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Contents

Page

Foreword ..... **iv**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Recycled material content **2**
4.1 Indication of the recycled material content 2
4.2 Classification of the recycled material content 2
4.3 Formulae for calculating the recycled material content, *R* 3

5 Raw materials **5**
5.1 Traceability of raw materials 5
5.2 Woody raw materials 5
5.3 Plastic raw materials 5
5.4 Other raw materials 5

6 Raw material proportions **5**
6.1 Proportion (mass fraction) of woody raw materials 5
6.2 Proportion (mass fraction) of plastic raw materials 6

7 Classification **6**

8 Health and safety requirements for materials **6**

9 Test methods **7**
9.1 Sampling of test pieces 7
9.2 Appearance 7
9.3 Health and safety tests 8
9.3.1 Formaldehyde emissions test 8
9.3.2 Toxic substance elution test 8

10 Labelling **8**

11 Reports **9**

Annex A (normative) **Classification of woody and plastic raw materials accepted as recycled materials** **10**

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, SC 11, *Products*.

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Plastics — Wood-plastic recycled composites (WPRC) — Specification

1 Scope

This document specifies the types and proportions of raw materials to be used for wood-plastic recycled composites (hereafter referred to as WPRC). It also specifies the health and safety requirements for WPRC and the methods to test these properties.

This document is applicable to WPRC which are primarily used as building materials.

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.

ISO 472, *Plastics — Vocabulary*

ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 12460-4, *Wood-based panels — Determination of formaldehyde release — Part 4: Desiccator method*

ISO 12846, *Water quality — Determination of mercury — Method using atomic absorption spectrometry (AAS) with and without enrichment*

ISO 13061-1, *Physical and mechanical properties of wood — Test methods for small clear wood specimens — Part 1: Determination of moisture content for physical and mechanical tests*

ISO 16000-9, *Indoor air — Part 9: Determination of the emission of volatile organic compounds from building products and furnishing — Emission test chamber method*

ISO 17294-2, *Water quality — Application of inductively coupled plasma mass spectrometry (ICP-MS) — Part 2: Determination of selected elements including uranium isotopes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 and the following apply.

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

— IEC Electropedia: available at http://www.electropedia.org/

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

3.1
wood-plastic recycled composite
WPRC
mixture of woody material/natural fibre and thermoplastics, composited by means of plastic moulding and containing *recycled material* (3.2) as raw material forming at least 40 % of the total composite mass

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3.2
recycled material
woody raw material (3.4), recycled plastic raw material, or other recyclable material that is disposed of as waste, which can be used as a raw material of *wood-plastic recycled composite* (3.1)

3.3
virgin material
plastics and other material in the form of pellets, granules, powder, floc, etc., that has not been subjected to use or processing other than that required for its initial manufacture

3.4
woody raw material
plant-derived virgin woody or herb-based material, or plant-derived secondary product to which some processing such as selection, crushing, or grinding has been applied, or woody material included in a WPRC for re-use, that is used as a raw material of *wood-plastic recycled composite* (3.1)

Note 1 to entry: Woody raw material does not include plant-derived plastic materials nor ashes of burned plant-derived materials.

3.5
other raw material
raw material used in *wood-plastic recycled composite* (3.1) other than *woody raw material* (3.4) and plastic raw material

3.6
non-foaming material
wood-plastic recycled composite (3.1) that does not contain internal air voids

3.7
cellular material
wood-plastic recycled composite (3.1) containing internal air voids scattered primarily for the purpose of weight reduction

Note 1 to entry: Cellular material can include material integrated with a non-foaming material using methods such as multilayer moulding.

4 Recycled material content

4.1 Indication of the recycled material content

The recycled material content of WPRC is defined as the ratio of the mass of the recycled materials used to the total mass of material, and shall be indicated as a percentage.

The numerical value of the recycled material content shall be rounded off to the nearest integer.

4.2 Classification of the recycled material content

The classification of recycled material content of WPRC and symbols used to indicate the classification shall be as listed in Table 1.

Table 1 — Classification and symbols of recycled material content

Content classification	Symbol
≥40 %	R40
≥50 %	R50
≥60 %	R60

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