

# Recommendation for the implementation of the environmental labeling for packaging according to the decision 97/129/EC – focus industrial packaging

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## Introduction

Currently, the packaging policy of the European Union is characterized by implementing of EU Directives 2018/851<sup>i</sup> on waste and 2018/852<sup>ii</sup> on packaging and packaging waste into the national law of the respective member state. Consequently, while certain obligations are restricted to the territory of the respective member state, they should be applied to all packaging, also imported one. Several countries such as Italy, Portugal, Slovenia, Bulgaria, or Germany have already included the environmental labeling (packaging materials used) of all packaging placed on the market according to the Decision 97/129/EC<sup>iii</sup> in their national legislation (see Table 1). Other European countries may follow this example in the future.

Up to now at least the National Packaging Consortium CONAI<sup>iv</sup> in Italy has prepared a detailed guideline for the implementation of environmental labeling. With the current recommendation, the authors contribute to the practical implementation of environmental labeling based on Decision 97/129/EC.

All information given is non-binding and refers to industrial (B2B) packaging only. All recommendations are based on the current information on this subject.

*Table 1: Overview of country-specific legislation in the field of packaging labeling.*

| Country         | Legal basis  | Scope    | Entry into force | Implementing provision |
|-----------------|--|----------|------------------|------------------------|
| <b>Bulgaria</b> | Legislative Decree No. 271 of 30 October 2012 (Article 5), amended by Legislative Decree No. 420 of 31 December 2020 <sup>v</sup>                  | B2B, B2C | 1 January 2022   | mandatory              |
| <b>Germany</b>  | Packaging Act of 5 July 2017 (Article 6), amended by the Act of 22 September 2021 (BGBl. I S. 4363) <sup>vi</sup>                                  | B2B, B2C | 3 July 2021      | voluntary              |
| <b>Italy</b>    | Legislative Decree No. 116 of 3 September 2020 (Article 5), amended by the Law No. 15 of 25 February 2022 <sup>vii</sup>                           | B2B, B2C | 1 January 2023   | mandatory              |
| <b>Portugal</b> | Legislative Decree No. 152-D/2017 of 11 December 2017 (Article 28, 3), amended by Legislative Decree No. 52/2021 of 10 August 2021 <sup>viii</sup> | B2B, B2C | 10 August 2021   | voluntary              |
| <b>Slovenia</b> | Legislative Decree No. 84/06 of 8 August 2006 (Article 9), amended by Legislative Decree 208/21 of 30 April 2021 <sup>ix</sup>                     | B2B, B2C | 1 January 2022   | voluntary              |

## Technical design of the environmental label

Decision 97/129/EC provides indication of the packaging material using its abbreviation bundled with a numeric code. However, Decision 97/129/EC does not specify the font size. The font size can be chosen freely, but appropriate to the packaging size. According to the Federal Institute for Materials Research<sup>x</sup>, there is no specification for the distance between the UN code and the environmental label. However, it should be ensured that two different labels can be easily distinguished from each other.

## Use of other symbols

The present practical recommendation is based on Decision 97/129/EC. When fulfilling the environmental labeling obligation of Italy, it is also permissible to use the European standard CEN CR 14311:2002 (Recommendation for the implementation of Directive 94/62/EC) combining the alphanumeric code with an arrow triangle.

## Labeling communication

### ● Internally

Environmental labeling excludes packaging already placed on the market or pre-labeled one. All existing packaging stocks can and should be used up.

#### ○ Requirements for packaging suppliers

During the ordering process of new packaging, it is recommended to include the following note in the ordering documents: 'Environmental labeling according to Decision 97/129/EC (e.g., FE 40, PAP 20, LDPE 4)'.

### ● Externally

#### ○ Italy

In case environmental labeling on transport packaging is not possible for any reason, CONAI-Shared responsibility checklist recommends meeting an agreement with your customer. For example, the mandatory information could be transmitted via digital channels, data sheets, or transport documents.

#### ○ Other EU countries

No information available

## External controls

- ◆ **Italy**

Individual provinces in Italy are authorized to control and impose sanctions. While no official information on control specifications is present, the National Packaging Consortium CONAI suggesting each province will provide spot controls and according to indications received from third parties. Violation of Legislative Decree No. 116 is punishable by a fine of between 5,200 and 40,000 EUR<sup>xi</sup>.

- ◆ **Other EU countries**

No information available

**In the following, the details on environmental labeling for certain packaging materials according to Decision 97/129/EC will be discussed.**

## Plastic packaging

Table 2: Environmental labeling of plastic and polymer packaging.

| Packaging material                      | Material abbreviation                     | Numeric code* | Implementing provision | Labeling example |
|---|---|---------------|------------------------|------------------|
| Polyethylene terephthalate              | PET                                       | 1             | mandatory              | PET 1            |
| High density polyethylene               | HDPE                                      | 2             |                        | HDPE 2           |
| Polyvinyl chloride                      | PVC                                       | 3             |                        | PVC 3            |
| Low density polyethylene                | LDPE                                      | 4             |                        | LDPE 4           |
| Polypropylene                           | PP  | 5             |                        | PP 5             |
| Polystyrene                             | PS  | 6             |                        | PS 6             |
| Polyamide                               | PA  | 7             | voluntary              | PA 7             |
| Cellophane                              | Cellophane                                | 7             |                        | Cellophane 7     |
| Various polymers, multilayer material** | Composition of abbreviations if available | 7             |                        | >LDPE+PP< 7      |

\* two characters-marking as 01-07 is possible

\*\* referred to the multilayer material of a package heavier than 25 g or larger than 200 mm<sup>2</sup>: Polymers abbreviations are placed between the characters ">" and "<" and separated with the character "+"

### ● Italy

Plastic polymers not listed in Decision 97/129/EC can be abbreviate according to ISO standard 1043-1:2011 or to Italian UNI standard 10667-1.

### ● Other EU countries

No information available

## Packaging made of any other material, exc. plastic

Table 3: Environmental labeling of packaging made of metal.

| Material                   | Material abbreviation | Numeric code | Labeling example |
|----------------------------|-----------------------|--------------|------------------|
| Steel                      | FE                    | 40           | FE 40            |
| Aluminum                   | ALU                   | 41           | ALU 41           |
| Neither steel nor aluminum | (empty)               | 42           | 42               |

Table 4: Environmental labeling of paper packaging.

| Material  | Grammage, [g/m <sup>2</sup> ] | Material abbreviation | Numeric code | Labeling example |
|---|-------------------------------|-----------------------|--------------|------------------|
| Products with corrugation as corrugated board   | over 250 g/m <sup>2</sup>     | PAP                   | 20           | PAP 20           |
| Products without corrugation as other cardboard | over 250 g/m <sup>2</sup>     | PAP                   | 21           | PAP 21           |
| Paper   | up to 250 g/m <sup>2</sup>    | PAP                   | 22           | PAP 22           |

Table 5: Environmental labeling of packaging made of wood.

| Material | Material abbreviation | Numeric code | Labeling example |
|----------|-----------------------|--------------|------------------|
| Wood     | FOR                   | 50           | FOR 50           |
| Cork     | FOR                   | 51           | FOR 51           |

Table 6: Environmental labeling of glass packaging.

| Material                | Material abbreviation | Numeric code | Labeling example |
|-------------------------|-----------------------|--------------|------------------|
| Colorless glass         | GL                    | 70           | GL 70            |
| Green glass             | GL                    | 71           | GL 71            |
| Brown glass             | GL                    | 72           | GL 72            |
| Different colored glass | GL                    | 73           | GL 73            |

Table 7: Environmental labeling of packaging made of textiles.

| Material               | Material abbreviation | Numeric code | Labeling example |
|------------------------|-----------------------|--------------|------------------|
| Cotton                 | TEX                   | 60           | TEX 60           |
| Jute                   | TEX                   | 61           | TEX 61           |
| Other textile material | TEX                   | 62           | TEX 62           |

## Special case: Composite packaging

Composite packaging, as defined in Decision 97/129/EC, is composed of different materials which components cannot be separated manually. For such packaging, the so-called 5% rule is to be applied (cf. Implementing Decision 2019/665<sup>xiii</sup>). Thus, the environmental labeling should be applied to all materials above 5% of the total packaging weight.

- IF  
Fraction mass,  $w_{main\ packaging\ material} \geq 95\%$   
THEN  
Labeling of the main packaging material
  
- IF  
 $w_{secondary\ material} > 5\%$   
THEN  
Labeling of the main packaging material and the secondary composite material
  
- IF  
 $w_{main\ packaging\ material} = x\%$ ,  $w_{secondary\ composite\ 1} > 5\%$ ,  $w_{secondary\ composite\ 2} \leq 5\%$   
THEN  
Labeling of the main packaging material and the secondary composite 1



Table 8: Environmental labeling of composite packaging (secondary material > 5%).

| Material   | Material abbreviation | Numeric code | Labeling example |
|--|-----------------------|--------------|------------------|
| Paper and cardboard + various metals                 | C/main component      | 80           | C/PAP 80         |
| Paper and cardboard + plastic                        |                       | 81           | C/PAP 81         |
| Paper and cardboard + aluminum                       |                       | 82           | C/ALU 82         |
| Paper and cardboard + tinplate                       |                       | 83           | C/PAP 83         |
| Paper and cardboard + plastic + aluminum             |                       | 84           | C/PAP 84         |
| Paper and cardboard + plastic* + aluminum + tinplate |                       | 85           | C/PP 85          |
| Plastic* + aluminum                                  |                       | 90           | C/PP 90          |
| Plastic* + tinplate                                  |                       | 91           | C/PP 91          |
| Plastic* + various metals                            |                       | 92           | C/PP 92          |
| Glass + plastic                                      |                       | 95           | C/GL 95          |
| Glass + aluminum                                     |                       | 96           | C/GL 96          |
| Glass + tinplate                                     |                       | 97           | C/GL 97          |
| Glass + various metals                               |                       | 98           | C/GL 98          |

\* Polypropylene as the main component

## Handling of non-packaging material

Such auxiliary or additional packaging materials as labels, adhesives, ink, ceramic, rubber, etc. should be treated as consisting of a single material and do not obligate labeling.

### Example:

- packaging material: HDPE
  - auxiliary material: Adhesive
  - additional material: Ink, label (even if > 5%)
- ➔ **Labeling:** HDPE 2

## Labeling examples

Table 9: Environmental labeling for common industrial packaging.

| Industrial packaging (incl. parts) | Options                    | Environmental label   |
|------------------------------------|----------------------------|-----------------------|
| Paper bag                          | Paper (film content < 5 %) | PAP 22                |
|                                    | Paper, LDPE (> 5 %)        | C/PAP 81              |
|                                    | Paper, LDPE, Aluminum      | C/PAP 84              |
| Foil sack                          | LDPE                       | LDPE 4                |
|                                    | LDPE, Aluminum, LDPE       | C/LDPE 90             |
|                                    | LDPE, Aluminum, PET        | C/LDPE 90             |
|                                    | PP, Aluminum, PP           | C/PP 90               |
| Foil / Films / Hoods               | Stretch films (LDPE, EVA)  | >LDPE + EVA< 7        |
|                                    | Shrink films (LDPE)        | LDPE 4                |
| Drum                               | Steel drum                 | FE 40                 |
|                                    | Combi drum                 | FE 40, HDPE 2         |
|                                    | HDPE drum                  | HDPE 2                |
| Canister                           | Steel canister             | FE 40                 |
|                                    | HDPE canister              | HDPE 2                |
| Bottle                             | Aluminum bottle            | ALU 41                |
|                                    | PET bottle                 | PET 1                 |
|                                    | HDPE bottle                | HDPE 2                |
|                                    | HDPE/EVOH bottle           | >HDPE + EVOH< 7       |
|                                    | HDPE/PA bottle             | >HDPE + PA< 7         |
| Tube                               | HDPE                       | HDPE 2                |
|                                    | Aluminum                   | ALU 41                |
| Cartridge                          | HDPE                       | HDPE 2                |
| Cap                                | HDPE                       | HDPE 2                |
| F-IBC                              | PP                         | PP 5                  |
|                                    | PP, LDPE                   | PP 5, LDPE 4          |
|                                    | PP, LDPE, Aluminum         | PP 5, C/LDPE 90       |
| Combination IBC                    | Steel, HDPE                | FE 40, PE 2           |
|                                    | Steel, HDPE, Wood          | FE 40, HDPE 2, FOR 50 |

| Industrial packaging<br>(incl. parts) | Options                    | Environmental label |
|---------------------------------------|----------------------------|---------------------|
| Corrugated IBC                        | Corrugated board           | PAP 20              |
| Octa-bin                              | Corrugated board           | PAP 20              |
| Fiber drum                            | Paper                      | PAP 21              |
|                                       | All fiber                  | PAP 21              |
|                                       | Paper, steel ring          | C/PAP 80            |
|                                       | Paper, steel ring, plastic | C/PAP 80, HDPE 2    |
|                                       | Expanded PS                | PS 6                |
| Corrugated folding box                | Corrugated board           | PAP 20              |
| Box / case                            | Multiwall PP               | PP 5                |
| Pallet                                | Wood                       | FOR 50              |
|                                       | Cardboard                  | PAP 20              |
|                                       | Aluminum                   | ALU 41              |
|                                       | Stainless steel            | FE 40               |
|                                       | HDPE                       | HDPE 2              |
|                                       | PPC                        | C/HDPE 92           |
| Cork packaging                        | Cork                       | FOR 51              |
| Glass                                 | Colorless glass            | GL 70               |
|                                       | Brown glass                | GL 72               |
| Composite                             | Paper/Cardboard, Plastic   | C/PAP 81            |
| Cutting                               | Corrugated cardboard       | PAP 20              |
|                                       | Plastic film               | LDPE 4              |
|                                       | EPS                        | PS 6                |
| Edge protection                       | Paper                      | PAP 21              |

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<sup>i</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2018.150.01.0109.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.150.01.0109.01.ENG)

<sup>ii</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018L0852&qid=1645781625541>

<sup>iii</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31997D0129&qid=1645781657395>

<sup>iv</sup> <https://www.conai.org/en/>

<sup>v</sup> <https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?idMat=154886>

<sup>vi</sup> <http://www.gesetze-im-internet.de/verpackg/>

<sup>vii</sup> <https://www.normattiva.it/atto/caricaDettaglioAtto?atto.dataPubblicazioneGazzetta=2022-02-28&atto.codice-Redazionale=22G00022&atto.articolo.numero=0&atto.articolo.sottoArticolo=1&atto.articolo.sottoArticolo1=10&qId=0492fc73-8199-42c3-8081-25f723db08ef>

<sup>viii</sup> <https://dre.pt/dre/detalhe/lei/52-2021-169360995>

<sup>ix</sup> <http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED8057>

<sup>x</sup> Personal communication, 10 December 2021, 10:57

<sup>xi</sup> Legislative Decree No. 116, Article 261 (3)

<sup>xii</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019D0665>