

Introduction

This guide has been written to help users and specifiers of wood based panels to understand the documentation and labelling that should accompany (on a website, e-mail or physically) wood based panels that bear the CE marking.

Drawing up of a declaration of performance (DoP) and consequent CE marking is required by the European Construction Products Regulations 305/2011 (CPR) for any product placed on the European market for use in construction that is covered by a European harmonised standard (European standard with an Annex ZA allowing CE marking); one such product group are panel products that falls within the scope of EN 13986 (the wood based panels harmonised standard). According to the CPR a 'construction product' is defined as "any product or kit which is produced and placed on the market for incorporation in a permanent manner in construction works or parts thereof and the performance of which has an effect on the performance of the construction works with respect to the basic requirements for construction works;" so in short this means any product that is important to a structure that has a bearing on aspects such as structural performance, fire, thermal, acoustics etc... that is fixed in such a way that removing it would change how the building performs.

Wood based panels that are not required to bear the CE mark are those used in non-construction applications such as furniture. It is worth noting that sometimes non-construction can get confused with non-structural, but construction products and indeed wood based panels can be both structural and non-structural.

Declaration of performance (DoP)

A declaration of performance (DoP) is a legal document that is the manufacturer's declaration of the performance of a product, therefore all product placed on the market that refers to the DoP must meet or exceed those declared performances. The DoP is drawn up, the CE marking is affixed and user information is supplied by the person who first places a wood based panel on the European market, for manufacturers within the European Union, they are the first placers. However importers of product from outside of the EU also have responsibilities to ensure that the manufacturers they are buying from have carried out all the necessary testing and controls and that all the DoP, CE marking and user information are present and correct before they place it on the market.

CE marking

The letters "CE" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". The CE marking is a symbol of free marketability in the European Economic Area (Internal Market). CE marking can be affixed only once a DoP has been drawn up and signed, the CPR has a set number of criteria that is required by a CE mark, this guide gives examples showing what is required by the CE mark and also for any on-product labelling.

Examples with explanations

Example 1 – structural wood based panel (particleboard)

DECLARATION OF PERFORMANCE

No. e.g. (xyzDoPv1)

Manufacturer:-

Any company

Any street

Anywhere

Any post code

The number of the DoP is critical for the link between the CE mark and the DoP. This number should change if there is a change to the information in the DoP.

The AVCP gives the rules for assessment. In this case 2+ is applicable as it is a structural product and the FPC must be certified.

The unique ID code is important for finding the essential characteristics and their values that relate to that particular thickness and grade e.g. P5 18mm.

Unique identification code of the product type	Intended use	Systems of AVCP	Notified Body	Harmonised standard
P5 <3mm to >40mm*	Internal use as structural components in humid conditions	2+	1234	EN 13986:2004

*The unique identification code of the product-type is a combination of the technical class and the individual product's nominal thickness.

The notified body number relates to the organisation who has certified the factory production control system

Declared performance [covering a range of product-types P5 <3mm to >40mm*]

Essential characteristics	Performance									
	Thickness (mm)									
	<3	3 to 4	>4 to 6	>6 to 10	>10 to 13	>13 to 20	>20 to 25	>25 to 32	>32 to 40	>40
Characteristic strength (N/mm²)										
- Bending f_m	NPD	NPD	NPD	15.0	15.0	13.3	11.7	10.0	8.3	7.5
- Compression f_c	NPD	NPD	NPD	12.7	12.7	11.8	10.3	9.8	8.5	7.8
- Tension f_t	NPD	NPD	NPD	9.4	9.4	8.5	7.4	6.6	5.6	5.6
- Panel Shear f_v	NPD	NPD means No Performance Determined, this is used where no claim is made for that particular characteristic				7.0	6.5			
- Planar shear f_r	NPD					1.9	1.7			
Mean stiffness (MOE) (N/mm²)										
- Tension E_t	NPD					1000	1900			
- Compression E_c	NPD					1000	1900			
- Bending E_m	NPD	NPD	NPD	3500	3500	3300				
- Panel Shear G_v	NPD	NPD	NPD	960	960	930	860	750	690	660
Characteristic strength under point load $F_{max,k}$ (kN) <i>(for floors and roofs)</i>	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Mean stiffness under point load, R (N/mm) <i>(for floors and roofs)</i>	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Characteristic serviceability strength under point load $F_{ser,k}$ (kN) <i>(for floors and roofs)</i>	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Racking resistance	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD

As an example 18mm P5 would have the properties from this column

If this were a generic flooring grade product it would have information on point load properties and could have a column of its own as it is profiled with a tongue and groove profile

<i>(for walls)</i>										
Soft Body Impact resistance	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Floor/roofs										
Walls										
Reaction to fire	NPD	NPD	NPD	NPD	D-s2,d0	D-s2,d0	D-s2,d0	D-s2,d0	D-s2,d0	D-s2,d0
Water vapour permeability μ	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Release of formaldehyde	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1
Release (content) of pentachlorophenol (PCP)	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$	$\leq 5\text{ppm}$
Airborne sound insulation (surface mass) (R)	NPD	NPD	NPD	NPD	NPD	Some properties may not be claimed (NPD) on the DoP but generic non-manufacturer specific information can be found in standards such as EN 13986 or guidance documents such as Panel Guide (see WPIF website).	NPD	NPD	NPD	NPD
Sound absorption Frequency range 250Hz to 500Hz (α)	0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1
Sound absorption Frequency range 1000Hz to 2000Hz (α)	0.25	0.25	0.25	0.25	0.25		0.25	0.25	0.25	0.25
Thermal conductivity λ	NPD	NPD	NPD	NPD	NPD		NPD	NPD	NPD	NPD
Durability										
Internal bond (N/mm²)	0.50	0.50	0.45	0.45	0.45	0.35	0.30	0.25	0.25	0.25
Swelling in thickness (%)	16	16	14	13	11	10	9	9	9	9
Internal bond after cyclic test (N/mm²)	0.30	0.30	0.30	0.25	0.25	0.17	0.15	0.12	0.12	0.12
Swelling in thickness after cyclic test (%)	12	12	12	12	12	12	11	10	9	9
Moisture resistance										
Internal bond after boil test (%)	0.15	0.15	0.15	0.15	0.15	0.14	0.12	0.11	0.10	0.09
Mechanical (creep k_{def}) service class 1	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Mechanical (creep k_{def}) service class 2	3	3	3	3	3	3	3	3	3	3
Mechanical (duration of load k_{mod})	Action mode									
	Permanent		Long Term		Medium Term		Short Term		Instantaneous	
Service class 1	0.30		0.45		0.65		0.85		1.10	
Service class 2	0.20		0.30		0.45		0.60		0.80	
Biological	Use classes 1 & 2									

The performance of the product identified is in conformity with the declared performances.

This declaration of performance is issued, in accordance with regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

.....*Joe Bloggs*.....

At.....*his factory*.....on.....*1/9/14*.....

.....*signature*.....

As the DoP is a legal document it has to be signed and dated as being correct for the product supplied with the same DoP number on the CE marking. It is this document that would be needed in case of any dispute about the performance of the product

Example 2 – non-structural wood based panel (MDF)

DECLARATION OF PERFORMANCE

No. e.g. (xyzDoPv1)

Manufacturer:-

Any company

Any street

Anywhere

Any post code

Note in the case of a non-structural panel product there is no involvement of a notified body

Unique identification code of the product type	Intended use	Systems of AVCP	Notified Body	Harmonised standard
MDF 1.8mm to >45mm *	Internal use as non-structural components in dry conditions	4	Not applicable	EN 13986:2004

*The unique identification code of the product-type is a combination of the technical class and the individual product's nominal thickness.

Declared performance [covering a range of product-types MDF 1.8mm to >45mm*]

Essential characteristics	Performance										
	Thickness(mm)										
	1.8 to 2.5	>2.5 to 4	>4 to 6	>6 to 9	>9 to 12	>12 to 19	>19 to 30	<>30 to 45	>45		
Note the lack of structural essential characteristics	Reaction to fire	NPD	NPD	NPD	NPD	D-s2,d0	D-s2,d0	D-s2,d0	D-s2,d0	D-s2,d0	
	Water vapour permeability μ	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	
	Release of formaldehyde	E1	E1	E1	E1	E1	E1	E1	E1	E1	
	Release (content) of pentachlorophenol (PCP)	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	
	Airborne sound insulation (surface mass) (R)	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	
	Sound absorption Frequency range 250Hz to 500Hz (α)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
	Sound absorption Frequency range 1000Hz to 2000Hz (α)	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	
	Thermal conductivity λ	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	
	Durability										
	Internal bond (N/mm ²)	0.65	0.65	0.65	0.65	0.60	0.55	0.55	0.50	0.50	
Swelling in thickness (%)	45	35	30	17	15	12	10	8	6		
Biological	Use class 1										

The performance of the product identified is in conformity with the declared performances.

This declaration of performance is issued, in accordance with regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

.....Joe Bloggs.....

At.....his factory.....on.....1/9/14.....


.....signature.....

On product labelling (in the case of some non-structural panels on the packaging):

This label will help identify the product as supplied to ensure the correct product is used as specified. In this case 18mm P4 chipboard. All of the information given in this example should be on the product. The label is not generally stuck to the product it is most likely to be printed directly onto the surface of the product as a string of information (see example below).

On the label there is a link to the DoP (the legal document) so that if there is any future need to identify who supplied the product and the properties that were claimed, they can be found on the manufacturer’s website or on request. It is the manufacturer’s legal responsibility to make this information available for 10 years after it was placed on the market.

The one piece of information that will not be on the labelling in the case of a non-structural wood based panel (without an enhanced reaction to fire claim) is a Notified Body number, this is because for non-structural panels there is no notified body involvement. All other information shall be present.

		CE symbol
Manufacturer logo		Logo and/ or name and address of manufacturer
DoP ref: (xyzDoPv1)		Declaration of performance reference
EN 13986		Reference to harmonised standard
1234		Notified body number
E1		Formaldehyde classification
P4		Product technical class (unique ID code of product type, summary of performance and intended use)
18mm		Thickness (aids further identification of the product as part of the unique identification code)

Could also be presented like this:-

‘CE manufacturer’s logo DoP ref EN 13986 1234 E1 P4 18mm ’

Example CE mark

The CE mark isn’t as a matter of course printed onto the panels or packaging due to the large amount of information it contains. It has exactly the same information as the on-product label and the DoP. The CE mark will be supplied on request by the supplier if it was not given upon purchase.



Manufacturer name and address or logo

DoP ref: (xyzDoPv1)

EN 13986

1234

08

P5

Internal use as structural components in humid conditions

Essential characteristics	Performance									
	Thickness(mm)									
	<3	3 to 4	>4 to 6	>6 to 10	>10 to 13	>13 to 20	>20 to 25	>25 to 32	>32 to 40	>40
*Characteristic Strength (N/mm²)										
- Bending f_m	NPD	NPD	NPD	15.0	15.0	13.3	11.7	10.0	8.3	7.5
- Compression f_c	NPD	NPD	NPD	12.7	12.7	11.8	10.3	9.8	8.5	7.8
- Tension f_t	NPD	NPD	NPD	9.4	9.4	8.5	7.4	6.6	5.6	5.6
- Panel Shear f_v	NPD	NPD	NPD	7.0	7.0	6.5	5.9	5.2	4.8	4.4
- Planar shear f_r	NPD	NPD	NPD	1.9	1.9	1.7	1.5	1.3	1.2	1.0
Mean Stiffness (MOE) (N/mm²)										
- Tension E_t	NPD	NPD	NPD	2000	2000	1900	1800	1500	1400	1300
- Compression E_c	NPD	NPD	NPD	2000	2000	1900	1800	1500	1400	1300
- Bending E_m	NPD	NPD	NPD	3500	3500	3300	3000	2600	2400	2100
- Panel Shear G_v	NPD	NPD	NPD	960	960	930	860	750	690	660
Release of formaldehyde	E1	E1	E1	E1	E1	E1	E1	E1	E1	E1
Release (content) of pentachlorophenol (PCP)	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm
Sound absorption Frequency range 250Hz to 500Hz (α)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sound absorption Frequency range 1000Hz to 2000Hz (α)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Durability										
Internal bond (N/mm²)	0.50	0.50	0.45	0.45	0.45	0.45	0.40	0.35	0.30	0.25
Swelling in thickness (%)	16	16	14	13	11	10	10	10	9	9
Internal bond after cyclic test (N/mm²)	0.30	0.30	0.30	0.25	0.25	0.22	0.20	0.17	0.15	0.12
Swelling in thickness after cyclic test (%)	12	12	12	12	12	12	11	10	9	9
Moisture resistance	0.15	0.15	0.15	0.15	0.15	0.14	0.12	0.11	0.10	0.09

Internal bond after boil test (%)											
Mechanical (duration of load k_{def}) service class 1	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Mechanical (duration of load k_{def}) service class 2	3	3	3	3	3	3	3	3	3	3	3
Mechanical (creep k_{mod}) Service class 1- medium term action	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Mechanical (creep k_{mod}) Service class 2- medium term action	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Biological	Use classes 1 & 2										