Certification PSR

Manual Heat Sealer

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Summary

I. INTRODUCTION
- Vision of LONGTIME®
- Label objectives
- Fields of application
- Organization of the certification PSR
- Control system
- Standards and regulations

II. DEFINITION OF THE PRODUCT SCOPE
- Product scope
- Outside the product scope

III. NOMENCLATURE OF PARTS

IV. ACCESSIBILITY scale

V. ELIGIBILITY
- Candidate commitment

VI. Label criteria
- **Environmental performance and/or energy mandate**
  - PR.1. Protection of health, safety and environment
  - PR.2. Energy and/or environmental performance
  - PR.3. End-of-life management of equipment
- **Conception**
  - I.1.1. State of the art and technical solutions
  - I.1.2. Production
  - I.1.3. Consumable parts and accessories
  - I.1.4. Security elements
  - I.1.5. Vulnerable parts
  - I.1.6. Non usage
  - I.1.7. Unproven technology
  - I.1.8. External source parts
  - I.1.9. Reliability plan
  - I.1.10. sub-assembly
- **Scalability**
  - I.2.1. Software
- **Traceability**
  - I.3.1. Study and failure rate
  - I.3.2. Identification number
- **Disassembly**
  - II.1.1. Product packaging
  - II.1.2. Access to functional parts
  - II.1.3. Access to priority parts
  - II.1.4. Sub-assembly connectors (internal parts)

II.1.5. Batteries
II.1.6. Disassembly tools
Documentation
II.2.1. Exploded diagram
II.2.2. Exploded diagram
II.2.3. Fault code
II.2.4. Repair Manual
II.2.5. Troubleshooting software packages
Spare parts
II.3.1. Nomenclature
II.3.2. Availability time
II.3.3. Supply time
II.3.4. Price of spare parts
II.3.5. Price of delivery costs
After-sales service under warranty
II.4.1. Contact du SAV
II.4.2. Support
II.4.3. Repair policy
Out-of-warranty after-sales service
II.5.1. After-sales service network
Free long-term warranty
III.1.1. Warranty time
III.1.2. Warranty conditions (beyond the legal conformity period)
III.1.3. Disclaimer of warranty
III.1.4. Assignment of Warranty
III.1.5. Original package
Use and care instructions
III.2.1. Usage information provided
III.2.2. Usage information provided
III.2.3. Access to information
VII. TERMS AND DEFINITIONS
VIII. THANKS
IX. BIBLIOGRAPHICAL RESOURCES

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.

Extending the service life of a heat sealer by a few years can help reduce the values of indicators for life cycle impact categories that depend primarily on the production phases, which occur before the use phases.

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

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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

A manual heat sealer is a versatile tool consisting of an ergonomic handle, a heated sealing jaw and a control switch. It operates by hermetically sealing plastic bags or packaging films, creating an airtight seal. Compact and easy to use, the manual heat sealer helps ensure packaging integrity.
Throughout the remainder of this document, the product scope will be referred to as “Heat Sealer”.

Product scope

- Professional manual heat sealer

Outside the product scope

- Semi-automatic industrial tray heat-sealing machine (standalone workstation)
- Automatic in-line industrial tray film heat-sealing machine
- Domestic heat-sealing machine
- Foil-lid tray sealing machine
- Vacuum packaging machine

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

<u>List of parts representative of the target product group but not exhaustive.</u>

- **Frame and housing assembly**
  - Frame
  - Base, plinth
  - Front panel
  - Control panel
  - Covers, housing panels (front/rear, side, upper/lower)
  - Feet
  - Heating element and heating plate protective cover

- **Display and control assembly**
  - Main power switch
  - Analogue or digital temperature display
  - Backlight unit(s)
  - Temperature control button(s) (mechanical, touch-sensitive, capacitive)
  - Programme selector, programmer, selector switch
  - Timer

- **Film unwinding assembly**
  - Bearing
  - Bearing support shaft
  - Film reel positioning stop
  - Spring-loaded roller
  - Lever return bearing guide
  - Spring adjustment threaded rod
  - Spring

- **Heating plate assembly**
  - Heating plate backing plate
  - Heating plate
  - Heating element
  - Heating plate hinge mechanism
  - Front and upper thermal insulation plates

- **Tray mould support and film cutting assembly**
  - Film cutting blade(s) / knives
  - Blade protection spring
  - Roller(s) / bearings
  - Roller support shaft
  - Heating plate stop

- Springs (compression, tension, blade protection)
- Stainless steel shaft for film cutter support
- Tensioner
- Tray mould cavities
- Film clamping gasket
- Film clamp
- Film clamping foam

- **Mechanical movement assembly – Handle articulation**
  - Handle
  - Gas strut support
  - Gas strut
  - Bearing

- **Electrical and electronic assembly**
  - Power electronic circuit boards
  - Control electronic circuit boards
  - Electronic control module
  - Display circuit board
  - Electronic display module
  - Switch, selector switch
  - Indicator lights (LEDs)
  - Ribbon cables
  - Power cord
  - Temperature sensor and control system
  - Thermal and electrical fuses
  - Electromechanical safety thermostat (Klixon type)
  - Sensors or switches (position, safety, Hall-effect sensor, microswitch, etc.)

- **Mechanical joint sealing and stabilisation assembly**
  - Sealing mechanism (O-ring, sealing ring, lip seal, silicone seal, etc.)
  - Fastening mechanism (screws, bolts, circlips, washers, etc.)
  - Stabilisation mechanism (spring, spacer, bracket, bearing, etc.)
  - Linear motion mechanism (guide rails)

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 | ≤ 15 mins | experienced user or repairer | general public tools, experienced public tools, professional tools

The scales indicated in the table above are indicative upper limits that should not be exceeded. However, these thresholds may be defined more precisely in criteria involving accessibility scales.

VI. 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.

VII.

VIII. LABEL CRITERIA

Environmental performance and/or energy mandate

Each of the directives listed in this paragraph contains a list of standards enabling proof of compliance with the various criteria they set out. Compliance with these directives must be demonstrated by the manufacturer through tests according to the methodology and the thresholds of these standards. These tests are not necessarily carried out by an accredited third-party laboratory, but this level of robustness would be appreciated.

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.

Method of proof: In geographical distribution areas covered by regulatory requirements similar to those of the European market regarding the restriction of the use of certain hazardous substances in electrical and electronic equipment, evidence of compliance with these regulatory requirements may be accepted as a means of demonstrating compliance with the PSRs of this criterion, where applicable.

- 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 complies with ESD and EOS safety standards related to the EMC directive.

Method of proof: compliance with test standards EN 61000-4-2 and 61000-4-5.

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.

- Manual heat sealers shall be equipped with an energy management system ensuring a maximum power consumption of 0.5 W through:
  - An automatic power-off function
  - And/or a deep standby mode
  - And/or a mains power switch accessible to the user

- The manufacturer shall clearly inform the user of the operating scenarios that minimise the machine's energy consumption and explain the differences in power consumption between the various operating modes (ready-to-operate mode, deep standby mode, complete shutdown, etc.).

Method of proof: Ecodesign measures based on Commission Regulation (EU) 2023/826, assessed by the appointed assessment body during the audit.

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.

Method of proof: In geographical areas of distribution covered by regulatory provisions setting out requirements for the collection and recycling of products, evidence of compliance with these regulatory requirements shall serve as proof of compliance with the PSRs of this criterion where necessary.

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.

General methods of providing evidence for this criterion: Visual inspection by a third-party auditor appointed during the on-site audit, supplemented by a set of data appropriate to the sub-criteria:

- *Wear and durability tests*
- *Supplier quality data*
- *External/internal test data for qualifications, performance, aging, wear, endurance, and resistance to boundary conditions.*
- *Any documentary/software elements... to support compliance with the above:*
  - *Internal product data sheet*
  - *Functional analysis tool*
  - *Design study (operation, materials, usage constraints)*
  - *Endurance performance test*
  - *Phase and qualifying test*
  - *Study of failure rates*
- *Application of product testing standards*

❖ General resistance to operating and environmental conditions

- General protection of all internal components against external environmental factors (dust, water, food residues, etc.)
  - Product design and/or selection of sealed components (sealed compartments, stainless steel bearings) or components resistant to environmental exposure (conformal coating, etc.)
  - Appropriate dimensioning and selection of materials suited to the severity of environmental stresses
  - Protection against water ingress, with an overall product ingress protection rating of IP21
  - Selection of materials resistant to corrosion and cleaning agents:
    - 100% grade 304 stainless steel or an equivalent grade demonstrating similar or superior properties

        - Anodised 6000-series aluminium alloy or metals demonstrating superior resistance properties
        - Anodising process with an aluminium oxide layer thickness of at least 15 microns for all aluminium components
- Resistance of the sealing tool to wear caused by mechanical stresses and/or deformation
    - Galvanisation
    - Cataphoretic coating (electrophoretic deposition)
    - Powder coating (primer and topcoat)
    - Passivation
    - Zinc plating

- Resistance of housings and external casing components to operating conditions, particularly mechanical impacts

- Selection of robust materials demonstrating enhanced impact resistance (hard plastics or other durable materials)

- Welds: passivation and pickling treatments to protect welded areas against corrosion

Method of proof: Characterisation of processes and coatings through technical data, wear tests and ageing tests. Accelerated life testing (e.g. HALT, HAST), erosion and abrasion tests (e.g. ASTM G65, ASTM G105), dust ingress protection tests (e.g. IEC 60529), water ingress tests (e.g. IEC 60529, using acids and alkaline solutions instead of water where necessary), and condensation tests (e.g. IEC 60068-2-30).

- Durability of electronic components
    - Resistance of components to operating conditions
        - Reliability of position sensors (Hall-effect sensors recommended)
        - Robustness of control modules, with high resistance to repeated operation
        - Dust-tight protection for internal moving components
        - Cables and flexible hoses subject to bending during normal use shall demonstrate mechanical resistance over 100,000 cycles, and 5,000 cycles for NTC temperature probes
        - Durability of capacitors (run and start capacitors): Class B minimum (10,000 hours), or the applicant shall demonstrate that the capacitors are designed to operate reliably over an extended period under the environmental conditions of the heat-sealing machine

    - Protection of electrical/electronic components against thermal stresses
        - Thermal regulation with overheating protection through technical solutions (ventilation and cooling) and/or product design measures (airflow, spacing, thermal decoupling, heat sinks, etc.)
        - Presence of temperature sensors and a controlled power shutdown function
        - Temperature-sensitive circuit breakers

- Protection of electrical/electronic components against direct and indirect exposure to liquids and moisture
- Sealing of electrical and electronic contacts ensured through product design or design features compatible with the objectives of promoting repairability
- Presence of a liquid detection system that triggers the shutdown of electronic components
- Use of circuit breakers to protect against short circuits

Method of proof: Characterisation of components and processes through technical data, wear tests and ageing tests. Visual inspection and real-time demonstration to the appointed assessment body during the on-site audit. Accelerated life testing (e.g. HALT, HAST).

- Durability of the mechanical movement assembly operated by gas struts
  - Gas struts made of metallic rather than composite materials: use of chrome-plated steel or anodised steel, particularly for end caps and cups, instead of composite materials.
  - Gas struts featuring a one-piece design. Two-piece designs are prohibited.
  - Potential gas strut leaks tested prior to assembly into the finished product.
  - Resistance of hinges to repeated movements and mechanical wear, particularly friction, as well as bending, compression, torsion and shear stresses.

Method of proof: Test and quality data provided by the supplier. Individual testing of each gas strut using a bubble leak test to detect gas leaks before integration into the finished product.

Repeated movement cycle testing to simulate normal product use over an extended period and assess hinge durability. Mechanical resistance tests, such as torsion testing (e.g. ASTM A938), fatigue testing (e.g. ASTM D3479) and fracture toughness testing (e.g. ASTM E1820).

- Durability of the heating electrode (heating element and heating plate assembly)
  - Resistance of the heating electrode to corrosion
  - Teflon coating on the electrodes, or another material offering equivalent mechanical resistance and coefficient of friction
  - Robustness of the electrode against wear caused by mechanical stresses and/or deformation
  - Proper fit of the heating element within its housing (clearance of less than 0.5 mm)
  - Prevention of degradation risks caused by overheating and/or thermal cycling
  - Protection against temperature control failures through the systematic use of a thermal fuse or equivalent protective device
  - Selection of materials capable of withstanding high temperatures and fatigue caused by repeated thermal cycling
  - Insulation of temperature-sensitive components exposed to thermal shocks
  - Thermal regulation with effective overheating protection through technical solutions (ventilation and cooling) and/or product design measures (airflow, spacing, thermal decoupling, heat sinks, etc.)

Method of proof: Design test data demonstrating optimisation of the fit of the heating element within its housing. Corrosion resistance tests. Thermal regulation testing under worst-case operating conditions. Accelerated life testing (e.g. HALT, HAST), heat storage testing (e.g. ASTM C1784-20) Computational Fluid Dynamics (CFD) thermal simulation, thermal shock testing (MIL-STD-202 and MIL-STD-810).

- Durability of film cutting blades
  - Resistance of cutting blades to corrosion
    - Use of materials such as hardened Z20C13 stainless steel, suitable for the intended operating conditions
  - Robustness of cutting blades against wear caused by mechanical stresses and/or deformation
    - Minimum hardness requirement: 46–50 HRC
    - Preservation of the steel's properties during the processes used to integrate the blades into the product
    - Protective system to prevent damage in the event of accidental contact between the cutting blades and materials other than plastic film

Method of proof: Assessment by the appointed assessment body during the on-site audit. Technical specifications of materials, mechanical resistance tests and worst-case operating condition tests (e.g. impact testing on the blades).

- Management of failures caused by external factors
  - Resistance to damage:
    - Optimised cable positioning to prevent premature wear
    - Control buttons (e.g. ON/OFF switches) demonstrating excellent mechanical resistance under normal operating conditions

Method of proof: Assessment by the appointed assessment body during the on-site audit, wear testing and accelerated ageing tests.

- Specific measures to facilitate repair
  - Parts serialisation practices are prohibited
  - Intuitive interfaces for diagnosing failure modes

Method of proof: Assessment by the appointed assessment body during the on-site audit for tools such as repair assistance software, diagnostic interfaces, etc. Documentary audit of all documents facilitating repair and declarations relating to this subject.

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 have a quality management system in place.

Method of proof: Demonstration of compliance with the principles of ISO 9001 through verification of quality procedures, equivalent requirements under other certifications, or customer audits. 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 3 steps and 5 minutes

Consumable parts:

- **Tray mould support and film cutting assembly**
  - Film clamping gasket

Accessory parts:

- **None identified**

Maintenance parts:

- **Tray mould support and film cutting assembly**
  - Film clamp

Method of proof: Visual inspection and real-time demonstration to the appointed assessment body 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.

- Accessibility scale limited to 5 steps and 10 minutes

- **Electrical and electronic assembly**
  - Temperature sensor and control system
  - Thermal fuses
  - Electromechanical safety thermostat (Klixon type)
  - Sensors or switches (position sensors, safety switches, Hall-effect sensors, microswitches, etc.)

Method of proof: Visual inspection and real-time demonstration to the appointed assessment body 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 10 minutes
  - **Tray mould support and film cutting assembly**
    - Cutting blade(s)/knives
    - Blade protection spring

Method of proof: Visual inspection and real-time demonstration to the appointed assessment body 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.

- Applicable. The period of non-use is defined as the product remaining unused for five years or more.

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.

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.

- Particularly for the following parts:
  - Film unwinding assembly
    - Bearing
  - Heating plate assembly
    - Heating plate backing plate
    - Heating plate

    - Heating element

- Mechanical movement assembly – handle articulation
    - Handle
    - Gas strut support
    - Gas strut
    - Bearing

- Electrical and electronic assembly
    - Power electronic circuit boards
    - Control electronic circuit boards
    - Electronic control module
    - Display circuit board
    - Electronic display module

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.

- Corrective and feature-enhancing software updates must be made available separately, where necessary.

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:
    - Electronic failure, short circuit (motherboard, component, printed circuit board)
    - Display unit failure (breakage, connector, electronic circuit board, LED backlighting)
    - Electrical stability fault (heating element / electrical connection)
    - Control panel failure (buttons / display)
    - Heating element failure (temperature sensor, broken wire, power relay, electronic control system and software)
    - Cutting blade breakage
    - Film clamping gasket failure
    - Thermal management failure (heating element / thermostat-temperature sensor / electronic control system)

I.3.2. Identification number

Minor criterion

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

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 10 minutes

- **Frame and housing assembly**
  - Frame
  - Base, support base
  - Front panel
  - Control panel
  - Covers and casing panels (front/rear, side, upper/lower)
  - Heating element and heating plate protective cover

- Unjustified permanent assembly methods are not permitted.

- Where clip-fastened assemblies are used, verification of clip quality and the availability of information on clip locations.

Method of proof: Visual inspection and real-time demonstration to the appointed assessment body 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 15 minutes

- **Frame and housing assembly**
  - Feet

- **Control assembly**
  - Main power switch
  - Temperature adjustment potentiometer knob
  - Temperature display screen

- **Film unwinding assembly**
  - Bearing support shaft
  - Film roll positioning stop
  - Spring-loaded roller
  - Lever return bearing guide
  - Right and left stainless steel side plates
  - Spring adjustment threaded rod
  - Spring

- **Heating plate assembly**
  - Heating plate hinge
  - Heating plate reinforcement
  - Front and upper thermal insulation plates

- **Tray mould support and film cutting assembly**
  - Central stop
  - Tray mould and film cutting assembly support
  - Roller support shaft
  - Heating plate stop
  - Flat T-shaped adhesive strip
  - Springs (compression, tension, blade protection)
  - Stainless steel shaft for film cutter support
  - Tensioner
  - Tray mould cavities
  - Film clamping foam

- **Electrical and electronic assembly**
  - Switch, selector switch
  - Indicator lights (LEDs)
  - Ribbon cables
  - Power cord

- **Mechanical joint sealing and stabilisation assembly**
  - Sealing mechanism (O-ring, sealing ring, lip seal, silicone seal, etc.)
  - Fastening mechanism (screws, bolts, circlips, washers, etc.)
  - Stabilisation mechanism (spring, spacer, bracket, bearing, etc.)
  - Linear motion mechanism (guide rails)

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

II.1.3. Access to priority parts

Major criterion

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 10 minutes

- **Film unwinding assembly**
  - Bearing

- **Tray mould support and film cutting assembly**
  - Roller/bearings

- **Heating plate assembly**
  - Heating plate backing plate
  - Heating plate

    - Heating element

- **Mechanical movement assembly – handle articulation**
    - Handle
    - Gas strut support
    - Gas strut
    - Bearing

- **Electrical and electronic assembly**
    - Power electronic circuit boards
    - Control electronic circuit boards
    - Electronic control module
    - Display circuit board
    - Electronic display module

- Fasteners used for the various priority parts of the product that perform both mechanical and electrical functions must be removable and reusable (Class A according to EN 45554). Where a fastening system cannot be reused, it must be supplied with the replacement part to enable the completion of the repair or maintenance scenario.

Method of proof: Visual inspection and real-time demonstration to the appointed assessment body 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.

- The fixations of the different priority parts of the product that have both a mechanical and electrical function must be removable and reusable.

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 compliant with Table A.2 of EN 45554:2020, supplemented by basic tools specific to the target product group.
- Tolerance allowed for proprietary tools provided on request at no additional cost with the spare part.

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.

- PLC error codes that can be interpreted by debugging software connected to the PLC via a standard interface, such as USB or Ethernet.

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 the documents required to resolve failure scenarios must be accessible to all professionals in the sector (approved or unapproved) and primarily:
  - Unambiguous identification of the product
  - A disassembly diagram or exploded view
  - A technical repair instruction manual
  - A list of the equipment required for repair and testing
  - Component and diagnostic information (such as minimum and maximum theoretical measurement values)
  - Wiring and connection diagrams
  - Error and diagnostic codes (including manufacturer-specific codes, where applicable)
  - Instructions for installing relevant software and firmware, including reset software
  - Information on how to access failure event data, where such data are recorded by the product

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 for a minimum of 10 years

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%.

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 24 hours.

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

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 considered to be of great use in

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.

- The following unfair warranty exclusions have been identified:
  - Scratches or micro-scratches on the Teflon coating of the heating plate where the failure concerns a component unrelated to the function of the Teflon coating.
  - Excessive use

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.

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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X. BIBLIOGRAPHICAL RESOURCES

- EN 60068-2-38 (resistance of components to temperature and humidity)
- EN 60384-14 Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains
- DIRECTIVE 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- DIRECTIVE 2012/19/EU on waste electrical and electronic equipment (WEEE)
- Off mode, standby mode and networked standby: Ecodesign requirements for products in standby and off modesf modes.