

Irish Standard I.S. EN 15732:2012

Light weight fill and thermal insulation products for civil engineering applications (CEA) - Expanded clay lightweight aggregate products (LWA)

© CEN 2012

No copying without NSAI permission except as permitted by copyright law.

Incorporating amendments/	corrigenda/National Anne	kes issued since public	cation:		
The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:					
I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.					
S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.					
SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.					
This document replaces:					
This document is based on: EN 15732:2012	<i>Published:</i> 7 November, 2012				
This document was publish under the authority of the N and comes into effect on: 7 November, 2012			ICS number: 91.100.60		
<b>NSAI</b> 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			
Údarás um Chaighdeáin Náisiúnta na hÉireann					

**EUROPEAN STANDARD** 

EN 15732

NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

October 2012

ICS 91.100.60

#### **English Version**

# Light weight fill and thermal insulation products for civil engineering applications (CEA) - Expanded clay lightweight aggregate products (LWA)

Matériaux de remplissage légers et produits isolants thermiques pour les applications du génie civil - Produits à base de granulats légers d'argile expansée Leichte Schütt- und Wärmedämmstoffe für bautechnische Anwendungen (CEA) - Produkte aus Blähton-Leichtzuschlagstoffen (LWA)

This European Standard was approved by CEN on 9 September 2012.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

## EN 15732:2012 (E)

Cont	<b>ents</b>	age
Forewo	ord	4
1	Scope	5
2	Normative references	5
3	Terms definitions, symbols, units and abbreviated terms	_
3 3.1	Terms and definitions	
3.2	Symbols, units and abbreviated terms	
	Requirements	
4 4.1	General	
4.2	For all applications	
4.3	For specific applications	
4.4	Other requirements	. 10
5	Test methods	10
5.1	Sampling	
5.2	Conditioning	
5.3	Testing	. 10
6	Designation code	. 11
7	Evaluation of conformity	
7 1 Ger	neral	
	ial type testing	
	etory production control	
8	Marking and labelling	12
_		. 12
Annex	A (normative) Test for mechanical and physical properties of expanded clay LWA –Static	40
A.1	Triaxial Compression Test for determination of shear strength properties	
A.1 A.2	Definitions, symbols and abbreviations	
A.3	Test principle	
A.3.1	Triaxial apparatus	
A.3.2	Loading device	
A.3.3	Confining pressure and vacuum-control device	
A.3.4	Displacement transducers	
A.3.5 A.3.6	Calibration	
A.3.6 A.3.7	Porous discs	
A.4	Testing procedure	
A.4.1	Number of test specimens	
A.4.2	Procedures for compaction of laboratory test specimens	
A.4.3	Compaction using vibrations	
A.4.4	Other means of compaction	
A.5	Test report	. 18
Annex	B (normative) Test for mechanical and physical properties of expanded clay LWA —	
	Determination of the resistance to cyclic compressive loading	
B.1	General	
B.2 B.3	Definitions	
В.3 В.4	Test method	
B.4.1	General	
B.4.2	Principle	
B.4.3	Equipment	

## EN 15732:2012 (E)

B.4.4	Preparation of test specimens	21
B.4.5	Test procedure	21
B.4.6	Calculations	
B.4.7	Expression of the test results	
B.5	Report	
Annex	C (normative) Test for mechanical and physical properties of expanded clay LWA —	
	Determination of the compressive creep	25
C.1	General	
C.2	Principles	
C.3	Equipment	
C.4	Preparation of test specimens	
C.5	Testing	
C.5.1	Test procedure	
C.5.2	Calculations	28
C.5.3	Expression of results	28
C.6	Report	
Annex	D (normative) Factory production control	30
Annex	E (informative) Tabulated $\lambda_{10,dry}$ -values of expanded clay LWA in lightweight fill applications	31
Annex	ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive	32

EN 15732:2012 (E)

#### **Foreword**

This document (EN 15732:2012) has been prepared by Technical Committee CEN/TC 88 "Thermal insulating materials and products", the secretariat of which is held by DIN.

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 April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This standard is the harmonised part satisfying the mandate, the CPD and is the basis for the CE marking, covers the products which are placed on the market.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### 1 Scope

This European Standard describes the product characteristics and includes procedures for testing, marking and labelling.

This standard specifies the requirements for loose-fill expanded clay lightweight aggregate (expanded clay LWA) products for Civil Engineering Applications excluding the use as thermal insulation in and under buildings which are covered by EN 14063-1. The standard covers the use of expanded clay LWA as lightweight fill and insulation materials in embankments for roads, railways and other trafficked areas and as lightweight backfill for structures.

This standard does not specify the required level of a given property to be achieved by a product to demonstrate fitness for purpose in a particular application. The levels required for a given application are to be found in regulations or non-conflicting standards.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 932-1, Tests for general properties of aggregates — Part 1: Methods for sampling

EN 932-2, Tests for general properties of aggregates — Part 2: Method for reducing laboratory samples

EN 933-1, Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution — Sieving method

EN 1097-3, Tests for mechanical and physical properties of aggregates — Part 3: Determination of loose bulk density and voids

EN 1097-5, Tests for mechanical and physical properties of aggregates — Part 5: Determination of the water content by drying in a ventilated oven

EN 1097-6:2000, Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption

EN 13055-1:2002, Lightweight aggregates — Part 1: Lightweight aggregates for concrete, mortar and grout

EN 13055-2:2004, Lightweight aggregates — Part 2: Lightweight aggregates for bituminous mixtures and surface treatments and for unbound and bound applications

EN 13172:2012, Thermal Insulation products — Evaluation of conformity

EN 13286-4, Unbound and hydraulically bound mixtures — Part 4: Test methods for laboratory reference density and water content — Vibrating hammer

EN 13286-5, Unbound and hydraulically bound mixtures — Part 5: Test methods for laboratory reference density and water content — Vibrating table

EN 13286-7, Unbound and hydraulically bound mixtures — Part 7: Cyclic load triaxial test for unbound mixtures

EN 13501-1, Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire test

EN 13820, Thermal insulating materials for building applications — Determination of organic content



**Product Page** 

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