

Key points

- A construction product cannot be CE marked until a DoP has been produced
- The DoP format should comply with the format set out in the CPR (Annex III amended)
- The relevant harmonised specification (EN or ETAG) lists essential characteristics of the product
- The DoP lists important technical performances of the essential characteristics
- The DoP is in effect a legal declaration by the manufacturer that the product complies with the essential characteristic performances stated in the DoP
- DoPs can be generic and can be on a website (for at least 10 years after product is placed on the market)
- A paper DoP should be available on request
- For structural timber the DoP should have a unique code which can be used to link it to the CE mark in the accompanying documentation
- The manufacturer is solely responsible for the DoP (and CE mark) and notified bodies are precluded from being involved with the contents of a DoP and CE mark
- Provided the product has a DoP and been correctly CE marked, the performances stated in a DoP should be accepted at face value. The user should ensure that the declared performances are suitable for the envisaged end use

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Structural Timber - Declaration of Performance

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Introduction

This information sheet discusses requirements relating to a Declaration of Performance (DoP) which is applicable to structural timber which is to be CE marked. This information sheet addresses primarily solid structural timber products with a rectangular cross section such as joists, roofing timbers and wall studs but the general information is applicable to other timber products. Its purpose is to ensure that manufacturers, specifiers, designers, builders and users understand what these requirements are.

Construction Products Regulation (CPR) and DoPs

The Construction Products Regulation requires construction products to have a DoP and be CE marked where the product has a harmonised European standard (EN) or a European Technical Assessment (ETA). The following are the main harmonised European standards relating to timber and timber products:

- EN 14080:2013 - glued laminated and glued solid timber
- EN 14081-1:2016 “Timber structures — Strength graded structural timber with rectangular cross section — Part 1: General requirements”*
- EN 14250:2005+A1:2011 - prefabricated roof trusses using punched metal plates
- EN 14374:2004 - laminated veneer lumber
- EN 15497:2014 - structural finger jointed solid timber
- EN 14229:2010 - wood poles for overhead lines
- EN 14592:2008+A1:2012 - dowel type fasteners
- EN 13986:2004 - wood based panels or boards
- EN 14545:2008 - timber connectors

An up-to-date list of harmonized standards can be found at the European Commission's Enterprise and Industry website; ec.europa.eu.

A product such as a roof truss may be fabricated from components which each have their own harmonised standards or specifications; the product manufacturer must prepare a DoP and apply the CE mark in accordance with the relevant harmonised specification for the fabricated product (e.g. EN 14250 for roof trusses). In this regard the manufacturer is taking responsibility for the components used in fabrication and should insure that they have appropriate DoP, CE marking and accompanying information and that they are suitable for their end use. This information should be retained by the manufacturer as part of the factory production control system records.

Note. The manufacturer is solely responsible for the DoP and CE marking and is also liable in law for compliance with the Construction Products Regulation (CPR). Where a distributor or similar takes actions that affect conformity with the DoP then the obligations of a manufacturer apply to that distributor; this also applies if they market the product under their own name.

While declaring the mechanical resistance through the strength class system in EN 338: it is not the only way that the mechanical resistance can be declared. A producer of structural timber may produce a timber grade unique to the producer and declare the mechanical properties in the DoP; however, the requirements of EN 14081-1 would still have to be satisfied and the producer would need to involve a notified body in the process.

The timber user or specifier should always check the DoP to ensure that the declared properties are suitable for the envisaged end use. If a property that is essential to the end use is not declared then the user or specifier might need to obtain timber that has the property declared or seek a new DoP.

A valid DoP and CE mark indicate that the timber has been legally placed on the market; as such the properties declared in a DoP and CE mark should be taken at face value.

EN 14081-1 has requirements on marks to be placed on the timber and additional information that should be provided in accompanying documentation. Common sense would indicate that the marks on the timber should match the appropriate declarations in the DoP and CE mark.

National visual strength grading standards (e.g. in Ireland I.S. 127) would normally have marking requirements to be placed on the timber. However, some member states may allow package marking (rather than individual piece marking) and this unmarked timber would be acceptable for use in Ireland provided it has been legally placed on the market i.e. it has a valid DoP and CE mark. The traceability and association of unmarked timber to a DoP and/or CE

mark would be difficult if the package was broken up; a work specification requiring timber to be marked might avoid any difficulties associated with unmarked timber especially if the DoP and/or CE mark is not available on site.

Declaration of Performance (DOP)

The DoP must follow the model in the CPR (Annex III, amended February 2014).

For timber the DoP should contain:

- the unique identification code of the product-type for which DoP has been drawn up
- the intended use or uses for the construction product, in accordance with the applicable harmonised technical specification (EN 14081-1)
- the name, the registered trade name or registered trade mark and the contact address of the manufacturer
- the name and the contact address of the authorised representative, if relevant
- the number of the applicable AVCP system or systems of the construction product, as set out in Annex V of the CPR
- the reference number of the harmonised standard and its date of issue (EN 14081-1:2016) and the identification number of the notified body
- the *list* of essential characteristics as determined in the harmonised technical specification for the declared intended use or uses
- for *each* essential characteristic, the declared performance, by level or class, or in a description, in relation to this characteristic or, for characteristics for which no performance is declared, the letters “NPD” (No Performance Determined).
- If relevant, appropriate Technical Documentation and/or Specific Technical Documentation has been used in order to indicate the requirements with which the product complies. In such a case, the DoP shall indicate:
 - the reference number of the Specific and/or Appropriate Technical Documentation used
 - the requirements with which the product complies.

The DoP should have a unique reference (usually a code or number) so that it can be referenced/linked with the accompanying documentation (including the CE marking). This reference can apply to generic trusses rather than specific individual trusses.

An example of what a DoP is shown below (the associated comments would not be part of the DoP).

DECLARATION OF PERFORMANCE		Unique DoP number
DoP No 16/B/00		
DoP Item	Performance or level example	Comment
1. The unique identification code of the product type:	Strength graded structural timber with rectangular cross section	<i>This is a manufacturers' code identifying individual or a group of product.</i>
2. The intended use/s:	Buildings and bridges	<i>The intended use; a specific use (e.g. studding) could be stated</i>
3. The manufacturers name, registered trade name/ trade mark and contact address	Any Timber Company Ltd Newtown, Ireland	<i>This is to enable the manufacturer to be identified</i>
4. The authorised representative (if appropriate)	Not appropriate	<i>The name and contact details of authorised representatives would be entered here if appropriate</i>
5. System/s of AVCP	2+	<i>EN 14081-1 is applicable only to an AVCP of 2+.</i>
6. (a) Harmonised standard (b) Notified body	EN 14081-1:2016 TimberCert NB xxxx	<i>The harmonised standard and year The name or number of the Notified body</i>
7. Declared performance/s		
Mechanical resistance:		
Bending strength	Minimum C16 to EN 338.	<i>The term mechanical resistance is used in EN 14081-1 and other standards. Strength class is the most common way of declaring the timber's design properties.</i>
Compressive strength		
Tensile strength		
Shear strength		
Modulus of elasticity (mean)		
Fire resistance	Species group PCST Declared by strength class above	Related to species and characteristic density
Reaction to fire	D-s2,d0 CWFT	<i>Timber classified without further testing</i>
Durability	Durability class 4-5 for fungal attack according to EN 350	<i>The timber is untreated and most softwood timbers are not durable. If treated other information is required on the preservative treatment used</i>
Release of dangerous substances	NPD	<i>No performance determined</i>
8. Appropriate Technical Document and/or Specific Technical Documentation		<i>This would be more appropriate where there is an ETD or where technical documentation has been used. This would usually be rare for solid timber.</i>
Name, Signature, date, location		This is filled in by the responsible person on behalf of the manufacturer

EN 14081-1 deals with the strength grading of solid timber and describes the essential characteristics of the timber, these are:

- Mechanical resistance, usually declared by strength class
- Fire resistance, usually declared by species and characteristic density
- Reaction to fire, usually declared as D-s2,d0 and CWFT (Classification without further testing)
- Durability of all characteristics, this also depends on whether the timber is treated or untreated

- Release of dangerous substances, usually declared as NPD

Note. In the example above on durability, the species code PCST standards for Sitka Spruce (*Picea sitchensis*) and was taken from Table B1 'Marking codes for single species' of EN 14081-1. The durability class 4-5 for fungal attack was taken from EN350 Table B1 'Durability of heartwood and treatability of softwood species'.

The performance of every essential characteristic does not need to be declared e.g. where there is no regulatory requirement for a particular characteristic; in such cases 'NPD' may be used representing No Performance Declared. However, at least one essential characteristic needs to be declared.

The information relating to the essential characteristics (7 above) in CE marking should be the same as in the DoP; there should be no difference in the declarations. The CE mark and accompanying documentation may have additional information e.g. if the timber was visually graded in Ireland, the grade and the grading standard (I.S. 127) would be given.

Some DoPs give additional information to the above and may not follow the exact format laid out in the CPR; the above follows the CPR format but is only an example. The timber producer (manufacturer) should provide their own DoP; additional information may be contained in the accompanying documentation which should include the full CE mark.

The DoP should have a unique number which should provide a link between the timber and accompanying documentation. The CE mark should reference the DoP and the unique number (e.g. the number used in the DoP 16/B/00 in the example above) is one means of doing this.

This information sheet is for general guidance only and is based on information available at the time of writing; users should ensure that it is relevant to their specific circumstance. It may be advisable in certain cases to engage professional advice. While every effort has been made to ensure the information provided is accurate, WTI or the Department of Agriculture, Food and the Marine do not accept any responsibility or liability for errors of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information. Standards, regulations and information are subject to changes which may not be reflected in this information sheet.