

RecyClass

RECYCLASS RECOGNISED TESTING FACILITIES

QUALITY MANAGEMENT & PROCEDURES

TESTING EVALUATION PROTOCOLS

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DISCLAIMER

RecyClass is an initiative aiming at enhancing and evaluating the recyclability of plastic packaging through a technical perspective. The Plastics Testing Evaluation Protocols will promote sortability and recyclability by encouraging industry to test new plastic technologies, materials or product before market launch and giving advice and recommendations to the companies.

The Testing Evaluation Protocols are available for download in the RecyClass website. Companies providing plastic packaging concepts are encouraged to use them to self-assess the impact of their solutions on sortability and recyclability highlighting potential issues. **However, compliance with a Testing Evaluation Protocol and Design for Recycling guidelines is not a replacement for an official assessment and may not be used as a marketing tool.**

All tests must follow the Testing Evaluation Protocols recommended by the RecyClass Technical Committees and Task Forces, and must be conducted by an independent Testing Facility approved by RecyClass which has no legal affiliation to the applicant.

More information is reported in the RecyClass Internal Procedures available in the [RecyClass website](#).

1. INTRODUCTION

This document lays out requirements, qualifications, and conditions for Recognised Testing Facilities to conduct the RecyClass Testing Evaluation Protocols developed by RecyClass Technical Committees and Task Forces.

RecyClass Testing Evaluation Protocols offer reliable assessments of the sorting behaviour, or the recyclability of a plastic packaging design based on the “RecyClass Recyclability Methodology”¹ and on the “Recyclability Approval Process – Procedures and Quality Management”². The overall goal is to maintain the protection of packaged goods and their marketing display functions without obstructing the proper functioning of both the sorting and recycling processes. RecyClass Testing Evaluation Protocols refers to all the following procedures:

- RecyClass Recyclability Evaluation Protocol for PE films
- RecyClass Recyclability Evaluation Protocol for PP films
- RecyClass Recyclability Evaluation Protocol for HDPE containers
- RecyClass Recyclability Evaluation Protocol for PP containers
- RecyClass Recyclability Evaluation Protocol for PS containers
- RecyClass Recyclability Evaluation Protocol for PET bottles
- RecyClass Recyclability Evaluation Protocol for PET trays
- RecyClass Recyclability Evaluation Protocol for adhesives & labels applied on PET bottles
- RecyClass Recyclability Evaluation Protocol for inks applied on PET bottles
- RecyClass Recyclability Evaluation Protocol for laminating adhesives applied on PE films
- RecyClass Sorting Evaluation Protocol for Plastic Packaging

This document provides guidance to ensure that Recognised Testing Facilities perform RecyClass Testing Evaluation Protocols in a consistent, reproducible and independent manner ensuring the integrity of the RecyClass Recyclability Approval and test campaigns processes and lab results judgement. Testing Facilities refer to both Laboratories, in charge of the Recyclability Evaluation Protocols, and Sorting Plants, in charge of the Sorting Evaluation Protocol for Plastic Packaging.

2. PROTOCOLS DEVELOPMENT & MAINTENANCE

RecyClass Testing Evaluation Protocols are owned, managed, and developed by RecyClass who ensures adequate documentation for the maintenance and improvement of the protocols.

RecyClass experts regularly review all available documentation including the protocols, Testing Facility report templates, and quality management systems and procedures according to recent developments in the recycling industry and the results of Testing Facility testing. Any changes and updates are implemented by the RecyClass Technical Committees and/or Task Forces and approved by the RecyClass Steering Board which are all composed by players representing the entire plastic value chain (raw material producers, converters, retailers, brand owners, machine manufacturers, recyclers...) as laid out in the document “RecyClass Internal Procedures”. New updates are communicated to all Recognised Testing Facilities via their main contact.

A non-exhaustive list of cases where changes to protocols documentation might be found below:

¹ *RecyClass Recyclability Methodology*

² *Technology & Product Approval – Procedures and Quality Management*

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- Changes to relevant European sorting and recycling practices under the focus and scope of the protocols. Updates will need to be reflected into the Testing Facility documentation.
- Changes in the focus or/and scope of the RecyClass protocols by the RecyClass Steering Board.
- Repeated feedback from the Testing Facilities following their experience during the testing and completion of the lab report. Frequent valuable comments will be taken into the Technical Committees and Task Forces for consideration to revise the protocols documentation.
- Stakeholders' feedback and proposals from RecyClass members and supporters. If valuable and relevant to the protocols focus and scope, will be submitted to the Technical Committees and Task Forces for consideration.

RecyClass considers and records all proposals to the Testing Evaluation Protocols and assesses their suitability within the testing scope. Suitable feedback is included in the respective documentation during the review. Reviewed documents are consulted with Recognised Testing Facilities and members to ensure the suitability and fitness of the added requirements or procedures. The RecyClass SB approves the final version of the documents for publication.

3. USE OF OFFICIAL DOCUMENTATION

RecyClass Testing Evaluation Protocols are published in English on the RecyClass website. Recognised Testing Facilities must use the latest and official RecyClass document to conduct the protocols and to deliver the report to the applicant in English.

The report might be amended by both the applicant and RecyClass in case of necessity and to bring clarity in the results. Additional tests might be added as well if required by the RecyClass Technical Committees and/or Task Forces.

Each report includes specific information and pictures related to a packaging's design and its innovation. Control material, process conditions and results are detailed. Observations and pictures should be included as well to illustrate the tests. Additionally, the reports should follow the steps' order of the testing protocols to ensure clarity and facilitate the review by RecyClass. Reports for Recyclability Approvals should be anonymised with only reference to the Application Code. Moreover, pictures enabling to identify the tested samples should be blurred.

4. TESTING FACILITIES

RecyClass Testing Evaluation Protocols are performed by Recognised Testing Facilities duly represented by a recognised representative who operates according to the procedures and the requirements described in this document, as well as to the terms of the Cooperation Agreement.

Communication between Testing Facilities and RecyClass must be kept at a regular basis. Testing Facilities must communicate to RecyClass any new applications for the protocols and status of ongoing applications. For the Recyclability Evaluation Protocols, RecyClass Team in accordance with the Technical Committee representatives will guide the Laboratories and the applicants in defining the control sample and the testing conditions through a Letter of Agreement communicated to the Applicant after decision of the representatives. Testing according to the Recyclability Evaluation Protocols cannot start without a Letter of Agreement delivered by RecyClass Team. In the case that testing started prior to receiving a Letter of Agreement, RecyClass reserves the right to not accept the application, or to ask to retest the innovation.

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RecyClass Team provides to the Testing Facilities a dedicated online platform, where the Testing Facilities can track all Recyclability Approvals applications, provide testing status, and deliver final reports. RecyClass Team uses the platform as well to update the Testing Facilities on the latest developments, documents, and protocol versions.

RecyClass Team organises workshops to align views among the Testing Facilities and communicate new developments on the protocols.

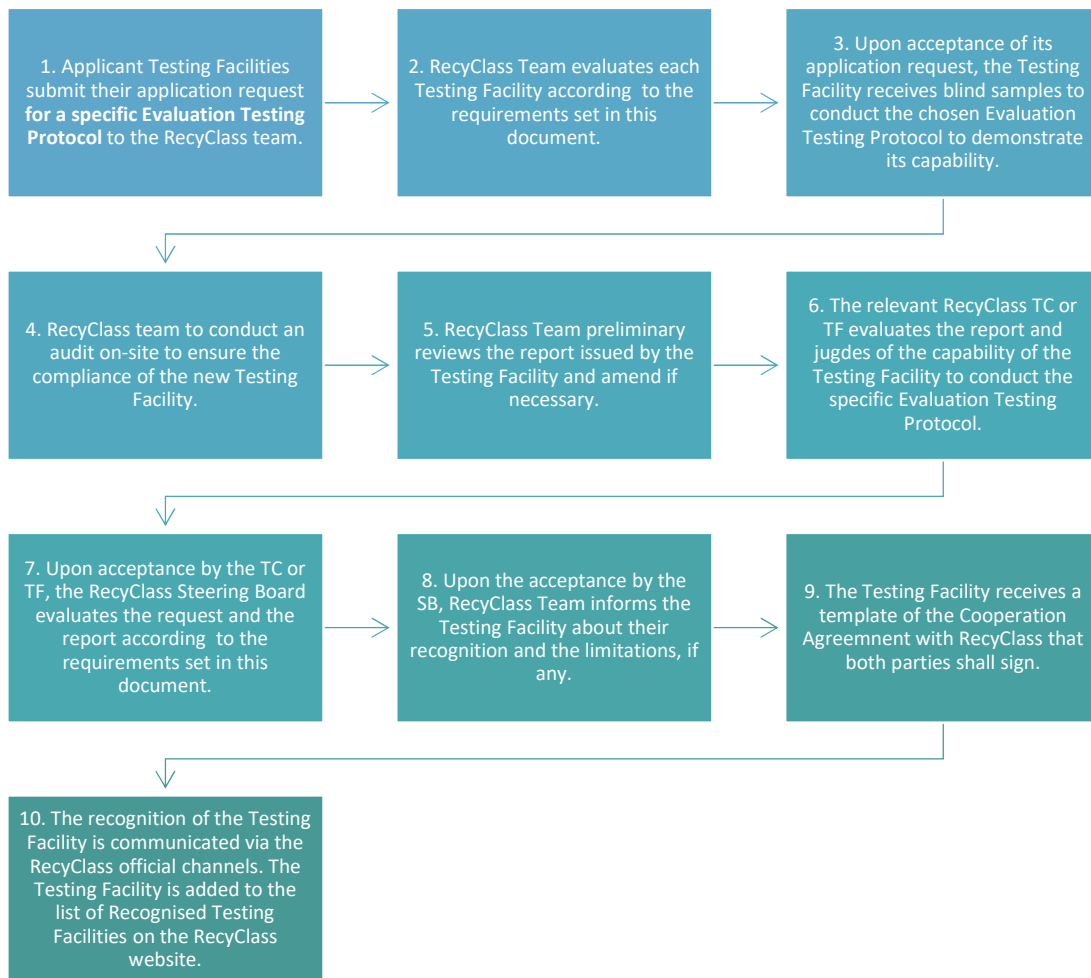
RecyClass Team is authorized to follow Testing Evaluation Protocols in the Recognised Testing Facilities after informing the Recognised Testing Facility minimum 2 weeks in advance.

4.1 RECOGNITION OF TESTING FACILITIES: PROCEDURE

RecyClass defined a standard procedure to recognize Testing Facilities, ensuring transparency and equality between all Testing Facilities. The procedure aims as well to guarantee repeatable testing results in each Testing Facility, recognising that the choice of the Testing Facility will not affect the final decision of the RecyClass Technical Committees regarding the packaging recyclability.

The figure below illustrates the recognition procedure for Testing Facilities applying to RecyClass.

Figure 1: Procedure of Testing Facilities recognition



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For Sorting Facilities, the recognition will be issued only for a specific site where the tests are performed. The recognition for sorting facilities can be covering the entire Sorting Evaluation Protocol for Plastic Packaging, or only part of it with limitation for the tests, as described in the Sorting Evaluation Protocol³.

RecyClass team must visit the Testing Facility to ensure its compliance with requirements (see after). This audit will be conducted according to section 4.3.

Any change within the Testing Facility that would lead to non-compliance with the Cooperation Agreement and/or the requirements set forth in this document must be communicated to the RecyClass SB who will reevaluate the recognition of the Testing Facility with the application requirements.

The Testing Evaluation Protocol that should be conducted by the Testing Facility to demonstrate its ability and to get recognised is carried out at the expense of the Testing Facility. This applies for both new Testing Facilities and already Recognised Testing Facilities willing to extend their scope.

An up-to-date list of all Testing Facilities Recognised to perform RecyClass Testing Evaluation Protocols will be available on the website.

4.2 TESTING FACILITIES APPLICATION REQUIREMENTS

4.2.1 TESTING FACILITIES MINIMAL REQUIREMENTS

Testing Facilities must comply with the following requirements after applying to become a Recognised Testing Facility:

- Testing Facilities must be legal entities or defined as part of a legal entity.
- Testing Facilities must be competent organisations with demonstrated references in the field of plastic packaging and recyclability as well as plastic processing and analyses.
- Testing Facilities must have mechanisms in place to ensure impartiality of the organisation during the performance of their activities.
- Testing Facilities must have financial stability and must dispose of insurance or reserves to cover any liabilities arising from its operations.

4.2.2 TESTING FACILITIES OPERATIONAL REQUIREMENTS & RESPONSIBILITIES

- Testing Facilities must have a quality management system in place which ensures compliance with the requirements laid down in this document. Procedures to identify and manage any non-conformities detected must be included along with a procedure to implement corrective actions.
- Testing Facilities are responsible for the competence and performance of their operators. Testing Facilities must have in place mechanisms to ensure competence of all operators.
- Testing Facilities should attend the RecyClass Workshop organised annually where any new requirements or recent developments related to the protocols are discussed.

³ [Sorting Evaluation Protocol for Plastic Packaging](#)

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- Testing Facilities procedures and operations must be non-discriminatory, and applicants should not be refused for any reason which is not detailed in this document or in the document “Recyclability Approval Process – Procedures and Quality Management”⁴.
- Testing Facilities must ensure protocols are conducted using the latest and official version of the RecyClass Testing Evaluation Protocols and refer to the corresponding version in the report.
- Testing Facilities must appoint a lead operator who will act as a contact person between RecyClass and the Testing Facilities ensuring a smooth communication between both organisations related to quality management, new applications, and applicants.
- Testing Facilities shall accompany companies during the approval process with RecyClass (e.g., participation to the RecyClass meetings, support in understanding the lab results).
- Testing Facilities must deliver reports within the timing established on the signed quotation and according to RecyClass quality standards.
- Testing Facilities shall upload the recyclability and sorting evaluation report as well as the data presented in the report within RecyClass online platform when the tests are finalised.

4.2.3 TESTING FACILITIES TECHNICAL REQUIREMENTS

To ensure a uniformly high standard of RecyClass protocols, Testing Facilities must meet the following requirements listed below.

- Technical knowledge about chemistry and physical properties of polymers.
- Technical knowledge about plastic packaging construction.
- Good understanding of the functioning of plastic recycling processes relevant to the RecyClass Testing Evaluation Protocols.
- Above-average knowledge of the main technical challenges for plastics recycling.
- Demonstrated competence by submitting proper documentation (e.g., CV, copies of certificates of all relevant academic and professional qualifications, work experience and experience as an expert, references, reports, training).
- Demonstration of sufficient practical experience in the field of activity and the scope of expertise.
- Testing Facilities must be provided and have access to all the necessary equipment to run the entire Protocol and strictly follow the Testing Evaluation Protocols, for which the Testing Facility is applying (e.g., tests standards required, adequate lab equipment to cover all steps of the protocol(s), repeatable testing conditions, stockage area for samples).
- Testing Facilities must be able to ensure all protocols will not be bound by any instructions but independent work.
- Testing Facilities must share all necessary information to ensure the complete and correct interpretation of the results.
- In the process of drafting the technical report for submission to RecyClass and Applicants, Testing Facilities are required to designate writers, validators, and approvers (three step validation) to ensure thorough verification before final submission.

⁴ *Technology & Product Approval – Procedures and Quality Management*

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4.2.4 REQUIREMENTS SPECIFIC TO LABORATORIES

The following requirements are specific to laboratories, to ensure reliability and repeatability of the results, as well as a good coordination with RecyClass Team.

- Testing Facilities must be ISO 17025 or ISO 9001 certified. Certification according to ISO 17025 is encouraged.
- Testing Facilities must inform RecyClass team on a monthly basis about the status of the ongoing tests they are managing.

4.2.5 REQUIREMENTS SPECIFIC TO SORTING FACILITIES

The following requirements are specific to sorting facilities, to ensure high standard of RecyClass protocols and certifications, as well as a good coordination with RecyClass Team.

- Testing Facilities must share with RecyClass any certifications obtained for available standards meant to improve their processes and quality of the results.
- Testing Facilities are encouraged to be ISO 9001.
- Testing Facilities must inform RecyClass team on a monthly basis about the status of the ongoing tests they are managing.

4.2.6 WORKSHOP & AUDIT FEE

In order to cover the cost of the monitoring audit and the RecyClass workshop, RecyClass Recognised Testing Facilities must pay a 1 000 € annual fee to RecyClass. If a surprise audit is necessary due to non-conformities (see section 4.6.), an exceptional additional fee of 500 € will be sent to the laboratory to cover travel and accommodation of RecyClass team.

4.2.7 TESTING FACILITIES IMPARTIALITY

Testing Facilities must be independent and impartial organisations, with no conflict of interest with the applicant of a RecyClass protocol.

Testing Facilities must have mechanisms in place to identify and eliminate or minimise any risks to impartiality. Any risks must be communicated to RecyClass who will determine if the measures implemented are sufficient to continue operating as a Recognised Testing Facilities.

Where the Testing Facility is a part of a legal entity, it must ensure that separate activities do not compromise the independence of the protocols.

4.2.8 CONTROL & VIRGIN MATERIALS SUPPLIES

Testing Facilities must regularly inform RecyClass about their stock of control and virgin resins to be used for recyclability evaluations to ensure the continuity of the testing. When new resins need to be ordered, the Testing Facilities can either (1) order them directly, or (2) can ask RecyClass to contact the raw material suppliers. For the latter case, RecyClass will order the resins with the agreement of the Testing Facilities and make the resins directly shipped to the Testing Facilities. If RecyClass is the one paying the raw material producer, the Testing Facilities must refund

RecyClass. Testing Facilities should not wait to be out of control material to refill their stocks, to avoid any delay in the recyclability evaluations.

4.3 MONITORING & AUDITS

4.3.1 TESTING REPORT QUALITY CONTROL

Recognised Testing Facilities must deliver high-quality technical reports for each recyclability evaluation performed. These high-quality standards are presented in the Guidance Document for Testing and Reporting circulated to Testing Facilities.

RecyClass team is constantly performing quality controls on new reports received from Testing Facilities. RecyClass reserves the right to ask for modifications before submission to the corresponding Technical Committee. These modifications must not change the outcome of the test neither the results presented, except evidence of typos.

On an annual basis, RecyClass will emit a Testing Report Quality Review for each Testing Facilities separately. This review will cover the following topics:

- Clarity of the report
- Quality of the pictures
- Objectivity
- Respect of delivery time
- Consistency in report quality
- Respect of the procedures (Letter of Agreement, confidentiality, ...)
- Respect and promptness of corrections

This will lead to an average rating of the quality of the reports over the past year. In the case of a rating below average, RecyClass will consider this control as a non-conformity as reported on section 4.6.. The conditions for the evaluation are reported in Annex 1.

4.3.2 RECOGNITION MONITORING

During the recognition process and every 2 years Recognised Testing Facility will need to perform the full Testing Evaluation Protocol while being audited by RecyClass to ensure about the reliability and alignment between all the Recognised Testing Facilities. This audit is mandatory to carry on the recognition of the Testing Facilities. Laboratories recognised for multiple Recyclability Evaluation Protocols will need to run only one sample for containers and films respectively. As referred in the section 4, RecyClass team needs to inform the Recognised Testing Facility minimum 2 weeks in advance before this monitoring audit. For monitoring audits, an agenda must be defined by both RecyClass and the Testing Facility to cover all parameters to be audited. This audit will evaluate the following topics:

- Respect of the procedures
- Management of the application
- Cleanliness and reliability of equipment
- Cleanliness and organisation of the working space
- Safety
- Laboratory report quality (related to 4.3.1.)
- Validity of the ISO 17025 and ISO 9001 certifications for laboratories

The result of the audit will not be dependent on the result of the testing performed. RecyClass will contact the Testing Facility within 2 weeks after the audit to present the outcomes of the audit and deliver the green light for recognition or extension of the recognition for 2 years in case of positive assessment. An audit leading to a score below average

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will be considered as a non-conformity and will not lead to the recognition or extension of the recognition. A secondary audit will be necessary to lead to a positive outcome. The conditions for the evaluation are reported in Annex 1.

4.3.3 SURPRISE AUDITS

In the case of non-conformity reported according to section 4.6., RecyClass reserves the right to conduct a surprise audit without informing the Testing Facility in advance. This audit cannot be considered to extend the recognition of the Testing Facility for 2 years. An audit report will be emitted within 2 weeks after the audit to present the outcomes of the audit. This audit will focus on several topics as listed in section 4.3.2.. In the case of a negative audit outcome, RecyClass will consider the audit as a non-conformity, which may start a dossier of non-conformity that will be addressed to the RecyClass Steering Board (see section 4.6.). The conditions for the evaluation are reported in Annex 1.

4.4 FREE COMPETITION AMONG TESTING FACILITIES

Companies who apply to a RecyClass Testing Evaluation Protocol may freely contract any Testing Facility listed on the RecyClass website. Applicants may also choose to change from one Testing Facility to another to perform a new protocol.

Regarding RecyClass internal test campaigns quoted above 5 000€, RecyClass must contact all Testing Facilities recognised for the corresponding testing protocol to obtain quotation and give them at least 2 weeks to provide quotations. If only 1 quotation is received by the deadline, RecyClass can decide to make a second call for quotations. RecyClass can as well consider attributing the test campaign to a Testing Facility willing to be recognised for the specific testing procedure (Test carried out at the expense of the Testing Facility cf. Section 4.1).

For tests representing less than 5 000€, RecyClass can decide to assign directly the trials to any Testing Facility recognised for the corresponding testing procedure.

4.5 RECYCLASS' TEST CAMPAIGNS MANAGEMENT

Testing Facilities in charge of managing a RecyClass test campaign must operate according to the conditions shared by RecyClass, and must share a timeline for the project with RecyClass team. Any issues faced during the test campaign must be communicated as soon as possible to the RecyClass team. Any delay must be communicated to RecyClass team well in advance and should only be related to equipment problems, staff issues, or delay in samples delivery. Non-explained delay or last-minute notice will be considered as a non-conformity with RecyClass Testing Facilities requirements.

4.6 NON-CONFORMITIES & PENALTIES

4.6.1 NON-CONFORMITIES

Non-conformities will consist of the following non-exhaustive list:

- Reference to RecyClass on tests non authorised by RecyClass through a Letter of Agreement
- Difference between test performed and information presented in the report
- Multiple repeated mistakes on report, despite the request from RecyClass to correct them
- Non-respect of the confidentiality of the assessment
- Refuse of RecyClass audit

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- Testing Report Quality Control scored below average
- Monitoring audit scored below average
- Surprise audit scored below average
- Conflict of interest reported
- Workshop & Audit fee not paid for the current year

Even if not listed as non-conformities, repeated issues related to the content and statements of the recyclability evaluation reports can be leading to the first level of penalty.

4.6.2 PENALTIES FOR NON-CONFORMITIES

Following penalties can be applied in the case of accumulation of non-conformities within a 2 years time.

LEVEL OF PENALTY	NON-CONFORMITIES	PENALTY
1	In case of multiple issues reported even if non-reported as non-conformities	Formal written warning
2	1	Potential surprise audit
3	2	Creation of a non-conformity dossier

4.6.3 BREACH OF THE COOPERATION AGREEMENT AND REMOVAL OF TESTING FACILITIES RECYCLASS' RECOGNITION

Any non-conformities or non-compliant behaviour of the Testing Facility should be communicated to RecyClass immediately who will seek remedy for a period of 3 months.

If unsuccessful, RecyClass will present a dossier of non-conformities to the Steering Board who will assess and evaluate the Testing Facility in a one-to-one basis. RecyClass reserves the right to remove the recognition to a Testing Facility or to terminate the Cooperation Agreement altogether between a Testing Facility and RecyClass upon the outcome of the Testing Facility evaluation. The Testing Facility will dispose of 60 days to appeal to the Steering Board on the SB decision.

5. DATA CONFIDENTIALITY

Recognised Testing Facilities must sign a Non-Disclosure Agreement with RecyClass to protect confidential information of innovative packaging design tested according to the Testing Evaluation Protocols. RecyClass provides to the Testing Facilities the NDA template to consider.

ANNEX 1 – AUDITS & REPORT QUALITY CONTROL EVALUATIONS

For the Testing Report Quality Control as well as for Monitoring Audits, the evaluation will be done on the different points listed in the section 4.3. Each of the parameters to be evaluated will be scored on a 1 to 5 scale as following:

- 5 – Highly satisfactory
- 4 – Satisfactory
- 3 – OK
- 2 – Not sufficient
- 1 – Highly dissatisfied

The quality control and audit reports will contain a section detailing the observations and comments from the RecyClass team during the control or audit. Recommendations for improvement will also be listed to ensure clarity about the area for improvement. Any score below average (score of 1 or 2) must be justified.

DOCUMENT VERSION HISTORY

VERSION	PUBLICATION DATE	REVISION NOTES
2.0	April 2024	<p>Addition of Workshop & Audit fee</p> <p>Addition of non-conformities & penalty section</p> <p>Addition of Testing Report Quality Control</p> <p>Addition of mandatory on-site audit for recognition of a laboratory</p> <p>Addition of surprise audits</p> <p>Addition of designate writers, validators, and approvers for technical report validation</p> <p>Addition of risks for performing tests without Letter of Agreements</p> <p>Addition of Annex 1</p>
1.3	January 2024	<p>Specifications for Laboratories and Sorting Facilities</p> <p>Clarification on the free-of-charge recognition test</p> <p>Extension of the document to PET protocols</p> <p>Addition of a section on test campaign call for bids</p> <p>Addition of RecyClass test campaign section</p>
1.2	August 2022	Addition of section 4.2.5 "Control & Virgin Materials Supplies"
1.1	May 2022	<p>Recognised replaces Accredited</p> <p>Document extended to all Testing Facilities (sorting lines + laboratories)</p> <p>Addition of the Letter of Agreement</p> <p>Addition of the Recognition Monitoring section</p>
1.0	September 2021	Release of the first version of the Accredited Laboratories – Quality Management & Procedures

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