

RecyClass

AUDIT SCHEME

RECYCLABILITY RATE CERTIFICATION

RECYCLABILITY

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1. FOCUS AND SCOPE OF CERTIFICATION

Certification aims at recognising the compatibility of *Plastic Packaging* with *State-of-the-art Recycling Process* established on the *European Market*. It specifies requirements for companies pledging *Plastic Packaging* on the *European Market* who wish to claim their recyclability under a comprehensive Audit Scheme.

Certification focuses on the recyclability by considering as main benchmark the ability of the plastic *Packaging* to be recycled in *Closed-Loop* and *Cascade Open-Loop applications*.

Recyclability of a *Plastic Packaging* must be verified throughout all the steps of the waste management process, that includes collection, sorting and recycling in order to make a claim of recyclability for *Audited Packaging*. Therefore, *Certification* may be granted to all companies commercialising *Plastic Packaging* as it will be placed onto the market, mainly brand owners and retailers, but not exclusively.

The Audit Scheme is developed following the guidance of the RecyClass Recyclability Methodology¹ and EN 13430.

2. TERMS AND DEFINITIONS

Defined terms are marked in italics and start with a capital letter. Terms and definitions relating to this document can be found in Annex I.

3. NORMATIVE REFERENCES

EN 17615:2022 Plastics – Environmental Aspects - Vocabulary

EN 13430:2004 Packaging - Requirements for packaging recoverable by material recycling

ISO 14021:2016 Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling)

4. TYPES OF CERTIFICATION

4.1 SINGLE PACKAGING CERTIFICATION

Single Packaging Certification covers only one *Plastic Packaging*, that will be audited and reported with a unique identification. This *Certification* is valid for 3 years.

¹ [RecyClass Recyclability Methodology](#)

4.2 EQUIVALENT PACKAGING CERTIFICATION

Equivalent Packaging Certification covers several *Plastic Packaging* and should be issued when the audit concluded that multiple packaging can be gathered in a group of *Equivalent Packaging*. *Equivalent Packaging* shall designate that the only differences between the packaging do not impact the result of the audit. All *Packaging* must be analysed individually to determine equivalence. This Certification is valid for 3 years.

4.3 MONITORING CERTIFICATION

Monitoring Certification must take place up to 6 weeks prior to the expiration of the validity of the Certificate (i.e. 3 years). During a monitoring *Certification*, compliance with all requirements is checked. The conditions of the monitoring certification are further explained in the document “Quality Management & Procedures”.

5. ELIGIBILITY FOR CERTIFICATION

Plastic Packaging whose features are fully covered by the RecyClass Design for Recycling Guidelines² is eligible for Certification. All the other *Packaging* not covered in these guidelines needs to be addressed to RecyClass for evaluation by means of the Recyclability Evaluation Protocols³ by the RecyClass Technical Committees. Other products similar to *Packaging* that is covered in the RecyClass Design for Recycling Guidelines and is collected in a *Geographical Area* is also eligible for *Certification*.

Final *Plastic Packaging* placed onto *European Market* is eligible for the Recyclability Rate Certification, as well as *Plastic Packaging* which has not yet been introduced to the market but where no further alterations are to be made to its design and contains all elements that are part of the final *Packaging*. Semi-finished *Packaging* cannot be assessed with the RecyClass Recyclability Rate Certification.

6. OBJECT OF CONFORMITY

Certification enables producers to demonstrate the *Recyclability* of *Plastic Packaging* in line with EN 13430 for a defined *Geographical Area*. The conformity assessment focuses on the evaluation of the design for collection, sorting and *Recycling* of *Audited Packaging*.

The Audit Scheme assesses *Recyclability* with a recyclability rate from 100% - 50% considered recyclable, and 50% - 0% considered non-recyclable; as well as different classes A to C considered recyclable, and D to F considered non-recyclable. In case a *Packaging* presents unresolved non-conformities, which deem it non-recyclable, a valid certificate will not be issued.

The *Packaging* is considered as conforming and recyclable with the following classes.

- **Class A:** The *Packaging* does not pose any *Recyclability* issues and the recycled *Plastic* can potentially feed *Closed-Loop applications*.

² [RecyClass Design for Recycling Guidelines](#)

³ [Recyclability Evaluation Protocols available at](#)

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- **Class B:** The *Packaging* has some minor *Recyclability* issues that slightly affect the quality of the recycled *Plastic* generated. However, majority of recycled *Plastic* from this *Packaging* can still potentially feed Closed-Loop applications.
- **Class C:** The *Packaging* presents some *Recyclability* issues that affect the quality of the recycled *Plastic* or lead to material losses during recycling. In the first case the recycled *Plastic* could be used in *Cascade Open-Loop applications*, whereas in the latter case the plastic could potentially feed *Closed-Loop applications*.

The classification described above follows the criteria defined in the document “RecyClass Design for Recycling Guidelines and Scoring Tables”.

Certification is available to all actors of the plastic value chain placing onto the market a finished *Packaging*.

7. SCORE PENALTIES

Score penalties are downgrading factors assigned to specific design features depending on their *Recyclability*. The amount of score penalties found in a *Packaging* will determine the final *Recyclability Rate*. Score penalties may lead to a non-conformity.

The score penalties are determined through the document “RecyClass Design for Recycling Guidelines and Scoring Tables”. Score penalties occur when *Packaging* shows:

- **Limited compatibility:** design features are slightly impacting *Recycling Process* and/or the quality of the recycled *plastic*.
- **Low compatibility:** design features are strongly impacting *Recycling Process* and/or the quality of the recycled *plastic*.

The list of design features featuring limited and low compatibility can be found in Annexes II, III, IV of the document “RecyClass *Recyclability Methodology*”. Concurrently, those features are listed in the yellow or red columns in the *Design for Recycling Guidelines*, for limited, low or no compatible features, respectively.

The same criterion is reported in the “*Auditors Design for Recycling Guidelines & Scoring Tables*” document, where further details on the features’ classification are reported.

Score penalties are considered opportunities for design improvement and must be noted down in the *Audit Report* as observations.

8. NON-CONFORMITIES

Non-conformities are issued when there is a failure to demonstrate *Recyclability of Audit Packaging*. Non-conformities are issued when design features are classified as not compatible with *Recycling Process*. These are also described as disqualifying factors.

For all non-conformities identified, corrective actions must be presented to *Certification Bodies* to issue a conform certificate. Corrective actions may include design improvements of *Audited Packaging*. *Certification Bodies* must evaluate the submitted corrective actions and decide if these were correctly implemented to issue a conform certificate. If corrective actions are not implemented to satisfaction, the *Certification Bodies* may close the audit procedure and issue a non-conform *Audit Report*.

9. CALCULATION OF THE RECYCLABILITY CLASS AND RATE

The Recyclability Class and Rate are calculated applying score penalties to *Audited Packaging* depending on its composition. Non-recyclable elements, or characteristics downgrading the quality of the recycled *plastic* will influence the final recyclability class and rate obtained. Please see more information in Annex II of this document.

The Recyclability Rate is calculated following the formula below:

$$\text{Recyclability rate \%} = [(100 - X) \times \eta] - Y - Z - V$$

X: Non-recyclable *Plastic* content

η : Sortability

Y: Design for recycling incompatibilities – removable

Z: Easy-to-Empty / Easy-to-Access index

V: Design for recycling incompatibilities – non-removable

10. CERTIFICATION DETAILS

SECTION 1: SUITABILITY FOR AVAILABLE RECYCLING TECHNOLOGIES

The design of *Audited Packaging* makes use of materials or combinations of materials, which are suitable with *State-of-the-art Recycling Process*.

The following conditions apply:

- a) *Packaging* consists predominantly of *Plastic* by weight;
- b) Surface of the *Packaging* consists of at least 50% of *Plastic*;
- c) There is not an aluminium layer thicker than 5 μm or an aluminium label or sleeve which the user cannot remove when opening the *Packaging*;
- d) *Packaging* does not present a carbon black surface;
- e) *Packaging* contains a product accepted in the local *Plastic* collection systems;
- f) *Packaging* does not contain bio-/or oxo-degradable *Plastics*.

Non-compliance with any of the points listed above constitute a non-conformity.

SECTION 2: RECYCLING STREAM IDENTIFICATION AND RECYCLABILITY IN PRACTICE

Audited Packaging disposes of a PRE recycling streams⁴ in place, for which collection, sorting, and recycling are established and functioning in at least one country of *European Market*.

⁴ *Plastics Recyclers Europe Recycling Streams* are listed in section 2.3 of the *RecyClass Recyclability Methodology*

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2.1 COLLECTION

Audited Packaging is widely collected in the *Geographical Area* part of the scope of the audit evaluation, meaning that more than 50% of the population has access to the collection system, and the relevant collection has been identified.

2.2 SORTING & RECYCLING INFRASTRUCTURES

There is available and relevant sorting and *Recycling* infrastructures are in place in the *Geographical Area* selected as part of the scope of the audit evaluation, meaning that *Audited Packaging* will be sorted and recycled in the *Geographical Area*.

SECTION 3: DESIGN CRITERIA

3.1 RECYCLABLE PLASTIC CONTENT

The design compatibility process is carried out to establish the amount of recyclable *Plastic* in *Audited Packaging* and its ability to replace virgin *Plastic* in new products. Any non-recyclable materials must be considered and removed from the proportion of recyclable *Plastic*.

3.2 SORTABILITY

Audited Packaging must be sorted into a PRE recycling stream⁴ according to the state-of-the-art sorting technologies available on the *European Market*.

Please see Annex III for additional information on the sortability requirements of *Audited Packaging*.

3.3 DESIGN FOR RECYCLING INCOMPATIBILITIES (REMOVABLE)

Audited Packaging is designed according to the “RecyClass Design for Recycling Guidelines”⁵. The Criterion accounts for all the parts of packaging such as main body, attachments, decorative technologies, etc. that will be separated during the *Recycling Process*. Specific penalties are applied, following the document “Auditors Design for Recycling Guidelines & Scoring Tables”.

3.4 DESIGN FOR RECYCLING INCOMPATIBILITIES (NON-REMOVABLE)

Audited Packaging is designed according to the “RecyClass Design for Recycling Guidelines”⁵. The Criterion accounts for all the parts of *Packaging* such as main body, attachments, decorative technologies, etc. that will not be separated during the *Recycling Process* and will contaminate the stream. Specific penalties are applied, following the document “Auditors Design for Recycling Guidelines & Scoring Tables”.

⁵ *RecyClass Design for Recycling Guidelines* available on the [RecyClass website](#)

SECTION 4: EASY-TO-EMPTY / EASY-TO-ACCESS INDEX

Audited Packaging must be easily accessible and emptied to minimise the contamination of *Recycling Process* by organic substances.

The presence of product residues on the packaging is evaluated during a check where the *Audited Packaging* is emptied and weighted 10 times. The following formula applies:

$$Ete_i = \left(\frac{Pe - W}{Pf} \right) \times 100$$

where,

W = weight of a fully empty packaging

Pf = declared net weight of content

Pe = average weight of empty packaging after normal use, in minimum 10 emptying rounds

The Easy-to-Empty or Easy-to-Access index must be checked in specific cases, when the product inside is liquid and/or viscous. *Certification Body* may also apply it based on their best knowledge in other cases.

For tubes, bottles and jars, the index calculated is the Easy-to-Empty, emptying the container without being forced. For cups and pots, the index calculated is the Easy to Access, simulating the normal use by the consumer (i.e. with a spoon). More details and explanations are reported in the document “Auditors Guidance and Audit Checklist”.

SECTION 5: REACH COMPLIANCE

Audited Packaging must comply with the European legislation on chemicals (connections: REACH, CLP) to ensure that *Packaging* construction is without prejudice regarding REACH compliance and meets safety requirements.

SECTION 6: ANNEXES

In case of *Equivalent Packaging*, the Audit Report and certificate include an annex providing the list of all the certified *Packaging*.

SECTION 7: OUTCOMES OF THE AUDIT

7.1 AUDIT REPORT

Certification Body issues an Audit Report to *Applicant* including the findings of the assessment and a description of the calculation of the recyclability class and recyclability rate of *Audited Packaging*. The Audit Report is valid for 3 years and is identified with a unique *Certification* code.

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7.2 CERTIFICATE

Certification Body issues a certificate to *Applicant* reporting the recyclability class and recyclability rate achieved by *Audited Packaging*. The certificate is valid for 3 years and is identified with the same *Certification* code as the Audit Report.

11. ANNEX I: DEFINITIONS

Applicant

Company applying for *Certification*.

Certification

Certification under this Audit Scheme.

Certification Body

RecyClass recognised third-party organisation accredited to perform the evaluation tasks detailed in the Audit Scheme and issue *Certification*.

Single packaging Certification

Certification of a *single packaging* under this Audit Scheme.

Equivalent packaging Certification

Certification of at least two *Equivalent Packaging* under this Audit Scheme.

Recyclability

Plastic must meet four conditions for a product to be considered recyclable:

1. The product must be made with a *plastic* that is collected for recycling, has market value and/or is supported by a legislatively mandated program.
2. The product must be sorted and aggregated into defined streams for *Recycling Process*.
3. The product can be processed and reclaimed/recycled with commercial *Recycling Process*.
4. The recycled *plastic* becomes a raw material that is used in the production of new products.

Plastic

Material consisting of a polymer as defined in point 5 of Article 3 of Regulation (EC) No 1907/2006, to which additives or other substances may have been added, and which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified.⁶

Packaging

Packaging shall mean all products made of any materials of any nature to be used for the containment, protection, handling, delivery, and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer [Packaging and Packaging Waste Directive].

Audited Packaging

Final *Plastic Packaging* as placed into the market under *Certification*.

Equivalent Packaging

Designates similar executions of *Packaging*, with the same compositions and features of the main certified *Packaging*, differing only in size, artworks, supplier, shape; the differences in the design do not impact the result of the audit.

Geographical Area

One or more countries, where the collection systems and the sorting and recycling infrastructures are verified, for the polymer stream of the *Packaging* under evaluation.

European Market

⁶ OJ L 155, 12.6.2019, p. 1–19

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The *Geographical Area of the Certification* is limited to EU 27+3 area, plus the following countries: Serbia, Bosnia and Herzegovina, Albania, North Macedonia, Montenegro, Andorra, Monaco, Liechtenstein, San Marino, Holy See.

Recycling

[art 3(17) OJ L 312 22.11.2008, p. 3-30]

Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

State-of-the-art Recycling Process

Known, relevant and industrially available recycling technologies for plastic materials, established and functioning at least in one country of *European Market*.

Closed-loop applications

Utilisation of the recycled *Plastic Packaging* back into its original application.

Cascade Open-Loop applications

Several cycles of utilization of the recycled *Plastic Packaging* in new *Plastic Packaging*.

12. ANNEX II. RECYCLABILITY RATING REQUIREMENTS

Table 1. Recyclability rating requirements

| CRITERION | ASSESSMENT | DOWNGRADING | SCORE PENALTY | |
|--|--|---|---|----------------------|
| 1. SUITABILITY | Packaging belongs to the plastic recycling stream and will not jeopardize the process. | Disqualification if: <ul style="list-style-type: none"> • Less than 50% plastic • Less than 50% plastic surface • Bio- or oxo-degradable additives • Aluminum layer > 5 µm • Carbon black surface | Class F | "0" factor |
| 2. PRE STREAM AVAILABILITY | Package with a PRE recycling stream in place, meaning that collection, sorting, and recycling are established and functioning at least in one European Country. PRE recognized recycling streams are: PET Bottles, PET Trays, PE Films, PP Films, HDPE Containers, PP Containers, HDPE and PP Crates & Pallets, PS Containers, EPS fish boxes and EPS white goods. | Disqualification if no collection or recycling stream established in Europe and recognized by PRE to recycle the packaging. | Class F | "0" factor |
| 2A. LOCAL COLLECTION | Packaging collected in the countries of interest, based on the auditor knowledge. | Disqualification if no collection system in place to collect the given packaging in the countries of interest. | Class F | "0" factor |
| 2B. LOCAL SORTING AND RECYCLING | Packaging sorted and recycled in the countries of interest, based on the auditor knowledge. | Disqualification if no available sorting or recycling infrastructure for the given packaging in the countries of interest. | Class F | "0" factor |
| 3. RECYCLABLE PLASTIC CONTENT | Packaging contains a minimal amount of recoverable and valuable plastic for the targeted recycling stream. | Downgrading according to the proportion of any non-recoverable materials. The factor "X" represents (if any) the % of non-plastic material non separable by consumers from the main packaging (e.g., plastic blister coupled with cardboard on one side). | <ul style="list-style-type: none"> • X ≤ 5%: class B • X ≤ 10%: class C • X ≤ 30%: class D • X ≥ 50%: class E | "X" factor to deduct |

| CRITERION | ASSESSMENT | DOWNGRADING | SCORE PENALTY | |
|--|--|--|--|---|
| 4. SORTABILITY | Packaging can be sorted into a polymer stream according to the most commonly used technologies in Europe. <i>Reference: Sorting Protocol</i> | Downgrading or disqualification based on the sorting efficiency evaluated on the base of big data or on the base of the results of testing with the "Sorting Protocol". "Π"-factor is used to penalize the rate. The Protocol must be applied in the cases mentioned in section 3.3. | Refer to the Sorting Protocol | Refer to the Sorting Protocol |
| 5A. DFR INCOMPATIBILITIES (REMOVABLE) | Package designed according to the Design for Recycling Guidelines. <i>Reference: Design for Recycling Guidelines</i> | Downgrading accounts for all the parts of packaging such as inks, adhesives, labels, sleeves, valves/seals, caps, etc. that will be separated by the recycling process and will not get recycled. | Strongest class penalty to apply for both criteria 5a and 5b. | "Y" factor to deduct (sum of all penalties) |
| 5B. DFR INCOMPATIBILITIES (NON-REMOVABLE) | Package designed according to the Design for Recycling Guidelines allowing for high quality recycled plastic. <i>Reference: Design for Recycling Guidelines</i> | Downgrading of parts of the packaging such as barriers, additives, printing, and all other non-detachable components which will not be separated during the recycling process and will be part of the final recycle. | | "V" factor to deduct (sum of all penalties) |
| 6. EASY-TO-EMPTY / EASY-TO-ACCESS INDEXES | Packaging easily accessible and emptied which minimises the contained residues in the recycling stream. | Downgrading if presence of product residues on the packaging is evaluated with "Z"-factor by applying the formula reported in section 2.3.3.3. Deductions will be applied in case of each 5 more points evaluated with the index. | <ul style="list-style-type: none"> • ETEi < 5: 0 class • ETEi < 10: -1 class • ETEi < 15: -2 classes • Etc. | <ul style="list-style-type: none"> • ETEi < 5: Z=0% • ETEi < 10: Z=10% • ETEi < 15: Z=20% • Etc. |
| 7. REACH COMPLIANCE | Packaging complies with REACH regulation. <i>Reference: The list of Substance of Very High Concerns (SVHCs)</i> | Any substances of very high concern added to the packaging would result in a downgrading of the recyclability results. | - 3 classes | - 45% |

13. ANNEX III: SORTABILITY

Packaging designed with a characteristic listed from a) to j) must present sortability test results based on the “RecyClass Sorting Evaluation Protocol” prior to *Certification* in order to determine its sorting efficiency.

- a) Small size: one of the three dimensions less than 50 mm, or size between 20x20 and 50x50 mm (compacted packaging);
- b) Large labels (taking up > 50% of the surface) made from a material other than the main packaging body.
- c) Full body sleeves;
- d) Perforated full body sleeves;
- e) Multi-layer structures;
- f) Metallization (excluding on the inside/in the middle layer);
- g) Non NIR detectable colors (also if applied as internal layers);
- h) Different types of plastic used on front and back sides;
- i) Different types of plastic (rigids and flexibles) used in the package (e.g., pouches) that may impact the separation between rigid and flexible packaging (ballistic separation step);
- j) Round shape, very rigid and hard to compact.

Sorting test evaluation activities must be carried out by a RecyClass recognised sorting facility. Score penalties as reported in Table 1 apply depending on the results obtained in the sorting test.

More information is available in the document “Sorting Evaluation Protocol”.

Table 1: Sorting Efficiency Results

| Sorting efficiency | Contamination in another mono-stream | Test Results | Score Penalties (classes) | Score Penalties (rate) |
|--------------------|--------------------------------------|--------------|---------------------------|------------------------|
| ≥ 80% | ≤ 10% | Pass | - | - |
| ≥ 80% | > 10% | Pass | -1 | -10% |
| 70-80% | ≤ 10% | Pass | -1 | -10% |
| 70-80% | > 10% | Pass | -2 | -30% |
| 50-70% | ≤ 10% | Pass | -2 | -30% |
| 50-70% | > 10% | Fail | -3 | -50% |
| 50-70% | > 20% | Fail | Disqualification | Disqualification |
| <50% | n.a. | Fail | Disqualification | Disqualification |

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