



# SLOVENSKI STANDARD

## oSIST prEN 17545:2020

01-september-2020

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### Papir, karton in lepenka - Določevanje sestave papirja, kartona in lepenke za recikliranje z gravimetrično analizo

Paper and board - Determination of Composition of Paper and Board for Recycling by gravimetric analysis

Papier und Papp - Bestimmung der Zusammensetzung von Altpapier

Papiers et cartons - Détermination de la composition des papiers et cartons pour recyclage par analyse gravimétrique

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13.030.50	Recikliranje	Recycling
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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 17545**

July 2020

ICS 85.060

English Version

## Paper and board - Determination of Composition of Paper and Board for Recycling by gravimetric analysis

Papiers et cartons - Détermination de la composition  
des papiers et cartons pour recyclage par analyse  
gravimétrique

Papier und Pappe - Bestimmung der  
Zusammensetzung von Altpapier

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 172.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (prEN 17545:2020) has been prepared by Technical Committee CEN/TC 172 “Pulp, paper and board”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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**prEN 17545:2020 (E)****Introduction**

Paper and board for recycling (PFR) is a valuable, widely traded commodity, recovered raw material traded in Global markets. In Europe, the recognized grades of paper and board for recycling are defined in EN 643, which generally describes paper and board for recycling based on their point of origin or principal components.

For inspection, quality control or compliance purposes, the material should be analysed and the components should be identified and quantified. Results of this analysis determine if that material can be considered as Paper and Board for Recycling as defined in EN 643 or any other agreed standard, including those defined in specific buyer/seller agreements.

The procedures defined in this document do not exclude the use of other methods of measurement if it has been proven that the results are in robust correlation with those obtained using this standard procedure.

This document is not specifically intended for routine monitoring of processes or quality, but the procedures described may be used to form the basis of an agreement between supplier and buyer to define the characteristics of material supplied.

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## 1 Scope

This document describes a procedure to gravimetrically determine the physical composition of paper and board for recycling by manually separating/sorting the individual components (including any unwanted materials) and determining the relative masses.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 17085:2019, *Paper and board - Sampling procedures for paper and board for recycling*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1 composition

relative quantities of identifiable materials, including but not limited to recognised sources of fibre, of any unwanted materials and any prohibited materials present within a sample taken from a load of paper and board for recycling

### 3.2 gravimetric analysis

quantitative determination of a component based on its mass

Note 1 to entry: The results are typically expressed as the mass of the material being considered as a percentage of the bulk mass.

## 4 Principle

A sample of paper and board for recycling is manually separated into different fractions, defined by the purpose of the examination. The different fractions are then weighed and the composition is expressed as the relative weight of each fraction.

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**prEN 17545:2020 (E)****5 Equipment and auxiliaries**

The analysis shall be carried out in a clean, dry, well-illuminated separated and/or covered area of appropriate size:

- The containers for sampling shall be clean, dry and sealable.
- The bins for separating different fractions of material shall be appropriately sized, clean and dry.

Calibrated weighing equipment, with a capacity and a resolution sufficient enough to weigh to an accuracy of 0,1 % of the component to be weighed, shall be used.

**6 Procedure****6.1 Sampling**

Sampling should be carried out in accordance with EN 17085:2019.

**6.2 Composition of paper and board for recycling**

The degree of detail required in this analysis is determined by the purpose of the analysis to provide the expected information. In the case of a contractual agreement, the degree of detail required in this analysis is determined by those parties with an interest in the results.

In the absence of any confirmed agreement on the degree of detail, this default determination should be carried out to a level sufficient to demonstrate compliance with the target specification as described in an appropriate standard (for example EN 643).

The minimum requirement is to divide the sample into accepted paper, non-paper components, other unwanted materials and prohibited materials.

It is up to the discretion of the user of this method to decide upon the degree of further detail provided.

Examples of determination of composition are given in Annexes A, B and C.

- Annex A describes a typical 'Board Grade'
- Annex B describes a typical 'Printers Grade'
- Annex C describes a typical 'Graphic Grade'

**6.3 Assessment of the various components**

The sample is subsequently divided according to the various components and applicable allocation criteria as described in 6.2. Finally, the individual fractions are being weighted. The final results are expressed as percentages related to the total sample weight.

$$\text{Percentage of Fraction Present (\%)} = \left( \text{weight of fraction} \div \text{total sample weight} \right) \times 100$$

Beyond the determination of the composition, other observations like moisture content, age, odour, mould, rotting, charred fibres, dusting or the occurrence of dangerous waste should be noted in the report.



## 7 Test report

The test report shall include the following information:

- a) reference to this document (i.e. EN 17545);
- b) the date and place of testing;
- c) the name of the person responsible for conducting this analysis;
- d) all information necessary for complete identification of the sample or the sampling report as specified in EN 17085:2019;
- e) results expressed as a percentage related to the total sample weight, to a degree of detail commensurate with the aim of the analysis as well as the observations made according to 6.3;
- f) all circumstances of such nature as to influence the results of subsequent tests.

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## Annex A (informative)

### Example of determination for a Board grade

**Table A.1 — Example of an old corrugated cardboard (OCC) grade**

Group	Element of composition	Tolerance (where specified)	Kg in sample	Percentage
<b>Paper components</b>	Corrugated Board			
	Other Packaging Paper and Board, covering Food carton			
	Graphic Paper			
	Beverage carton			
	Cores			
	Kraft Sacks			
	Plastic (such as PE) or Wax Coated Paper and Board			
	Others...			
<b>Non-paper components</b>	Metals			
	Plastics			
	Glass			
	Textiles			
	Wood			
	Sand and Building materials			
	Synthetic			
	Others...			
<b>Prohibited materials</b>	Medical and/or Chemical waste			
	Bitumen			
	Toxic Powders			
	Contaminated Hygiene Products			
	Organic Waste incl. Foodstuffs			
<b>Other observations</b>	f.i. Rotten or Charred paper, Odours, etc.			
NOTE This grade is not a specific EN 643 grade.				

**Weight sample: ... kg**