

B2 Vademecum

Part 1
Structural bearings:
CE marking

Bearings are important elements of most bridge structures. As a result, they have become widely used construction products. Placing bearings on the market, however, is associated with certain obligations regarding their labeling, which are incumbent on the manufacturer, and which are important from the point of view of the recipient.

This study was prepared for the needs of recipients of construction products manufactured by B2 Sp. z o.o. It presents the legal and technical aspects related to the correct marketing and marking of structural bearings. The information collected here comes from legal regulations, the positions of the Central Office of Building Control, standards and 10 years of experience of the manufacturer. Copying and processing of this document without the consent of B2 Sp. z o.o. is forbidden.

Regulations

Legal basis

The rules for placing construction products on the market are laid down in **Regulation (EU) No 305/2011** of the European Parliament and of the Council of 9 March 2011. Its requirements are mandatory for products covered by harmonized standards or for which European technical assessments have been issued. It should be added that Regulation (EU) No 305/2011 is binding in its entirety and is directly applicable in all Member States, and its provisions take precedence over any conflicting provisions of harmonized standards and national provisions, including e.g. regulations of local administrators roads.

The form and content of the Declaration of Performance are laid down in Commission Delegated **Regulation (EU) No 574/2014** of 21 February 2014 amending Annex III to Regulation (EU) No 305/2011 of the European Parliament and of the Council with regard to the model to be used in drawing up Declaration of Performance of construction products.

Required documents

Pursuant to Article 7 para. 1 of Regulation (EU) No 305/2011, for each construction product made available on the market, **a copy of the Declaration of Performance** in paper form is provided or it is sent by electronic means. Where a batch of the same product is supplied to a single user, it may be accompanied by one copy of the Declaration of Performance either on paper or by electronic means.

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Basic terms

The Declaration of Performance (DoP)

The Declaration of Performance expresses the performance of construction products in relation to their essential characteristics, in accordance with the relevant harmonized technical specifications. The content of the DoP is defined in Art. 6 of **Regulation (EU) No 305/2011**, and its template is attached to **Regulation (EU) No 574/2014**. The above means that the Declaration of Performance should not include other, additional information not included in the above-mentioned regulations, such as the place of incorporation of the construction product or its other features, which are not essential characteristics.

CE marking

The CE mark is placed on construction products for which the manufacturer has drawn up a declaration of performance. By placing it, the manufacturer indicates that he takes responsibility for the compliance of the construction product with the declared performance in relation to its essential characteristics.

The CE marking shall be affixed visibly, legibly and indelibly to the construction product or to a label attached to it. Where this is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging or to the accompanying documents, to be decided by the manufacturer.

At the same time, the requirement to affix the CE mark to a construction product or its label in a visible, legible and indelible manner does not imply an obligation to ensure this requirement after the construction product has been incorporated into the structure.

There is no provision specifying a model label with CE marking and accompanying information. Regulation (EU) No 305/2011 also does not provide for the obligation to use examples of CE marking included in harmonized standards. Even more so, no investor, contracting authority or manager is entitled to define the model of the CE marking and the information accompanying it.

Label

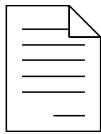
It is used in the form of a sticker on the product or in the form of a permanent attachment to the product. Therefore, it cannot be "attached" to the construction product in a "loose form" or made available to the recipient of the product only in electronic form.

Accompanying documents

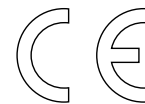
These are all documents (such as e.g. instructions for use, manufacturer's warranty documents, technical sheets, etc.) that the manufacturer ensures that will accompany the product made available and reach the end recipient, and which contain information beyond the scope and content of the DoP.

Documents made available to recipients of construction products

Recipients of construction products receive:



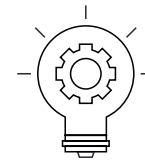
a copy of Declaration of Performance



construction product with CE marking
and accompanying information



information on the content of hazardous substances
pursuant to Regulation (EC) No 1907/2006 (REACH)



other documents, e.g. operating manual,
safety information

Recipients of construction products cannot effectively request additional documents and certificates, the obligation to provide them to recipients has not been specified in Regulation (EU) No 305/2011, e.g. material approvals, a Certificate of Constancy of Performance, documentation of factory production control.

Manufacturer's internal documents

Manufacturer's internal documents:

- Declaration of Performance (the original document),
- Certificate of Constancy of Performance,
- documentation of factory production control,
- results of the initial type tests,
- material approvals and certificates.

Manufacturers are obliged to provide all documentation of construction products only in specific circumstances, at the request of the competent national authorities - in accordance with Art. 12 of Regulation (EU) No 305/2011.

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Documents resulting from the obligations of the manufacturer of construction products



Declaration of performance



The Declaration of Performance includes, among others:

- the reference of the product-type,
- the system of assessment and verification of constancy of performance,
- the reference number and date of issue of the harmonized standard,
- the intended use for the construction product
- the list of essential characteristics as defined in the harmonized technical specification
- the performance of the construction product in relation to its essential characteristics, which are expressed by level or class, or in a description (see Article 2 of Regulation (EU) 305/2011 for the definition of level and class).

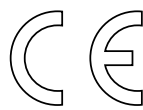
The essential characteristics and performance properties are specified in the relevant harmonized standard (Annex ZA) or the European Technical Assessment of the product. The manufacturer must declare the performance of at least one essential characteristic.

The model and content of the DoP are specified in Regulation (EU) No 574/2014. According to the annex to the regulation, the manufacturer may make certain modifications to the declaration of performance, i.e.:

- use a different layout than specified in the model,
- combine the points by presenting some of them together,
- present the points of the model in a different order or using one or more tables,
- omit some points of the model which are not relevant for the product for which a Declaration of Performance is drawn up,
- present points without numbering them.

The Declaration of Performance should be accompanied by information on the content of hazardous substances in the construction product, as referred to in Art. 31 and 33 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 (REACH).

The Declaration of Performance is the most important document confirming the CE marking, as it contains full information about the manufacturer, the product and its performance properties. On the basis of the completed declaration of performance, the manufacturer prepares the CE marking, which should be treated as a summary of the information contained in the declaration of performance.



CE marking



The rules and conditions for affixing the CE marking are specified in Art. 9 of Regulation (EU) No 305/2011.

The CE marking shall be followed by:

- the two last digits of the year in which it was first affixed,
- the name and the registered address of the manufacturer,
- the unique identification code of the product-type,
- the reference number of the DoP,
- **the level or class*** of the performance declared,
- the reference to the harmonised technical specification applied,
- the identification number of the notified body
- the intended use as laid down in the harmonised technical specification applied

It shall not be possible to group the information accompanying the CE marking in order to present it incompletely in different places. The CE marking alone cannot be used without the accompanying information to its full extent.

The CE marking may be affixed:

- directly on the product, or
- on the label, or
- on the package, or
- in an accompanying document,

what the producer decides.

***NOTE** CE marking - unlike the Declaration of Performance - is not accompanied by information on the declared performance, which is expressed in the harmonized technical specification **as a description.**

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Structural bearings - classification and basic characteristics

Functions

Bridge bearings, due to their function in the bridge structure, can be divided into:

- fixed - take over vertical and horizontal loads,
- guided sliding - take over vertical and horizontal load in one direction,
- free sliding - they take only vertical load,
- restraint - only take over horizontal load,
- guided - take only horizontal load in one direction.

Type due to construction

The most commonly used types of structural bearings today are elastomeric, pot, cylindrical and spherical bearings as well as guided and restraint bearings - and these types of bearings are the subject of this document.

Bearing symbol	The relevant part of the EN 1337	Type of bearing	The function of the bearing	Classification according to EN 1337
	EN 1337-5:2005	pot bearings	fixed	pot bearings without sliding elements
			guided sliding and free sliding	sliding pot bearings
	EN 1337-7:2004	spherical and cylindrical PTFE bearings	fixed	cylindrical and spherical PTFE bearings
			guided sliding and free sliding	cylindrical and spherical PTFE bearings combined with flat sliding elements
	EN 1337-3:2005	elastomeric bearings	free movement	elastomer bearings of the type: „A”, „B”, „C” and „F” without any sliding surfaces or elements
				„D” with sliding surfaces
				„E” with sliding elements
	EN 1337-8:2007	guide bearings and restraint bearings	guide	guide bearings
			restraint	restraint bearings

Essential characteristics

The individual harmonized parts of the EN 1337 standard provide the essential characteristics for a given type of bearing in Annexes ZA. The analysis of the EN 1337 standard shows that the essential characteristics mainly include bearing parameters such as load capacity, rotation, durability aspects (for the bearing as a construction product and separately for sliding elements, if present in such a bearing) and the coefficient of friction (in the case of guide bearings).

The essential characteristic, however, is not the range of the bearing movement or the presetting of the bearing. These are important parameters of the bearing, but they have not been listed in any of the ZA Annexes to the EN 1337 standard. Therefore, according to the Regulation (EU) No 305/2011, neither the range of movement nor the presetting of the bearing can be included in the Declaration of Performance or accompany the CE marking. The same applies to information such as the date of manufacture, the place where the bearing was installed (name of the structure, name of the investment project being carried out, etc.). The manufacturer may, however, replace the above data in the accompanying documentation of the product, but clearly separated from the information resulting from the application of the provisions of Regulation (EU) No 305/2011.

Essential characteristics according to Annex ZA to the relevant part of EN 1337

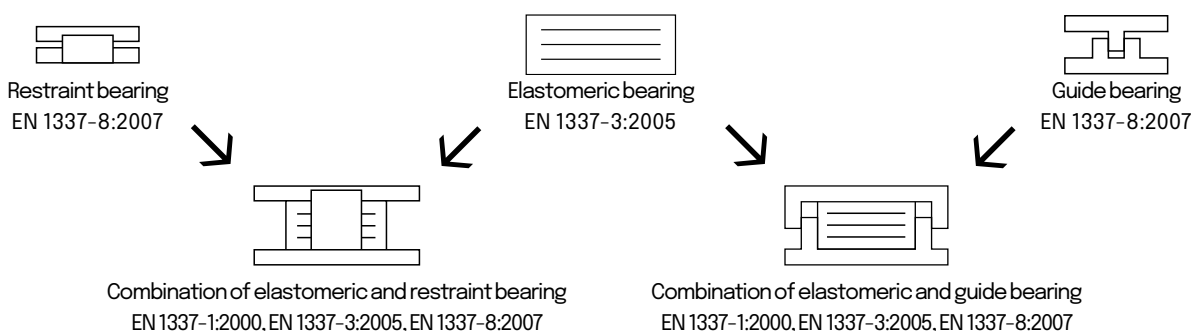
Load bearing capacity	Rotation capability	Durability aspects	Load bearing capacity (of sliding element)	Coefficient of friction (of sliding element)	Durability aspects (of sliding element)	Coefficient of friction
✓	✓	✓	—	—	—	—
✓	✓	✓	✓	✓	✓	—
✓	✓	✓	—	—	—	—
✓	✓	✓	✓	✓	✓	—
✓	✓	✓	—	—	—	—
✓	✓	✓	—	—	—	—
✓	✓	✓	✓	✓	✓	—
✓	✓	✓	—	—	—	✓
✓	✓	✓	✓	—	—	—

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Structural bearings – practical aspects

Combination of elastomeric and guide bearings, combination of elastomeric and restraint bearings

The guide bearings and restraint bearings can also be combined with elastomeric bearings (in all types of bridge structures). Appropriate mechanical limitations must be used to prevent the elastomer bearing from movement in the longitudinal and/or transverse directions. According to clause 4.2 of EN 1337-3: 2005, Annex B to EN 1337-8: 2007 and Table 1 and Figure 1 of EN 1337-1: 2000, they are made precisely by using guide bearings and restraint bearings. Thus, combinations are formed consisting of an elastomeric bearing and a restraint bearing (the bearing then functions as a fixed bearing) and consisting of an elastomeric bearing and a guide bearing (the bearing then functions as a guided sliding bearing).



CE marking for structural bearings

The specific structure of bridge bearings makes it impossible to place all the information accompanying the CE mark directly on the product. Due to the small size of the bearings, it is not possible to affix the CE mark directly to them and the required accompanying information, which includes, among others, performance in such a way that they are visible, legible and indelible. Accompanying information referred to in Art. 9 of Regulation (EU) No 305/2011 cannot be given in part. Fulfillment of the above-mentioned requirements a recipe takes place only if the product is accompanied by all the information mentioned in it.

Type plate

Taking into account the legal aspects resulting from Regulation (EU) No 305/2011 pot bearings, spherical bearings and combinations of elastomeric and guide bearings or elastomeric and restraint bearings manufactured by B2 Sp. z o.o. are equipped with type plates containing the following information:

- the name and address of the manufacturer's headquarters and production plant,
- the unique identification code of the product-type, the reference number of the Declaration of Performance and the number of the applied harmonized technical specification,
- trade name, year of production and serial number of the bearing as well as the name of the structure in which it will be installed,
- technical parameters: maximum design values of vertical and horizontal load capacity, range of movements, presetting and range of the angle of rotation.

The bearing plate doesn't contain the CE marking, which is dictated by practical aspects, i.e. the lack of sufficient space to affix the information accompanying the CE marking, which is required by Regulation (EU) No 305/2011, which has the status of universally applicable and whose provisions take precedence over any conflicting provisions of harmonized standards and national regulations.