BRITISH STANDARD

BS EN
50363-4-2:2005

Insulating, sheathing and covering materials for low voltage energy cables —

Part 4-2: PVC covering compounds

The European Standard EN 50363-4-2:2005 has the status of a British Standard

ICS 29.035.20

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 50363-4-2:2005.

The UK participation in its preparation was entrusted by Technical Committee GEL/20, Electric cables, to Subcommittee GEL/20/17, LV cables, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 6, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 3 February 2006

ISBN 0 580 47394 5

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50363-4-2

November 2005

ICS 29.035.20

English version

Insulating, sheathing and covering materials for low voltage energy cables Part 4-2: PVC covering compounds

Matériaux pour enveloppe isolante, gainage et revêtement pour les câbles d'énergie basse tension
Partie 4-2: Mélanges PVC pour revêtement

Isolier-, Mantel- und Umhüllungswerkstoffe für Niederspannungskabel und -leitungen
Teil 4-2: PVC-Umhüllungsmischungen

This European Standard was approved by CENELEC on 2005-11-01. CENELEC 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 50363-4-2:2005 E

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 20, Electric cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50363-4-2 on 2005-11-01.

EN 50363 (in all its parts) supersedes the equivalent information at present in HD 21.1 S4, HD 21.14 S1, HD 22.1 S4, HD 22.10 S1, HD 22.14 S2 and prHD 21.15 S1. The existing information in these HDs will be deleted at the next maintenance review.

EN 50363-4-2 should be read in conjunction with EN 50363-0.

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)	2006-11-01
–	latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-11-01

Contents

1 Scope

This part of EN 50363 specifies the requirements for the physical properties of the PVC covering compound given in Table 1. The relevant test methods are given in EN 60811 series.

NOTE This part of EN 50363 is to be read in conjunction with EN 50363-0.

Table 1 – Type of PVC covering compound

Type	Maximum cable operating temperature °C	General application
TM 6	70	Covering, for example for cold-resistant cables to EN 61138

2 Normative references

For the purposes of this part of EN 50363, the requirements of EN 50363-0, Clause 2, apply with regard to normative references.

3 Definitions

For the purposes of this part of EN 50363, the definitions given in EN 50363-0, Clause 3, apply.

4 Properties

Each compound shall meet the particular requirements listed in Table 2, when using the test methods referenced in columns 4 and 5.

NOTE For cross-references to the latest editions of the test method standards see Table 2 of EN 50363-0.

Table 2 – Requirements for the tests for PVC covering compounds

1	2	3	4	5	6
Ref No	**Test [a]**	**Unit**	**Test method described in EN 60811 [b]**		**Type of compound**
			Section	**Clause**	**TM 6**
1	**Mechanical properties**				
1.1	Properties before ageing		1-1	9.2	
1.1.1	Values to be obtained for the tensile strength:				
	- median, min.	N/mm²			7,5
1.1.2	Values to be obtained for the elongation at break:				
	- median, min.	%			125
1.2	Properties after ageing in air oven		1-2	8.1	
1.2.1	Ageing conditions:				
	- temperature	°C			80 ± 2
	- duration of treatment	h			7 x 24
1.2.2	Value to be obtained for the tensile strength:				
	- median, min.	N/mm²			7,5
	- variation, max.	%			± 20
1.2.3	Values to be obtained for the elongation at break:				
	- median, min.	%			125
	- variation, max.	%			± 20
2	**Loss of mass test**		3-2	8.2	
2.1	Ageing conditions:				
	- temperature	°C			80 ± 2
	- duration of treatment	h			7 x 24
2.2	Values to be obtained for the loss of mass, max.	mg/cm²			2,0
3	**Heat shock test**		3-1	9.2	
3.1	Test conditions:				
	- temperature	°C			150 ± 2
	- duration of treatment	h			1,0
3.2	Result to be obtained				[c]

Table 2 – Requirements for the tests for PVC covering compounds *(continued)*

1	2	3	4	5	6
Ref No	**Test** [a]	**Unit**	**Test method described in EN 60811** [b]		**Type of compound**
			Section	**Clause**	**TM 6**
4	**Pressure test at high temperature**		3-1	8.2	
4.1	Test conditions:				
	- force exerted by the blade	N	3-1	8.2.4	[d]
	- duration of heating under load	h	3-1	8.2.5	[d]
	- temperature	°C			70 ± 2
4.2	Result to be obtained:				
	- median of the depth of indentation, maximum	%			50
5	**Bending test at low temperature**		1-4	8.2	
5.1	Test conditions:				
	- temperature	°C			- 40 ± 2
	- period of application of low temperature	h	1-4	8.2.3	[d]
5.2	Result to be obtained				[c]
6	**Elongation test at low temperature**		1-4	8.4	
6.1	Test conditions:				
	- temperature	°C			- 40 ± 2
	- period of application of low temperature	h	1-4	8.4.4 & 8.4.5	[d]
6.2	Result to be obtained:				
	- elongation without break, min.	%			30

[a] Information on other tests is given in EN 50363-0, Clause 5.

[b] Unless stated otherwise.

[c] No cracks.

[d] See test method referred to in columns 4 and 5.

BS EN 50363-4-2:2005

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001. Fax: +44 (0)20 8996 7001. Email: orders@bsi-global.com. Standards are also available from the BSI website at http://www.bsi-global.com.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: +44 (0)20 8996 7111. Fax: +44 (0)20 8996 7048. Email: info@bsi-global.com.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: +44 (0)20 8996 7002. Fax: +44 (0)20 8996 7001. Email: membership@bsi-global.com.

Information regarding online access to British Standards via British Standards Online can be found at http://www.bsi-global.com/bsonline.

Further information about BSI is available on the BSI website at http://www.bsi-global.com.

Copyright

BSI
389 Chiswick High Road
London
W4 4AL