufacturer identifies and records the means it uses to monitor post-upgrade performance.

❖ Not applicable

Traceability

I.3.1. Study and failure rate

Minor criterion

The manufacturer provides breakdown rates and/or indicators enabling the reliability of the product to be monitored at least until the last unit of the model concerned is placed on the market.

- ❖ Particular attention will be paid to the following failures:
 - Worn or damaged seals
 - Faulty valves
 - Float out of order
 - Faulty trigger chain or cable
 - Internal leaks in the trigger valve
 - Debris blocking the valve's internal components
 - Worn or damaged internal parts
 - Debris blockages in the trigger mechanism
 - Faulty push button

I.3.2. Identification number

Minor criterion

The manufacturer uses an identification number or method on each product.

Method of proof: In geographic distribution areas covered by regulatory pre-rotations establishing identification requirements, proof of compliance with these regulatory requirements will serve as a mode of proof in compliance with the PSRs of this criterion if necessary.

Disassembly

II.1.1. Product packaging

Criterion KO

Brings together all the product's covering parts (cover type) to protect the internal components from the outside.

The body of the product is removable and allows access to internal elements while respecting accessibility scale B. Permanent assemblies are prohibited unless the nature or use of the product justifies it.

❖ Accessibility scale limited to 5 steps and 5 minutes

- **Not identified according to the definition set out in the LONGTIME® standard.**

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

II.1.2. Access to functional parts

Major criterion

Parts related to the operation or use of the product.

Access to functional parts cannot exceed accessibility scale C.

❖ Accessibility scale limited to 7 steps and 7 minutes

- **Trigger button assembly**
 - Button mounting bracket
- **Trigger cable assembly**
 - Mounting bracket for securing the cable assembly to the discharge mechanism
- **Float assembly**
 - Mounting device
 - Adapter pivot (depending on model)
 - Counterweight (optional)
- **Mechanical linkage stabilisation assembly**
 - Retaining mechanism (screws, bolts, circlips, washers, etc.)

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

II.1.3. Access to priority parts

Major criterion

Functional parts but characterized by proven criticality in the event of a malfunction or breakdown (sometimes called critical parts).

Access to priority rooms complies with accessibility scale B or has been the subject of a reliability plan.

❖ Accessibility scale limited to 5 steps and 5 minutes

- **Flush button assembly**
 - Button(s)
 - Mechanical transmission rod

- › **Water discharge mechanism assembly**
 - › Vertical travel cylinder
 - › Cylinder for securing the vertical travel mechanism
 - › Mounting base for the toilet bowl outlet
 - › Flush/fill valve/diaphragm
- › **Flush cable assembly**
 - › Button-to-cable transmission mechanism
 - › Cable-to-vertical travel screw transmission mechanism
 - › Flush cable
- › **Float assembly**
 - › Float body
 - › Float arm
 - › Float height adjustment mechanism

- ❖ The fixings of the different priority parts of the product having both a function must be removable and reusable (Class A standard EN 45554)

In the event that the fixing system cannot be reused, it must be supplied with the replacement part to allow resolution of the failure or maintenance scenario.

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

II.1.4. Sub-assembly connectors (internal parts)

Major criterion

The connectors of the replacement subassemblies must not interfere with the repair of the product.

- ❖ All connector fixing elements must be at least removable (class B standard EN 45554).

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

II.1.5. Batteries

Criterion KO

The manufacturer provides a solution for replacing the batteries of autonomously operating devices.

- ❖ Not applicable

II.1.6. Disassembly tools

Major criterion

Disassembly of the product does not require a proprietary tool, apart from regulatory justification.

- ❖ No regulatory justification identified
- ❖ [List of tools in accordance with the list in table A2 of standard EN 45554](#) and supplemented with basic tools specific to the target product group
- ❖ Tolerance allowed for proprietary tools provided on request at no additional cost with the spare part.

Method of proof: Visual inspection and real-time demonstration to the inspection body mandated during the on-site audit.

Documentation

II.2.1. Exploded diagram

Major criterion

The manufacturer makes available to users, directly or indirectly via its partners or its network, diagram(s) or exploded view(s) of the product as well as a nomenclature of the parts and subassemblies of the product.

II.2.2. Exploded diagram

Minor criterion

The manufacturer references and delivers more specific exploded views to help identify and name a part.

II.2.3. Fault code

Major criterion

User and repairer fault codes must be present in the respective documentation and/or accessible on the manufacturer's website.

II.2.4. Repair Manual

Minor criterion

The manufacturer makes the information necessary for repairing the product accessible to repairers OR must justify economically viable alternatives for the end user.

- ❖ All documents necessary for resolving failure scenarios must be exhaustive and accessible (Class A Table A.10 of standard EN 45554) for all professionals in the sector and as a priority:
 - › A disassembly diagram or exploded view
 - › A technical instruction manual for resolving failure scenarios
 - › A list of necessary repair and testing equipment
 - › Fault diagnostics

Method of proof: Visual inspection and real-time demonstration to the mandated inspection body during the documentary audit or on-site audit.

II.2.5. Troubleshooting software packages

Minor criterion

The fault diagnosis software packages must be free of rights after the full warranty period with regard to the end date of manufacture of the product.

Spare parts

II.3.1. Nomenclature

Major criterion

All spare parts or subassemblies are uniquely named and coded to facilitate identification and ordering of parts.

II.3.2. Availability time

Criterion KO

The manufacturer commits in its General Terms and Conditions or via commercial communication to the availability of spare parts or replacement parts for the product for a minimum of 5 to 10 years from the placing on the market of the last unit of the model concerned. The minimum availability time required is determined in the sectoral appendix.

- ❖ Availability of spare parts 10 years minimum (Class A - Long-term accessibility; Table A9 according to standard EN 45554)

Method of proof: Mode of proof: Demonstration to the mandated inspection body during the documentary audit or on-site audit (general conditions of sale).

II.3.3. Supply time

Minor criterion

For functional parts or sub-assemblies, the manufacturer has a minimum reserve to meet the probability of demand for said part OR justification for a procurement process within identical deadlines.

II.3.4. Price of spare parts

Major criterion

The terms and conditions for purchasing spare parts are detailed (average price, distribution network, etc.). The manufacturer makes every effort to limit the total price of functional parts to the maximum recommended selling price excluding tax of the product.

The value of one of these functional parts cannot exceed the set percentage of the maximum recommended selling price excluding tax of the product.

- ❖ Percentage set at 25%. A tolerance is allowed for parts whose PRU would exceed 25%.
- ❖ All replacement parts must be accessible.

Method of proof: Visual inspection and real-time demonstration to the mandated inspection body during the documentary audit or on-site audit.

II.3.5. Price of delivery costs

Minor criterion

The manufacturer delivers the spare parts at actual shipping and preparation costs or offers alternative solutions reducing the cost of receiving the spare parts.

After-sales service under warranty

II.4.1. Contact du SAV

Minor criterion

The maximum time for opening an after-sales service file must not exceed 2 working days.

II.4.2. Support

Major criterion

The manufacturer provides the end user with an after-sales service network in line with its direct distribution network.

II.4.3. Repair policy

Major criterion

Repair must take precedence over replacement.

Out-of-warranty after-sales service

II.5.1. After-sales service network

Minor criterion

The user is provided with the means to facilitate the repair of his product outside of warranty. To support the product to be repaired, the manufacturer must provide the user with the benefit of its distribution and repair network.

Free long-term warranty

III.1.1. Warranty time

Criterion KO

The warranty period with presumption of prior history of the defect is determined in the sectoral annex. This time cannot be less than 24 months.

- ❖ 24 months minimum

Method of proof: Demonstration to the mandated inspection body during the documentary audit or on-site audit (general conditions of sale).

III.1.2. Warranty conditions (beyond the legal conformity period)

Major criterion

For product categories considered to be “highly useful”, the manufacturer provides for the provision of a replacement item to the user during the period of downtime of the product for repair.

- ❖ Product not considered of much use

III.1.3. Disclaimer of warranty

Major criterion

The warranty exclusions must not be excessive with regard to the normal conditions of use of the product. They will be defined in the sectoral annex.

- ❖ Warranty exclusions that may be regarded as unfair:
 - Signs of limescale
 - Discolouration of materials

Method of proof: Demonstration to the mandated inspection body during the documentary audit or on-site audit (general conditions of sale).

III.1.4. Assignment of Warranty

Major criterion

The manufacturer sets up a transferable guarantee system.

III.1.5. Original package

Minor criterion

Return of the original packaging cannot be required for warranty coverage.

Use and care instructions

III.2.1. Usage information provided

Major criterion

The manufacturer delivers with the product a notice with advice on use and maintenance of the product. This information must be exhaustive and relevant in order to reduce the exogenous failure rate.

- ❖ The manufacturer clearly makes the user aware, via the instructions and/or its website, of responsible use of the device.
 - Maintenance
 - Use
 - Making the most of consumables
 - Repairs

Method of proof: Visual inspection and real-time demonstration to the mandated inspection body during the documentary audit or on-site audit (physical and/or digital instructions for use).

III.2.2. Usage information provided

Major criterion

The use and maintenance advice booklet is clear, simple and accessible (adapted font size, vocabulary, language and print quality), so as to be easily understandable by end users.

III.2.3. Access to information

Minor criterion

Information relating to the use and maintenance of the property must be available in digital version on simple request or freely accessible on the manufacturer's website.

IX. THANKS

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