



NSAI
Standards

Irish Standard
I.S. EN 12613:2009

Plastics warning devices for underground cables and pipelines with visual characteristics

I.S. EN 12613:2009

Incorporating amendments/corrigenda issued since publication:

<i>This document replaces:</i> I.S. EN 12613:2001	<i>This document is based on:</i> EN 12613:2009 EN 12613:2001	<i>Published:</i> 24 June, 2009 26 October, 2001
This document was published under the authority of the NSAI and comes into effect on: 19 August, 2009		ICS number: 13.320 83.140.99
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Price Code: G		
Údarás um Chaighdeáin Náisiúnta na hÉireann		

I.S. EN 12616:2009

EUROPEAN STANDARD

EN 12613

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2009

ICS 13.320; 83.140.99

Supersedes EN 12613:2009

English Version

Plastics warning devices for underground cables and pipelines with visual characteristics

Dispositifs avertisseurs à caractéristiques visuelles, en
matière plastique, pour câbles et canalisations enterrés

Warneinrichtungen aus Kunststoff mit visuellen
Eigenschaften für erdverlegte Kabel und Rohrleitungen

This European Standard was approved by CEN on 20 May 2009.

CEN 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 CEN Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Material	6
5 Requirements	6
5.1 Colour	6
5.2 Appearance and colour fastness	6
5.3 Dimensional characteristics	6
5.4 Laying characteristics	7
5.4.1 General.....	7
5.4.2 Tensile withstand strength	7
5.4.3 Transversal rigidity	7
5.4.4 Flatness	7
5.5 Visual warning characteristics	7
5.6 Resistance against micro-organisms	7
5.7 Resistance to UV-light.....	7
5.8 Temperature stability	8
5.9 Resistance of printing	8
5.10 Marking	8
6 Test methods.....	8
6.1 Test pieces and test conditions	8
6.2 Colour fastness.....	8
6.3 Tensile withstand strength	8
6.3.1 Test pieces	8
6.3.2 Apparatus	9
6.3.3 Procedure	9
6.4 Transversal rigidity.....	9
6.5 Flatness	10
7 Factory production control tests	10
8 Test report	11
Annex A (normative) Determination of visual warning characteristics by simulation of trench opening	12
A.1 Principle	12
A.2 Apparatus	12
A.3 Test pieces	16
A.4 Conditioning and test temperature	16
A.5 Procedure	16
A.6 Test conditions for warning devices wider than 500 mm.....	16
Annex B (normative) Chemical resistance to ammonium sulphide	17
B.1 Apparatus	17
B.2 Preparation of test pieces	17
B.3 Procedure	17

Foreword

This document (EN 12613:2009) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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

This document supersedes EN 12613:2001.

This document is a revision of EN 12613:2001 with the following modifications:

- review of the test method for assessing the visual characteristics of the warning devices (Annex A) while keeping the principle and the functional features specified in EN 12613:2001;
- addition of test conditions for assessing the visual characteristics of the warning devices wider than 500 mm;
- updating of the normative references;
- improvement of the subclauses for the laying characteristics;
- improvement of the subclauses for the resistance against micro-organisms, to UV-light and temperature stability.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Visual warning devices are used for the manual or mechanized laying of cables and piping buried in ground such as electrical power cables, communication cables, pressure and non-pressure piping systems.

The purpose of warning devices is to warn of the presence of a pipe or a cable, when opening a trench, to indicate its orientation and to identify the equipment protected.

The warning devices are expected to last at least the lifetime of the equipments with which they are associated.

1 Scope

This European Standard specifies the material, mechanical and functional (fitness for purpose) requirements for warning devices with visual characteristics manufactured from plastics, intended to indicate the presence of cables and piping systems buried in ground when opening trenches and more generally during digging work.

This European Standard also specifies the test methods referred to in this document.

This European Standard is applicable to two types of visual warning devices: tapes (type 1) and meshes (type 2).

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.

EN 60898-1:2003, *Electrical accessories — Circuit breakers for overcurrent protection for household and similar installations — Part 1: Circuit-breakers for a.c. operation (IEC 60898-1:2002, modified)*

EN ISO 175, *Plastics — Method of test for determination of the effects of immersion in liquid chemicals (ISO 175:1999)*

EN ISO 846, *Plastics — Evaluation of the action of microorganisms (ISO 846:1997)*

EN ISO 4892-1, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance (ISO 4892-1:1999)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

type 1 warning device

strip manufactured from plastics to warn of the presence of underground cables or pipes during excavation

3.2

type 2 warning device

mesh/net manufactured from plastics to warn of the presence of underground cables or pipes during excavation

3.3

nominal width of a warning device (W_0)

overall width of the warning device, as declared by the manufacturer, in millimetres

3.4

longitudinal direction

direction corresponding to the extrusion direction, parallel to the length of the reel

3.5

transversal direction

direction parallel to the width (at right angle to the length)

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-