



Brussels, January 2005

AMENDMENT TO :

MANDATE TO CEN/CENELEC
CONCERNING THE EXECUTION OF STANDARDISATION WORK
FOR HARMONISED STANDARDS ON

**M 114 “CEMENT, BUILDING LIMES AND OTHER
HYDRAULIC BINDERS”**

The need to amend this mandate:

Mandate M 114 “Cement, building limes and other hydraulic binders” mentions in Annexes 1 and 2, as one of the families covered by the mandate, “Common cements” for which the following five sub-families are listed:

- Portland cements
- Portland composite cements
- Blastfurnace cements
- Pozzolanic cements
- Composite cements

This list is more limited than the general definition given for Common cements in Annex 2 of the mandate, i.e. **“Hydraulic binders composed of specified finely ground inorganic material constituents containing a specified minimum reactive CaO + reactive SiO₂ and which, when mixed with water, form a paste which sets and hardens by means of hydration reactions and processes and which, after hardening, retains its strength and stability even under water. They are produced using continuous mass production and are uniform in properties and homogeneous in composition.”**

Therefore, in Annex 1 and Annex 2 under “Common cements”, the subfamily **“Other common cement” should be added** and defined, and be referred to in the table of part 1/6 of Annex 3 of the mandate, as in the Annex below.

The corresponding original Commission Decision (97/555/EC) of 14 July 1997 does not need to be amended due to the above addendums to this mandate.

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This amendment modifies the original annexes of mandate M 114 in the following manner:

In Annex 1 - third column **PRODUCTS FOR CONSIDERATION**, under **Common cements**:

“Other common cement” will be added as sixth category.

In Annex 2 - first table referring to **COMMON CEMENTS** will be added:

5. OTHER COMMON CEMENT

Any common cement other than subfamilies 1. to 5.

- in the last table referring to characteristics, in the header of the third column:
5 will be changed to 5a.

In Annex 3 - for the Product family : **Cements, building limes and other hydraulic binders (1/6)**, in the table under item 2. **Systems of attestation of conformity**, first column:

“Other common cement” will be added as sixth category.

The ANNEX highlights the proposed changes to the above annexes of the mandate (changes are tracked).

ANNEX 1
FIELD OF APPLICATION

CEMENT, BUILDING LIMES AND OTHER HYDRAULIC BINDERS

LIST OF PRODUCTS TO BE INCLUDED IN THE MANDATE
TO BE USED IN: PREPARATION OF CONCRETE, MORTAR, GROUT AND OTHER MIXES
FOR CONSTRUCTION AND FOR THE MANUFACTURE OF CONSTRUCTION PRODUCTS

FORM	MATERIALS	PRODUCTS FOR CONSIDERATION
Formless	Portland cement clinker Granulated blastfurnace slag Pozzolanic material Fly ash Burnt shale Limestone Silica fume Minor additional constituents Calcium sulphate Additives	Common cements: Portland cements Portland composite cements Portland-slag cements A-S B-S Portland-silica fume cements A-D Portland-pozzolana cements natural A-P natural B-P artificial A-Q artificial B-Q Portland-fly ash cements siliceous A-V siliceous B-V calcareous A-W calcareous B-W Portland-burnt shale cements A-T B-T Portland-limestone cements A-L B-L Portland composite cements A-M B-M Blastfurnace cements A B C Pozzolanic cements A B Composite cements A B Other common cements

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ANNEX 2 TECHNICAL TERMS OF REFERENCE

CEMENT, BUILDING LIMES AND OTHER HYDRAULIC BINDERS

TO BE USED IN: PREPARATION OF CONCRETE, MORTAR, GROUT AND OTHER MIXES FOR CONSTRUCTION AND FOR THE MANUFACTURE OF CONSTRUCTION PRODUCTS

Family

COMMON CEMENTS

Hydraulic binders composed of specified finely ground inorganic material constituents containing a specified minimum reactive CaO + reactive SiO₂ and which, when mixed with water, form a paste which sets and hardens by means of hydration reactions and processes and which, after hardening, retains its strength and stability even under water. They are produced using continuous mass production and are uniform in properties and homogeneous in composition.

Clinker for cements included in this family shall not have a content of MgO by mass exceeding 5%.

Subfamilies

1. PORTLAND CEMENTS

A cement made of clinker (95-100%) and minor additional constituents (0-5%).

2. PORTLAND-COMPOSITE CEMENTS

Cements made of clinker (65-94%), other main constituents (according to cement, see below) (6-35%) and minor additional constituents (0-5%):

2a **Portland-slag cement:** other main constituent: blastfurnace slag; (A-S) and (B-S)

2b **Portland-silica fume cement:** other main constituent: silica fume ($\leq 10\%$); (A-D)

2c **Portland-pozzolana cement:** other main constituents: natural or industrial pozzolana; (natural A-P), (natural B-P), (artificial A-Q) and (artificial B-Q);

2d **Portland-fly ash cement:** other main constituents: siliceous or calcareous fly ashes; (siliceous A-V), (siliceous B-V), (calcareous A-W) and (calcareous B-W)

2e **Portland-burnt shale cement:** other main constituent: burnt shale; (A-T) and (B-T)

2f **Portland-limestone cement:** other main constituent: lime stone; (A-L) and (B-L)

2g **Portland-composite cement:** other main constituents: one, some or all of the above mentioned (*silica fume* $\leq 10\%$); (A-M) and (B-M);

3. BLASTFURNACE CEMENT

A cement made of clinker (5-64%), blastfurnace slag (36-95%) and minor additional constituents (0-5%) (A), (B) and (C).

4. POZZOLANIC CEMENT

A cement made of clinker (45-89%), 11-55% of silica fume and/or pozzolana and/or siliceous fly ashes (*having silica fume limited to $\leq 10\%$*) and minor additional constituents (0-5%) (A) and (B)

5. COMPOSITE CEMENT

A cement made of clinker (20-64%), blastfurnace slag (18-50%) pozzolana and siliceous fly ashes (18-50%) and minor additional constituents (0-5%) (A) and (B)

5a. OTHER COMMON CEMENT

Common cement other than subfamilies 1. to 5.

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**COMPREHENSIVE TABLE OF CHARACTERISTICS
CEMENT, BUILDING LIMES AND OTHER HYDRAULIC BINDERS**

ER	Performance characteristics	P R O D U C T S						Durability
		1-5 _a	6-10	11	12	13-15	16	
1	Compressive strength (early and standard)	Y	Y	Y	Y(4)	Y(1)	Y	Y <i>(against freeze-thaw, sulfate attack, reactive aggregate, carbonation,...., as relevant)</i>
	Setting time	Y	Y	Y	Y	Y(1)	Y	
	Insoluble residue	Y	Y	-	-	-	-	
	Loss on ignition	Y	Y	-	-	-	-	
	Soundness (expansion and SO ₃ content)	Y	Y	Y	-	-	-	
	Chloride content	Y	Y	Y	Y	-	-	
	Pozzolanicity	Y(2)	Y(2)	-	-	-	-	
	Heats of hydration	-	Y(3)	-	-	-	-	
	Shrinkage	Y	Y	-	-	-	-	
	Fineness	-	-	Y	-	Y	Y	
	Resistance to suction (water retentivity)	-	-	Y	-	-	-	
	Alumina content	-	-	-	Y	-	-	
	Alkali content	-	Y(6)	-	Y	-	-	
	Sulfate content	-	-	-	Y	-	Y	
	Sulfide content	-	-	-	Y	-	-	
	Penetration	-	-	-	-	Y	-	
	Air content	-	-	Y	-	Y(1)	-	
Soundness-maximum expansion	-	-	-	-	Y	Y		
Content of active constituents	-	-	-	-	Y(5)	-		
2 to 6								

Notes:

- (1) Only for hydraulic limes
- (2) Only for pozzolanic cements
- (3) Only for low heat cements
- (4) At different ages
- (5) Only for air limes
- (6) Only for low alkali cements

ANNEX 3
 ATTESTATION OF CONFORMITY

Product family : Cements, building limes and other hydraulic binders (1/6)

1. Levels and classes for product performances

1.1 For the time being, the differences specified in Article 3 (2) of the CPD, do not seem to give rise to the need of a classification system for products.

Where for such needs it is recognised that a classification of product performance is the means of expressing the range of requirement levels of the works, the Commission will give the appropriate guidance or will request CEN/CENELEC to make the appropriate proposal through a modification to this mandate.

2. Systems of attestation of conformity

For the product(s) and intended use(s) listed below, CEN/CENELEC are requested to specify the following system(s) of attestation of conformity in the relevant harmonised standard(s) :

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
<p>Common cements, including:</p> <ul style="list-style-type: none"> - Portland cements - Portland composite cements: <ul style="list-style-type: none"> Portland-slag cement Portland-silica fume cement Portland-pozzolana cement Portland-fly ash cement Portland-burnt shale cement Portland-limestone cement Portland composite cement - Blastfurnace cements - Pozzolanic cements - Composite cements - Other common cements 	<p>Preparation of concrete, mortar, grout and other mixes for construction and for the manufacture of construction products</p>	<p>-----</p>	<p>1+</p>

System 1+ : See Annex III Section 2 point (i) of Directive 89/106/EEC

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