

INTERNATIONAL
STANDARD

ISO
16893

First edition
2016-01-15

Corrected version
2016-03-15

Wood-based panels — Particleboard

Panneaux à base de bois — Panneaux de particules

当山并检验检测研究院
内部收藏



Reference number
ISO 16893:2016(E)

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	2
3.1 Terms and definitions.....	2
3.2 Abbreviated terms.....	2
4 Classifications	2
4.1 Classification matrices.....	2
4.2 Uses.....	3
4.3 Additional classifications.....	3
4.4 Structural grades.....	4
5 Tests related to each class of particleboard	4
5.1 Mandatory tests.....	4
5.2 Optional tests.....	4
6 Thickness ranges	5
7 Expression of specification limits and general requirements	5
7.1 Expression of specification limits.....	5
7.2 Lower specification limits.....	5
7.3 Upper specification limits.....	6
7.4 Moisture resistance requirement options.....	6
7.5 Density variation, dimension and moisture content requirements.....	6
7.6 Formaldehyde requirements.....	6
7.7 Load bearing particleboard.....	7
8 Specific property requirements	7
8.1 Requirements for general purpose particleboard for use in dry conditions (P-GP REG).....	7
8.2 Requirements for furniture grade particleboard for use in dry conditions (P-FN REG).....	8
8.3 Requirements for load bearing particleboard for use in dry conditions (P-LB REG).....	8
8.4 Requirements for heavy-duty load bearing particleboard for use in dry conditions (P-HLB REG).....	9
8.5 Requirements for general purpose particleboard for use in temperate humid conditions (P-GP MR1).....	9
8.6 Requirements for furniture grade particleboard for use in temperate humid conditions (P-FN MR1).....	10
8.7 Requirements for load bearing particleboard for use in temperate humid conditions (P-LB MR1).....	11
8.8 Requirements for heavy-duty load bearing particleboard for use in temperate humid conditions (P-HLB MR1).....	12
8.9 Requirements for general purpose particleboard for use in high tropical humid conditions (P-GP MR2).....	13
8.10 Requirements for furniture grade particleboard for use in high tropical humid conditions (P-FN MR2).....	14
8.11 Requirements for load bearing particleboard for use in tropical humid conditions (P-LB MR2).....	15
8.12 Requirements for heavy-duty load bearing particleboard for use in high tropical humid conditions (P-HLB MR2).....	16
9 Marking	16
Annex A (normative) Calculation of 5-percentile and 95-percentile values	17

be completed. The other tests are designated production control methods because one test may be completed within 24 h. Each individual panel result shall comply with the specification limits stated in [Table 4](#) for the selected method.

Table 4 — Maximum limits of formaldehyde emission/content

Property	Method ^a	Unit	Requirement
Emission	ISO 12460-1	mg/m ³	0,124
Emission	ISO 12460-3	mg/m ² /h	3,5
Emission	ISO 12460-4	mg/L	0,7
Content	ISO 12460-5	mg/100 g	8,0

NOTE 1 National regulations may impose restrictions on the use of panels of particular formaldehyde emission levels.

NOTE 2 If any other method is used for production control, correlations should be established with the reference chamber method to determine the emission value that is equivalent to the chamber method limit value stated in this table. Correlations may be regional, national, company or plant specific as appropriate.

7.7 Load bearing particleboard

When particleboard is classified P-LB or P-HLB and nominated for load bearing applications, the characteristic strength and stiffness values shall be established based upon testing in accordance with ISO 16572 or equivalent ASTM or EN standards. Alternatively, for specific load bearing applications (e.g. walls, roofs, floors, joist webs), the load bearing particleboard shall meet the specific performance requirements for that intended application.

8 Specific property requirements

8.1 Requirements for general purpose particleboard for use in dry conditions (P-GP REG)

The requirements for P-GP REG particleboard are listed in [Table 5](#).

Table 5 — Requirements for P-GP REG particleboard

Property	Test method	Units	Requirement								
			Thickness ranges mm, nominal								
			≤3	>3 to ≤4	>4 to ≤6	>6 to ≤13	>13 to ≤20	>20 to ≤25	>25 to ≤32	>32 to ≤40	>40
Bending strength (MOR)	ISO 16978	MPa	11,5	11,5	11,5	10,5	10,0	9,5	8,5	7,0	5,5
Internal bond strength	ISO 16984	MPa	0,31	0,31	0,31	0,28	0,24	0,20	0,17	0,14	0,14