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Údarás um Chaighdeáin Náisiúnta na hÉireann

IRISH STANDARD

I.S. EN 50497:2007

ICS 29.035.20

RECOMMENDED TEST METHOD FOR ASSESSMENT OF THE RISK OF PLASTICIZER EXUDATION FROM PVC INSULATED AND SHEATHED CABLES

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50497

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English version

Recommended test method for assessment of the risk of plasticizer exudation from PVC insulated and sheathed cables

Méthode d'essai recommandée pour l'évaluation du risque d'exsudation de plastifiant des gaines des câbles et des isolants en PVC

Empfohlenes Prüfverfahren zur Einschätzung des Risikos von Weichmacherausschwitzungen bei PVC-isolierten und -ummantelten Kabeln und Leitungen

This European Standard was approved by CENELEC on 2007-11-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 20, Electric cables, in response to CLC/TC 20 (AT) 42.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50497 on 2007-11-01.

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)	2008-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-11-01

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Introduction

PVC, by its nature, requires the addition of chemical agents (plasticizers, extenders) in order to generate useful and effective electrical grade materials for cable insulation and sheathing having suitable flexibility. Use over many decades has shown that exceptional and unexpected circumstances, coupled with particular installation conditions, may generate unfavourable conditions in which the plasticizer or extender dissociates from the body of the cable material and exudes from it. This is undesirable as it progressively alters the characteristics of the PVC and, in extreme cases, may lead to cracking, or it could damage surrounding components. It is also aesthetically unpleasing and, if it drips or drains in discrete amounts, may become a serious nuisance and may cause concern.

In practice the phenomenon is rare, because material suppliers and cable manufacturers have developed controls for cable grade PVC compounds. These controls begin with material selection tests to screen out unsuitable additives. Such tests are described, for example, in ASTM D3291-97:2003.

Furthermore, PVC insulated and sheathed cables made to recognised standards are required to conform to the compatibility test in EN 60811-1-2, 8.1.4. In the vast majority of cases these actions are sufficient to prevent exudation in service.

It is not possible to determine every type of assembly into which a cable may be placed, nor every installation condition, including thermal condition, that may be experienced. However, where additional assurances and tests are deemed necessary, it is recommended that the method in this European Standard should be used.