



BSI Standards Publication

Laminated pressboard for electrical purposes

Part 3: Specifications for individual materials — Sheet 1: Requirements for laminated precompressed pressboard, Types LB 3.1A.1 and LB3.1A.2

National foreword

This British Standard is the UK implementation of EN 60763-3-1:2011. It is identical to IEC 60763-3-1:2010. It supersedes BS EN 60763-3-1:1996, which will be withdrawn on 2 January 2014.

The UK participation in its preparation was entrusted by Technical Committee GEL/15, Solid electrical insulating materials, to Subcommittee GEL/15/9, Cellulosic materials.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments issued since publication

Amd. No.	Date	Text affected
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English version

**Laminated pressboard for electrical purposes -
 Part 3: Specifications for individual materials -
 Sheet 1: Requirements for laminated precompressed pressboard, Types
 LB 3.1A.1 and LB3.1A.2
 (IEC 60763-3-1:2010)**

Cartons comprimés et contrecollés à usages électriques -
 Partie 3: Spécifications pour matériaux particuliers -
 Feuille 1: Exigences relatives aux cartons précomprimés contrecollés, Types LB 3.1A.1 et 3.1A.2
 (CEI 60763-3-1:2010)

Blockspan für elektrotechnische Anwendungen -
 Teil 3: Bestimmungen für einzelne Werkstoffe -
 Blatt 1: Anforderungen für heißgepressten Blockspan, Typen LB 3.1A.1 und LB 3.1A.2
 (IEC 60763-3-1:2010)

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
 Comité Européen de Normalisation Electrotechnique
 Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 15/537/CDV, future edition 2 of IEC 60763-3-1, prepared by IEC TC 15, Solid electrical insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60763-3-1 on 2011-01-02.

This European Standard supersedes EN 60763-3-1:1996.

The main changes with respect to EN 60763-3-1:1996 are listed below:

- requirements for the new properties in Part 2 have been integrated;
- specifications for type LB3.3.1 and LB3.3.2 have been deleted.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2011-10-02 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2014-01-02 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60763-3-1:2010 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60763-1	2010	Laminated pressboard for electrical purposes - Part 1: Definitions, classification and general requirements	EN 60763-1	2011
IEC 60763-2	2007	Specification for laminated pressboard - Part 2: Methods of test	EN 60763-2	2007

LAMINATED PRESSBOARD FOR ELECTRICAL PURPOSES –

Part 3: Specifications for individual materials – Sheet 1: Requirements for laminated precompressed pressboard, Types LB3.1A.1 and LB3.1A.2

1 Scope

This sheet of IEC 60763-3 gives the requirements for laminated precompressed boards comprised of 100 % sulphate wood pulp.

Materials which conform to this specification meet established levels of performance. However, the selection of a material by a user for a specific application should be based on the actual requirements necessary for adequate performance in that application and not based on this specification alone.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60763-1:2010, *Laminated pressboard for electrical purposes – Part 1: Definitions, classification and general requirements*

IEC 60763-2:2007, *Specification for laminated pressboard – Part 2: Methods of test*

3 Designation

LB3.1A.1 – laminated precompressed board made from 100 % sulphate wood pulp, bonded with a casein-type glue.

LB3.1A.2 – laminated precompressed board made from 100 % sulphate wood pulp, bonded with a non-aqueous resin.

4 General requirements

Materials shall conform to the general requirements given in IEC 60763-1 and to the specific requirements of the appropriate type given in Table 1 of this sheet when tested according to the methods stipulated in IEC 60763-2.

Table 1 – Specific requirements with regard to the appropriate type of board

Bonding agent				LB3.1A.1	LB3.1A.2	
Property	Test method (clause or subclause of IEC 60763-2)	Unit	Max. or Min.	Casein	Non-aqueous	
Thickness deviation	5.1	≤ 12 mm	Max.	5	5	
		> 12mm	Max.	4	4	
Flatness 500 mm	5.1.4	< 20 mm	Max.	5	4	
		20 to 50 mm		3	2	
		> 50 mm		2	1	
Flexural strength	6.1	MPa MPa	Min. Min.	100 80	110 90	
Compressibility :	7.1	% %	Max. Min.	3.5	3	
C _{rev}				65	70	
Electric strength in oil Parallel to layers	8	kV/mm	Min.	8	8	
Internal ply strength	9	MPa % % %	Min. Min. Min. Min.	80	90	
				Dried, tested at 23 °C	60	60
				Dried, tested at 120 °C, retention	80	80
				Oil impregnated, tested at 23 °C, retention	90	80
Aged for 1 week at 120 °C in oil, tested at 23 °C retention						
Apparent density	10	g/cm ³	Range	1,15 – 1,3	1,15 – 1,35	
Moisture content	11	%	Max.	8	5	
Shrinkage:	12	% % %	Max. Max. Max.	0,5	0,4	
MD				0,7	0,6	
CMD				6	4	
Thickness	13	% %	Min. Min.	6	5	
Oil absorption						
Ash content	14	%		To be agreed between supplier and purchaser		
Contamination of dielectric liquids	15	mg KOH/g mg/l	± Max. ±	0,08	0,05	
				Neutralisation value	500	500
				Sludge content	0,005	0,005
Dissipation factor	16	mS/m	Max. Range	15	10	
				Conductivity of aqueous extract		
pH of aqueous extract	17			6 - 10	5 - 8	

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