

LABELLING OF ROAD TRAFFIC SIGNS



Introduction

In order to resolve the confusion about which information is required on the back of a sign and which in the accompanying documents for CE-marked permanent traffic signs manufactured to EN 12899-1, ARTSM engaged the services of a recognised expert in the Construction Products Directive (CPD) and Construction Products Regulation (CPR): Adam Pinney Consulting Ltd (APCL).

Understanding of this complex subject is not helped by the change in European law from the CPD to CPR on 1st July 2013 when EN 12899 also became mandatory. EN 12899 was prepared under the CPD requirements and is now being revised by CEN to include changes required under CPR. It might be several years before this is published.

Due to its complexity and for the benefit of all stakeholders, a summary of the detailed supporting information provided by APCL is included in the Annex to this guidance to explain the legal requirements as they apply at the time of writing in December 2013.

Comments from Consultant

EN 12899-1:2007

1. Clause ZA.3 in Annex ZA deals with CE marking and labelling, but is so badly and confusingly written that no one can use it to determine definitively what has to be on the label and what has to be on the accompanying documents. EN 12899-1 is in urgent need of revision to clarify the marking requirements and state what must and what may (if appropriate) appear on a label.

2. Annex ZA was written to conform to the Construction Products Directive, but this has now been replaced by the Construction Products Regulation (CPR) and the current Annex ZA will have to be re-drafted. Irrespective of what the standard itself says, the CPR takes precedence because it is a legal requirement. So what is needed is a redrafted Annex ZA which both respects the CPR and is internally consistent. Until this happens the CPR can be used as a guide for some aspects of CE marking.

The Construction Products Regulation

1. CPR Article 9.2 states what has to follow the CE marking. Two things are new as a result of the CPR: the Unique Identification Code, and the number of the Declaration of Performance (DoP). These are not included in the standard because this hasn't yet been updated to reflect the CPR. Nonetheless, to comply with the CPR, all CE marking information now needs to include them and, of course, in addition to having correct CE marking, manufacturers must also have a DoP.

2. The CPR does not mention the possibility of splitting information to allow some to appear in one location (on the sign label) and all of the information to appear in another location (the accompanying documents). If the word "follow" is taken to mean "accompany", then a very strict reading of the CPR would indicate that ALL information has to be given on the product or on the label (and the standard could specify the label).

3. However, apart from the new items in the CPR, the CPD requirements for CE marking were the same and the CPD didn't provide for splitting, either. Nonetheless, splitting has always been accepted under the CPD, and guidance from CEN (written by the CEN Consultants and, therefore, in principle endorsed by the European Commission) maintains that splitting is possible.

4. If splitting is assumed to be possible, then neither the CPR nor CEN guidance gives any instructions on what information has to appear where, apart from the clear requirement that all information appears together in one location (typically the documentation). This means that there are no instructions on what 'minimum' information has to appear elsewhere, e.g. on the label. This should be defined in ZA.3 of EN 12899-1 but, because it is not, there are no instructions for this.

Conclusion

1. All CE marking information must appear together somewhere. If the manufacturer were to put all information on a label, there would be no need to repeat it elsewhere.

2. If only some information was put on the label, it would all have to appear elsewhere.

3. There are no rules or principles which can be referred to in order to be certain what the minimum information needed on the label is, other than that the very minimum would be the CE marking symbol alone.

ARTSM recommendations

The CPR can be used as a guide to what information must accompany the sign, although it is clearly not possible at the present time to give a definitive answer about what information must be provided on the sign label. ARTSM recommendations on what information should be provided are set out below.

Table 1 details all the information which, in order to comply with the CPR, must appear in one place. This could be on the sign label, but if only some of it is shown on the label then the full details must appear together in the accompanying documents. Figure 1 is an example of how this information could be provided on a label for an externally-illuminated retroreflective sign.

Note that although the date of manufacture is not required by the CPR, it is mentioned in EN 12899-1 and it has always been regarded as good practice to include it. It is also good practice to include the class of retroreflectivity to aid checks on sign condition under TD 25 using a portable retroreflectometer. Where the sign is laminated with a protective overlay (anti-graffiti or dew resistant etc.) this should be stated also. Some manufacturers provide substrates that have no recyclable value to avoid theft and this information should be shown on a different label separate to the mandated information required by EN 12899-1.

Table 1: Information to be provided in order to comply with the CPR

Line	Requirement under CPR	Example or comment
1	CE logo	CE
2	The two last digits of the year in which it was first affixed	13 Year company achieved CE certification for the product
3	The identification number of the notified body, if applicable	BSI 0086 or SGS 0120 or LRQA 0038
4	The reference to the harmonised technical specification applied	EN 12899-1:2007
5	The intended use as laid down in the harmonised technical specification applied	Retroreflective sign plate with external illumination for fixed vertical road traffic signs
6	The name and the registered address of the manufacturer, or the identifying mark allowing identification of the name and address of the manufacturer easily and without any ambiguity	ARTSM, Shepstone, Holmesdale Road, South Nutfield, Surrey RH1 4JE
7	The Unique Identification Code of the product-type	Sign 1234 Company internal job number for traceability
8	The reference number of the Declaration of Performance	Doc 678ABC Company QMS document number for DoP
9	The level or class of the performance declared	Each level or class must either be stated or shown as No Performance Determined (NPD) where this applies and can legitimately be used. The example characteristics set out below are as shown in Figure ZA.5 in Annex ZA for retroreflective sign plates with external illumination.
Resistance to horizontal loads		
	Fixings 7.1.14	Point load class to table 10
	Wind action 5.3.1	From national annex to BS EN 12899-1:2007 unless otherwise advised
	Temporary deflection – bending 5.4.1	Generally from software referencing national annex to BS EN 12899-1:2007 unless otherwise advised
	Point loads 5.3.3	
	Permanent deflection 5.4.2	
	Partial safety factor 5.2	
	Dynamic load from snow clearance 5.3.2	If specifier does not require then state NPD
Visibility characteristics		
	Retroreflective signs: Daylight chromaticity & luminance factor 4.1.1.3, 4.2	CR1 from Table 1
	Coefficient of retroreflection 4.2	RA1, RA2, R2 or R3B UK This section would be NPD if sign is non-reflective
	Non-retroreflective signs: Daylight chromaticity & luminance factor 7.3.1.3	NR 1. This section becomes NPD if sign has no non-reflective content

Transilluminated retroreflective signs: Daylight chromaticity & luminance factor 7.3.1.3	This section becomes NPD if: <ul style="list-style-type: none"> • sign is not transilluminated • sign is transilluminated non-retroreflective Otherwise provide performance class relevant to each clause
Coefficient of retroreflection 4.2	
Mean luminance 7.3.1.4	
Luminance contrast 7.3.5	
Uniformity of luminance 7.3.1.6	
Transilluminated non-retroreflective signs: Daylight chromaticity & luminance factor 7.3.1.3	This section becomes NPD if: <ul style="list-style-type: none"> • sign is not transilluminated or • sign is transilluminated retroreflective Otherwise provide performance class relevant to each clause
Mean luminance 7.3.1.4	
Luminance contrast 7.3.1.5	
Uniformity of luminance 7.3.1.6	
External illumination: Mean illuminance 7.4.1.2	This section would be NPD if sign is not externally illuminated. Otherwise provide performance class relevant to each clause
Uniformity of illuminance 7.4.1.3	
Durability	
Impact resistance sign face material 4.1.2, 7.4.2.3, 7.2.2.2	From sign face sheeting tests
Resistance to weathering – sign face material	
Retroreflective signs 4.1.1.5, 4.2	From sign face sheeting tests
Non-retroreflective signs 7.2.2.1.4	
Resistance to corrosion	
Metals, timber and plastics 7.1.7	Report surface protection from Table 15
Resistance to penetration of dust and water	
(If provided with compartments for electrical equipment) 6.1, 6.2	If not applicable this section becomes NPD

All the information set out in Table 1 above has to be provided, so if it is not on the label it must be provided with the sign or in the accompanying documentation. It could also be set out on a self-adhesive label on the packaging.

Figure 1: Example of the above information in label form for an externally illuminated retroreflective sign

C E	0086 13	ARTSM Signs, South Nutfield, Surrey RH1 4JE
EN 12899-1:2007 Retroreflective sign plate with external illumination for fixed vertical road traffic signs	Resistance to horizontal loads – Fixings: Pass Wind action: WL5 Temporary deflection, bending: TDB4 Point loads: PL3 Permanent deflection: Pass Partial safety factor: PAF1	Visibility characteristics – Daylight chromaticity and luminance factor: CR1 Coefficient of retroreflection: RA2 Mean illuminance: E3 Uniformity of illuminance: UE2 Durability – Impact resistance of sign face material: Pass Resistance to weathering (accelerated natural weathering): Pass Resistance to corrosion: Aluminium, SP1 Resistance to penetration of dust and water: IP23
Unique Identification Code: 1234	Manufacturer's Declaration of Performance: 678ABC	

Sign labels

Where it is not practicable to provide all the above details on the sign label, or the manufacturer chooses not to do so, ARTSM recommends that the label should include as a minimum the information shown in the following example.

	EN12899-1:2007 Retroreflective sign plate with external illumination for fixed vertical road traffic signs MDoP CPR 678ABC	 ASSOCIATION FOR ROAD TRAFFIC SAFETY AND MANAGEMENT
0086	Sign ref: 1234	ARTSM Signs South Nutfield Surrey RH1 4JE
13	Class RA2 Overlay: Dew resistant Date of manufacture: Dec 13	Tel: 01737 823360

ARTSM recommends that retroreflective labels should not be used unless the reflective properties are significantly reduced and virtually removed such as by overprinting black to provide white text with no discernible reflective properties. Where a sign is double-sided and end-mounted, an elongated label could be provided and attached to the "T" section.

Annex

The following is a summary of further comments made by APCL.

CE marking requirements

ZA.3 of EN 12899-1:2007 does not refer to clause 9.2 *Marking and labelling*. This is not therefore considered part of the harmonised standard and does not have to be complied with for CE marking.

Unless there are drafting errors in a standard, what must be given with the CE marking symbol, and where this may be located, is not a matter for 'interpretation', either by the manufacturer or by the Notified Body. The rules relating to CE marking are defined in ZA.3 and these rules have to be followed. Of course, where a standard gives options (e.g. "The information may be placed on a label attached to the product"), the manufacturer is fully entitled to decide for himself which of the options he will follow. As far as signs are concerned (the same logic would also apply to components of signs), it is therefore sufficient to cite the provisions of ZA.3. It is accepted that the standard is written under the CPD, so the changes from CPD to CPR are given later.

Sub-clause ZA.3, CE marking and labelling, contains the following:

"The manufacturer or his authorised representative established within the EEA is responsible for the affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EC and shall be shown on the fixed permanent signs (or when not possible it may be on the accompanying label, the packaging or on the accompanying commercial documents e.g. a delivery note).

The following information shall accompany the CE marking symbol:

- identification number of the certification body;
- name or identifying mark and registered address of the producer;
- last two digits of the year in which the marking is affixed;
- number of the EC Certificate of conformity or factory production control certificate (if relevant);
- reference to this European Standard [EN 12899-1:2007];
- description of the product: generic name, material, dimensions and intended use;
- information on those relevant essential characteristics listed in Table ZA.1 which are to be declared;
- declared values and, where relevant, level or class (including "pass" for pass/fail requirements, where necessary) to declare for each essential characteristic as indicated in "Notes" in Tables ZA.1 to Table ZA.6;
- "No performance determined" for characteristics where this is relevant."

It can immediately be seen that there are several errors in this text, which is largely a copy of CEN 'template' text:

- "on the fixed permanent sign" takes no account of the fact that not only signs have to be marked but so do retroreflective sheets, supports and sign plates;
- "on the fixed permanent sign (the product)" has a specific meaning; it refers to printing directly on to the material of the sign, engraving, embossing, etc. It does not apply to attaching a label. It would always be "possible" (if impractical) to print directly onto a sign plate, so the text does not actually allow the use of a label (unless the sign plate was so small that printing would not be possible, or the colour or design of the back of the sign did not permit it);
- the text says "The following information shall accompany the CE marking symbol". This means (as written) that wherever the CE marking is placed (e.g. on a label, ignoring the comment above), it must be accompanied by all the information in the list; this is clearly at odds with the (probably correct) possibilities and examples given under "**On the product**" and "**In the accompanying commercial documents**" on page 53 of the standard. In fact, no reference is made in the text to the possibility of separating information between product and commercial

documents as described on page 53, and all examples in Figures ZA.1 to ZA.6 show the complete information, with the statement that it appears either on the product, on a label, on the packaging or in the commercial documents;

- reference is made to “factory production control certificate (if relevant)” but, because all products in the standard come under AVCP/AOC System 1, there is never an FPC certificate;
- the seventh indent requires that only the characteristics in Table ZA.1 (retroreflective sheets) are declared, whereas the eighth indent correctly refers to whichever of Tables ZA.1 to Table ZA.6 is relevant for the component or product in question. Moreover, the seventh indent refers only to “relevant essential characteristics” whereas the eighth indent requires that all characteristics in the tables are declared

A further error appears in the text on page 53. This permits a splitting of information between the “product” and the “commercial documents”, which is a sensible approach adopted by many standards. The question of the impossibility of giving information “on the product” has already been mentioned, and the text gives no possibility of given full or partial information on a label or on the packaging. Despite this, what has to be in the commercial documents is a copy of the information “on the product [impossible] or packaging [not permitted]. Finally, no mention is made in this text of the possibility of using the NPD declaration, although this is given in the preceding text.

Finally, also on page 53, what the text requires to be on the commercial documents is “the last two digits of the year in which the product was manufactured”. This is both legally incorrect, because both the CPD and the CPR require the date when the CE marking was first affixed and inconsistent with the text earlier in ZA.3. Where the text of a standard is either wrong or potentially confusing, it is generally accepted that common sense can be used between the Notified Body and the manufacturer. With all the errors identified above, however, it is hardly surprising that different Notified Bodies are making different interpretations. Insofar as Annex ZA gives the legal requirements which are supposed to be followed exactly as written, it is clearly in everyone’s interests to amend the standard to correct the errors, and this can perhaps be best done when the standard is revised to take account of the change from CPD to CPR.

Interpretation of the requirements for CE marking of sign plates

As already explained, the actual text of ZA.3 is both incorrect in places and unclear or conflicting in other areas. This actually makes an incontestable understanding of the marking requirements, from the text in the standard, impossible. As far as can be determined, there is no guidance on this issue from the Group of Notified Bodies either. In the circumstances, therefore, an interpretation is possible only using general CPD/CPR requirements, principles and common sense. With this in mind, it would seem that the following provisions should apply:

- placing CE marking on a label attached to the sign plate is permitted. CPR Article 9.1, which overrides the content of any standard, requires marking on the product or on a label attached to it,
- where the design of the sign plate (e.g. printed on both sides) does not permit a label to be used, the information may appear either on the packaging or the accompanying documents,
- unless it is not possible to do so, the label attached to the sign plate *should* show all the information required by the list in ZA.3, which means identification of all performance characteristics given in Table ZA.5 relevant for the specific sign plate, either by a performance value, class or “pass” or by NPD. The CPR itself (Article 9.2, see also below) specifies the information which *shall* accompany the CE marking symbol and does not, itself, permit splitting of information between locations. CEN guidance, TF N 530 Rev 2, *Implementation of the Construction Products Regulation (CPR) in harmonized standards - Template for Annex ZA*, of 2012-04-13 does, however, mention the possibility of splitting and gives one example of what

may be split, but does not give any rules for this. It is possible that, at some stage, the Commission will intervene with a strict interpretation of the CPR and the requirement that, for example, the DOP number must always appear with the CE marking,

- if not all information is given on the label, all information must appear together in another location, either the packaging or the documentation. There is a general requirement that all information appears together in at least one location, which was an existing CPD provision now repeated in the CEN guidance mentioned above,
- because there is no reference from ZA.3 to the marking and labelling sub-clause 9.2, the requirements in this sub-clause do not apply for CE marking purposes.

Changes required for the CPR

Although EN 12899-1:2007 was written as a CPD standard, the CPR allows it to continue to be used after the CPR entered into force but, of course, any marking and labelling provisions (and the production of the Declaration of Performance (DoP)) must be in accordance with CPR provisions. The DoP is not considered here, but there are a few changes to CE marking introduced by the CPR. Article 9.2 of the Regulation requires that:

“2. 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, or the identifying mark allowing identification of the name and address of the manufacturer easily and without any ambiguity,
- the unique identification code of the product-type,
- the reference number of the declaration of performance,
- the level or class of the performance declared,
- the reference to the harmonised technical specification applied,
- the identification number of the notified body, if applicable, and
- the intended use as laid down in the harmonised technical specification applied.”

As mentioned above, it can be seen that the CPR uses “shall”, making it an obligation that the CE marking be accompanied by all the items listed, without the possibility of splitting. The two new items from the CPR are the unique identification code and the reference to the DoP.

In addition to correcting the errors in the current ZA.3 of the standard, however, it may be better for the standard to give clear rules on how any splitting is made. Although all information has to be on or accompanying the product, and therefore available for purchasers and users to see, if all manufacturers had to put the same information on the label, it would prevent different manufacturers and indeed different Notified Bodies from doing things differently.

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