

Title	New boost for standardisation of dry toilets with CE-marking
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Short CV for Introduction Purposes (100 words max)	<p>Currently working as a Project Manager in the Global Dry Toilet Club of Finland. Member of the executive board of the Global Dry Toilet Club of Finland in 2004 and 2005.</p> <p>Education: Bachelor of Environmental Management 2004 and Bachelor of Environmental Engineering 2005</p>

New boost for Standardisation of dry toilets with CE marking

1. Introduction

The standardisation of dry toilets is not the first priority in sanitation work when there are 2.6 billion people who lack basic sanitation. As we move from the immediate relief of sanitation needs to a wide commercial market the demand for standards becomes urgent. For the same reasons there are quality standards for freezers, cucumbers or windows, there should be a standard for dry toilets. Standards will bring:

- **Stability to the market**, “wild” entrepreneurs aiming for short-term profits will be eliminated, and for new products there will be a better control of quality before the release to the market.
- **Guarantee for the buyer**, the product will have to meet at least minimum standards and is usually evaluated by third party.
- **Credibility for dry toilets**, as a viable option to water systems, which already are standardised.
- **Guidelines for product design**, helps to control the design of new products so that all new systems will meet the minimum standard values.
- **Unified terms for legislation, education and discussion**, e.g. no more composting toilets that do not actually composts.

At the same time, standards should not be an obstacle for innovation and product development, or an obstacle preventing small enterprises from entering the market.

2. CE marking for indoor dry toilets

In general, the standards are usually constructed at the request of manufacturers, but at the moment the manufacturers of dry toilets in the EU have not shown an interest in addressing this issue. Presently standards only exist for low electricity dry toilets. With the EU directive for the Construction Products (89/160/EC) there are now new prospects for the standardisation of dry toilets.

The purpose of this directive is the removal of obstacles for free trade with CE marking within EEA area (EU + Norway, Lichtenstein and Iceland). CE marking will be similar to a passport for the product. With this the producer can assure the customers that the product conforms with all the harmonized EU standards, and that there is no need for national testing or approval. Currently, CE marking on the few dry toilets on the market is based only on the electricity standards.

CE marking is required from "a product which is produced for incorporation in a permanent manner in construction works, including both buildings and civil engineering works, and which is placed on the European internal market ". In short, the directive requires all products installed inside houses need to have CE marking, thus it concerns only dry toilets which are to be installed inside houses. Currently, most EU countries have adopted the directive, the exceptions to this are Finland, Sweden, Great Britain and Ireland, which have only recommended CE marking but do not have this as a requirement. As the products from the countries requiring CE marking will have it, consumers will begin to demand for it also in Finland, Sweden, Great Britain and Ireland. When the pressure from the market increases the CE marking will gradually become more common.

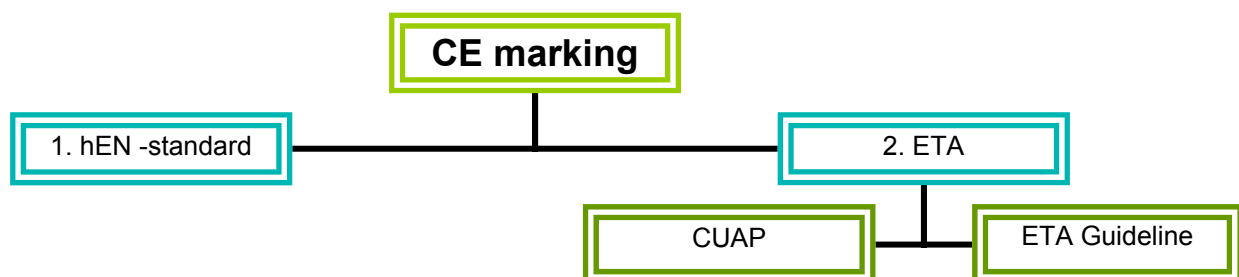
Key terms in CE marking

CPD	C onstruction P roducts D irective
CE marking	prove of conformity with technical specification (note! not CE mark!)
CEN	European Standardisation organisation
hEN	harmonised EN standard
EOTA	E uropean O rganisation for T echnical A pprovals
ETA	E uropean T echnical A pproval
ETAG	E uropean T echnical A pproval G uidance
CUAP	C ommon U nderstanding of A ssessment P rocedure

3. Obtaining CE marking

The manufacturer can use a CE marking on their product if:

1. The product has proven to conform with the requirements of harmonised EN standard, OR if there is no standard
2. The product is given an European Technical Approval (ETA) due to the fact it has been proven to conform with the requirement of the European Technical Approval Guideline (ETAG), OR if there is no ETAG
3. The product is given an ETA after an application from the producer to the European Commission, which finds the product to fulfil general quality requirements (Common Understanding of Assessment Procedure, CUAP)



Picture 1. *Different methods for obtaining CE marking*

Currently, there are no hEN standards or ETAG for dry toilets. However, The European Commission has given a mandate to CEN to prepare a standard for Sanitary appliances (M/110) where one part is *Earth, Chemical and composting toilets*. But CEN can choose which standards it will create first, and there has not been any plans to implement the mandate; mainly due to the small market size and lack of interest from the manufacturers. In addition the qualities to be standardized in the existing mandate include only cleanability, load resistance and noise level, which are not sufficient parameters to establish a measurable standard for the function of a dry toilet. This mandate can be changed if the member countries show enough interest in developing the standard.

The European Technical Approval (ETA) has been developed for more innovative products, which would be difficult to standardise, or have only a few manufacturers. ETA is granted for products that conforms with the ETA Guideline (ETAG), or if there is no Guideline apply for ETA approval from the European Commission through a national notified body. As there is no

ETAG for dry toilets at this time the manufacturer will have to apply for the ETA via the notified body.

4. Testing of dry toilets

The standard or the ETAG usually requires some kind of testing of the product. The content of this testing will be the most difficult and controversial part of the CE marking. Should there be testing, and if yes, what kind of testing? Is constructional testing enough, or should there be some kind of evaluation of the functionality of the product? The CE marking lists general requirements which include mechanical strength, fire safety, health-, hygiene-, environmental factors, operational safety and the consistency of these qualities.

The challenge in creating the testing method is to create one that will suit all the different models. There exists at least two standardised methods for testing dry toilets, the Nordic Environmental Label (Swan label) test for Composting Toilets and the US standard (NSF/ANSI 1999) for non-liquid saturated treatment systems. In addition, there are several studies, where dry toilets have been tested using lighter testing methods. The test method for CE marking will most likely be based on the existing standards.



The benefit in the current situation is that, due to the lack of guidelines and standards, the producer applying for ETA with CUAP procedure can suggest a way they will assure the product will comply with the previously mentioned general requirements. European Commission and the member countries will then comment on the proposal and grant the right to use CE marking after any possible modifications. In the future, when the ETAG or hEN will be made, the CUAP decision will be used as the groundwork thus giving the manufacturers having applied for ETA a significant influence on the content of the future standards.

For the CE marking, the attestation of conformity can be on several different levels. On the lowest level the manufacturer can put the CE marking on the product after making a declaration of conformity, and following the factory production control. The highest level requires different audits and testing from third party Approved Body.

Table 1 *Attestation of Conformity levels*

Attestation of Conformity – Levels&systems	Certification of Product Conformity – Approved Body	Certification of FPC Conformity- Approved Body	Declaration of Conformity – Manufacturer	*Initial type testing – Manufacturer or Approved Body	Factory Production Control FPC – Manufacturer	Testing of samples according to Prescribed Test Plan – manufacturer	Audit teting at Factory or on market or on site – Approved Body	Initial Inspection of Factory and FPC – Approve Body	Continuous Surveillance of FPC- Approved Body
1+	Yes	-	Yes	Approved Body	Yes	Yes	Yes	Yes	Yes
1	Yes	-	Yes	Approved Body	Yes	Yes	-	Yes	Yes
2+	-	Yes	Yes	Manufacturer	Yes	Yes	-	Yes	Yes
2	-	Yes	Yes	Manufacturer	Yes	Yes	-	Yes	-
3	-	-	Yes	Approved Body	Yes	-	-	-	-
4	-	-	Yes	Manufacturer	Yes	-	-	-	-

* Not normally required under ETA route since Initial Type Testing is already dealt with as a part of the assessment for ETA

5. Conclusions and discussion

The enforcement of the Construction Products Directive is making CE marking common in all construction products. At the same time, it will create more pressure to proceed with the standardisation of dry toilets as they are construction products. The need for standards will also grow as the use of dry toilets becomes more widespread.

Compared to national standardisation the CE marking has the additional benefit of giving the product a passport for the whole EU area. Several dry toilet manufacturers have already come across problems, which the different national standards bring when exporting dry toilets. At least one Finnish company has applied for the ETA approval through Common Understanding of Approval Procedure, because they want to sell their products in several EU countries. The process will be finished in 2005 when the Commission will decide whether to give ETA or to begin the manufacturing of the Guideline or Standard. When more manufacturers become interested in the CE marking, the development of Standard or Guideline will be initiated.

To be able to compete with the water based sanitation solutions that are CE marked, the dry toilets have to be standardised. As CE marking is mandatory in most of the EU countries the standardisation is more of a matter of time.

More information:

Construction Products Directive 89/106/CE. Available from:
<http://europa.eu.int/comm/enterprise/construction/internal/cpd/cpd.htm>

European Commission. CE marking for construction products in 5 POINTS

Available in www form: <http://europa.eu.int/comm/enterprise/construction/internal/cepub.htm>

EOTA, European Organisation for technical Approvals. Belgium. www-pages. Available from: <http://www.eota.be/>

IEC. International Standard, Household and similar electrical appliances –Safety, Part 2-84: particular requirements for toilets. IEC 60335-2-84:2002. Second edition, November 2002.

NSF International, The Public Health and Safety Company. *Non-liquid saturated treatment systems, NSF International Standard/American National Standard NSF/ANSI 41-1999* The standard can be bought from http://www.techstreet.com/cgi-bin/detail?product_id=859714

Ympäristöopas 95. *Rakennustuotteiden CE – merkintä rakennustuotedirektiivin mukaisesti. – Uusi käytäntö rakennustuotteiden kelpoisuuden osoittamiseen.* The Finnish Ministry of the Environment, Housing and construction department, Construction. Helsinki 2004, Edita Prima Oy. ISBN 952-11-1661-7 Available from: <http://www.ymparisto.fi/download.asp?contentid=14004&lan=FI>

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