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English Version

Fixed, vertical road traffic signs - Part 1: Fixed signs

Signaux fixes de signalisation routière verticale – Partie 1:
Panneaux fixes

Ortsfeste, vertikale Straßenverkehrszeichen - Teil 1:
Verkehrszeichen

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 226.

This draft amendment A1, if approved, will modify the European Standard EN 12899-1:2007. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 12899-1:2007/prA1:2010) has been prepared by Technical Committee CEN/TC 226 "Road equipment" the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The main reason for this amendment is to incorporate in the series of existing standards EN 12899:2007 (Parts 1 to 5), a new standard EN 12899-6, which deals with the visual performance of retroreflective sign face materials.

1 Modification to Contents

In line 4.1, delete "Glass bead material" and replace with "General".

Delete line 4.2.

2 Modification to Foreword

In paragraph 2, in:

- *line 2: delete "May 2008" and replace with "month year(?)";*
- *line 3: delete "August 2009" and replace with "month year(?)".*

Insert the following text between paragraphs 2 and 3:

"The main reason for this amendment is to incorporate in the series of existing standards EN 12899:2007 (Parts 1 to 5), a new standard EN 12899-6, which deals with the visual performance of retroreflective sign face materials.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1."

Replace the introductory sentence to the list of parts, as given in paragraphs 6 and 7, with the following text:

"This document is European Standard in the series of standards EN 12899 on "Fixed, vertical road traffic signs", with the followings parts."

In paragraph 7, add also "Part 6: Retroreflective sign face materials" to the end of the list.

3 Modification to Introduction

Replace paragraph 1 with:

"This European Standard is designed for use by manufacturers, who are placing their fixed vertical, road traffic signs to the market, as well as for road authorities and private developers who wish to use these signs."

In paragraph 2 delete line 1 completely.

In paragraph 3:

- *in the 1st sentence delete "in respect of materials based on glass bead technology", and*
- *delete the last sentence.*

Delete whole paragraph 4 (i.e. "Wind actions...").

4 Modification to Clause 1

Replace paragraph 1 with:

"This European Standard specifies the requirements for assembled vertical, road traffic signs as well as for their components (i.e. retroreflective sign face materials, supports and signs, which may or may not have additional components) together with provisions on the corresponding test methods, evaluation of conformity and marking."

Add new note after this paragraph:

EN 12899-1:2007/prA1:2010 (E)

“NOTE Provisions for the evaluation of conformity with regards to initial type testing (ITT) are further specified in EN 12899-5; provisions with regards to factory production control (FPC) are further specified in EN 12899-4.”

In paragraph 3, in:

- *line c, add “traffic” between “message” and “sings”.*

5 Modification to Clause 2

Add the following references:

“EN 12899-6, *Fixed, vertical road traffic signs — Part 6: Retroreflective sign face materials*

EN ISO 6272-1, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 1: Falling-weight test, large area intender”*

Delete the following normative references:

“EN ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps (ISO 4892-2:2006)*

EN ISO 6272, *Paints and varnishes — Rapid-deformation (impact resistance) tests*

CIE 54.2, *Retroreflection — Definition and measurement”*

In reference to EN ISO 9001, delete the 1st hyphen and replace “2000”, given between brackets, with “2008”.

6 Modification to Clause 3

In 3.1 replace the term “sign assembly” by “assembled vertical road traffic sign”.

7 Modification to Clause 4

At the beginning of the title of this clause add “Requirements for”.

8 Modification to 4.1

Replace “Glass bead material” in the title with “Visual performance”.

9 Modification to 4.1.1

Replace “Visual performance” in the title with “Test conditions”.

10 Modification to 4.1.1.1

Delete the title completely, as it is now already in 4.1.1.

11 Modification to 4.1.1.2

Renumber this subclause to “4.1.2”.

12 Modification to 4.1.1.3

Renumber this subclause to “4.1.3”.

Delete the whole content of this sub-clause and replace it with:

“Daylight chromaticity and luminance factor shall be in accordance with EN 12899-6:2010, Clause 5.”

13 Modification to 4.1.1.4

Renumber this subclause to “4.1.4” and replace its title to “Retroreflection”.

Delete the whole content of this sub-clause and replace it with:

“Retroreflection shall be in accordance with EN 12899-6:2010, Clause 4.”

14 Modification to 4.1.1.5

Renumber this subclause to “4.1.5”.

15 Modification to 4.1.1.5.1

Renumber this subclause to “4.1.5.1”.

Delete the whole content of this sub-clause and replace it with:

“Resistance to weathering shall be in accordance with EN 12899-6:2010, 6.1.”

16 Modification to 4.1.1.5.2

Renumber this subclause to “4.1.5.2”.

Delete the whole content of this sub-clause and replace it with:

“Accelerated natural weathering shall be in accordance with EN 12899-6:2010, 6.2.”

17 Modification to 4.1.1.5.3

Renumber this subclause to “4.1.5.3”.

Delete the whole content of this sub-clause and replace it with:

“Accelerated artificial weathering shall be in accordance with EN 12899-6:2010, 6.3.”

18 Modification to 4.1.2

Renumber this subclause to “4.2” and rename its title to “Adhesion”.

Delete the whole content of this sub-clause and replace it with:

“Adhesion shall be in accordance with EN 12899-6:2010, Clause 7.”

19 Modification to 4.2

Delete whole sub-clause, including its title.

20 Modification to Clause 5

At the beginning of the title of this clause add “Requirements for”.

21 Modification to 5.3.1.3

In Table 8 replace the expression “No performance determined” with “no requirement”.

EN 12899-1:2007/prA1:2010 (E)

22 Modification to 5.3.2

In the 2nd sentence replace "is not applied" by "shall not be applied".

In Table 9 replace the expression "No performance determined" with "no requirement".

23 Modification to 5.3.3

In the 2nd sentence replace "is not applied" by "shall not be applied".

In Table 10 replace the expression "No performance determined" with "no requirement".

24 Modification to 5.4.1

In Tables 11 and 12 replace the expression "No performance determined" with "no requirement".

25 Modification to 5.4.4.4

In paragraphs 2, 3, 6 and 7, at the beginning of the sentences, replace verb "is" with "shall be".

26 Modification to Clause 6

At the beginning of the title of this clause add "Requirements for".

27 Modification to Clause 7

At the beginning of the title of this clause add "Requirements for".

28 Modification to 7.1.2

At the beginning of the text replace the expression "The Manufacturer" with "It" and modify "ensure" with "be ensured".

29 Modification to 7.1.7

In paragraph 4, delete the expression "The manufacturer" and modify the initial part of the text followed as:

"Surface coating shall be applied in accordance with ...".

30 Modification to 7.1.13

Add to the title "parts and components".

31 Modification to 7.2.2.1.1

Replace "4.1.1.1" in the text with "4.1.1".

32 Modification to 7.2.2.1.2

Replace "4.1.1.2" in the text with "4.1.2".

33 Modification to 7.2.2.2

Delete the whole paragraph 1 and replace it with:

"When tested in accordance with EN ISO 6272-1, using a mass of 450 g with a contact radius of 50 mm dropped from a height of 220 mm, there shall be no cracking or, for sign

face sheeting material, delamination from any substrate, outside a circle of 6 mm radius with the point of impact as the centre.

The test sign shall be supported as it would be when installed, or the test sample shall be supported over an open area of (100 × 100) mm."

34 Modification to 7.3.1.1

Replace "4.1.1.1" in the text with "4.1.1".

Add the following new paragraph after the existing one:

"In case of using retroreflective sign face materials the retroreflectivity shall be in accordance with 4.1.4."

35 Modification to 7.3.1.8

Replace paragraph 3 by:

"The testing procedure for retroreflective sign face materials shall conform to 4.1.5.2."

36 Modification to 7.4.2.1

Replace "signs" by "sign face material" and add after Clause 4 "and 7.3."

37 Modification to 7.4.2.2

At the end of this paragraph, after "7.4.1.3" add comma and "respectively."

38 Modification to 7.4.2.3

Delete the whole sub-clause.

39 Modification to Clause 8

Replace the title with: "Requirements for assembled vertical road traffic sign".

Replace the paragraph with:

"The characteristics of the assembled vertical road traffic signs shall be in accordance with the appropriate clauses of this European Standard applicable for the components."

40 Modification to 9.2

In paragraph 1, at the beginning of text, replace "All products and components mentioned in the scope" with the following expression:

"Each assembled fixed vertical, road traffic sign, or its components (i.e. retroreflective sign face materials, supports and sign plates with sign face materials), shall be ..."

In paragraph 2, indent 3, delete "retroreflective performance class as specified in EN 12899-1 or the relevant ETA" and replace it with "application and retroreflection performance classes, as specified in Clause 4."

41 Modification to Clause 10

Add a new sub-clause with the title: "10.1 General".

EN 12899-1:2007/prA1:2010 (E)

In paragraph 1, after the expression “The conformity of”, replace “vertical road traffic sign” with the following expression “the product (i.e. an assembled fixed vertical, road traffic sign, or its components (i.e. retroreflective sign face material, supports and/or sign plates with sign face materials))”.

In paragraph 1, indent 1, delete the expression “in accordance with EN 12899-5; and”.

In paragraph 1, indent 2, delete the expression “in accordance with EN 12899-4” and replace it with “including product assessment.”.

Delete completely paragraph 2.

*In addition, add a new sub-clause with the title “**10.2 Initial type testing**”, followed by a new paragraph:*

“The product shall be subjected to initial type testing according to EN 12899-5 to show conformity with this European Standard.”

*In addition, add a new sub-clause with the title “**10.3 Factory production control**”, followed by a new paragraph:*

“The product shall be subjected to initial type testing according to EN 12899-4 to show conformity with this European Standard.”

42 Modification to Clause 11

Delete the whole clause.

43 Modification to Annex ZA

Replace whole Annex ZA with this one:

Annex ZA (informative)

Clauses of this European Standard addressing the provisions of the EU Construction Products Directive

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/111 "Circulation fixtures", as amended, by the European Commission and the European Free Trade Association.

The clauses of this European Standard shown in this annex meet the requirements of the mandate given under the EU Construction Products Directive (89/106/EEC).

Compliance with these clauses confers a presumption of products covered by this annex for the intended uses indicated herein; reference shall be made to the information accompanying the CE marking.

WARNING: Other requirements and other EU Directives, not affecting the fitness for intended uses, can be applicable to products falling within the scope of this European Standard.

NOTE 1 In addition to any specific clauses relating to dangerous substances contained in this standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

NOTE 2 An informative database of European and national provisions on dangerous substances is available at the Commission's CIRCA site "dangerous substances" (accessed through <http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm>).

This annex establishes the conditions for the CE marking of the products intended for the uses indicated in Tables ZA.1 to ZA.6 and shows the relevant clauses applicable.

Table ZA.1 – Scope and relevant clauses

Construction product: Retro-reflective sign-face material			
Intended uses: For incorporation into an assembly of fixed vertical, road traffic signs intended to be installed permanently for vehicular and pedestrian traffic uses			
Essential characteristics	Requirement clauses in this standard	Levels and/or classes	Notes
RELEASE OF DANGEROUS SUBSTANCES			See Notes 1 and 2 in ZA.1
VISIBILITY CHARACTERISTICS, as:			
a) CHROMATICITY COORDINATES and LUMINANCE , covered by:			
- Daylight chromaticity and luminance factor	4.1.3	-	Tested acc. to EN 12899-6:2010, Clause 5 & declared as selected class, given therein
b) RETRO-REFLECTIVITY , covered by:			
- Retroreflection	4.1.4	-	Tested acc. to EN 12899-6:2010, Clause 4 & declared as selected application and retro-reflection performance classes, given therein
DURABILITY, as:			
- Resistance to accelerated weathering	4.1.5	-	Tested acc. to EN 12899-6:2010, Clause 6 and declared as "Pass" or "Fail" including the test method chosen

Table ZA.2 – Scope and relevant clauses

Construction product: Supports (described by performance)				
Intended uses: For incorporation into an assembly of fixed vertical, road traffic signs intended to be installed permanently for vehicular and pedestrian traffic uses				
Essential characteristics	Requirement clauses in this standard	Levels and/or classes	Notes	
RELEASE OF DANGEROUS SUBSTANCES			See Notes 1 and 2 in ZA.1	
MECHANICAL RESISTANCES: - to horizontal loads , to bending and to torsion and covered by:				
- Resistance to horizontal loads	Clause 5	-	Calculated ^{a)} or tested acc. to Clause 5 and declared as a value for: - max bending moment M_u (kNm), and - eccentricity values ^{d)}	
- Resistance to bending			Calculated ^{a)} or tested acc. to Clause 5 and declared as value for stiffness for bending EI (kNm ²)	
- Resistance to torsion			Calculated ^{a)} or tested acc. to Clause 5 and declared as a value for ^{b)} : - max moment for torsion T_u (kNm), and - stiffness for torsion GI (kNm ²)	
PERFORMANCE UNDER IMPACT, as:				
- Vehicle impact (Passive safety)	6.3	-	Tested acc. to EN 12767 and declared as selected classes, given therein	
DURABILITY, as:				
- Corrosion resistance, for:	metals	6.4	-	Tested acc. to EN ISO1461 or EN 10240 or declared the material, system of protection and class, acc. to Table 15
	timber			declared the material, system of protection and class, acc. to Table 15
- Resistance to penetration of dust and water, for:	tops	6.1	-	Checked visually & declared as "Pass" or "Fail"
	base compartments ^{c)}	6.2		Tested acc. to EN 60529 and declared as selected class given therein
<p>a) Calculated acc. to the relevant design requirements, e.g. EN 1995-1-1.</p> <p>b) For non-constant cross-section equivalent values shall be given related to the actual length of the product (i.e. support).</p> <p>c) If a support is provided with compartments for electrical equipment.</p> <p>d) Applicable for the assembled fixed vertical, road traffic signs (see Table ZA.6) only.</p>				

Table ZA.3 – Scope and relevant clauses

Construction product: Supports (described by material grade and geometric characteristics)				
Intended uses: For incorporation into an assembly of fixed vertical, road traffic signs intended to be installed permanently for vehicular and pedestrian traffic uses				
Essential characteristics	Requirement clauses in this standard	Levels and/or classes	Notes	
RELEASE OF DANGEROUS SUBSTANCES		See Notes 1 and 2 in ZA.1		
MECHANICAL RESISTANCES: - to horizontal loads , to bending and to torsion and covered by:				
- Geometrical data	Clause 5	-	dimensions (see drawings)	
- Materials' properties			material's characteristics (e.g. grade) (see drawings)	
PERFORMANCE UNDER IMPACT, as:				
- Vehicle impact (Passive safety)	6.3	-	Tested acc. to EN 12767 and declared as selected classes, given therein	
DURABILITY, as:				
- Corrosion resistance, for:	metals	6.4	-	Tested acc. to EN ISO1461 or EN 10240 or declared the material, system of protection and class, acc. to Table 15
	timber			declared the material, system of protection and class, acc. to Table 15
- Resistance to penetration of dust and water, for:	tops	6.1	-	Checked visually and declared as "Pass" or "Fail"
	base compartments ^{a)}	6.2		Tested acc. to EN 60529 and declared as selected class given therein
a) If a support is provided with compartments for electrical equipment.				

Table ZA.4 – Scope and relevant clauses

Construction product: Supports (described by purchaser specification)				
Intended uses: For incorporation into an assembly of fixed vertical, road traffic signs intended to be installed permanently for vehicular and pedestrian traffic uses				
Essential characteristics	Requirement clauses in this standard	Levels and/or classes	Notes	
RELEASE OF DANGEROUS SUBSTANCES			See Notes 1 and 2 in ZA.1	
MECHANICAL RESISTANCES: - to horizontal loads , to bending and to torsion and covered by:				
- Reference to production drawings	Clause 5	-	Complying with the customer's drawings and declared as "Pass" or "Fail"	
PERFORMANCE UNDER IMPACT, as:				
- Vehicle impact (Passive safety)	6.3	-	Tested acc. to EN 12767 and declared as selected classes, given therein	
DURABILITY, as:				
- Corrosion resistance, for:	metals	6.4	-	Tested acc. to EN ISO1461 or EN 10240 or declared the material, system of protection and class, acc. to Table 15
	timber			
- Resistance to penetration of dust and water, for:	tops	6.1	-	Checked visually and declared as "Pass" or "Fail"
	base compartments ^{a)}	6.2		Tested acc. to EN 60529 and declared as selected class given therein
a) If a support is provided with compartments for electrical equipment.				

Table ZA.5 – Scope and relevant clauses

Construction product: Fixed signs, as:				
a) Non-retroreflective fixed signs: .1) non trans-illuminated fixed signs; .2) trans-illuminated fixed signs; .3) externally illuminated fixed signs; b) Retroreflective fixed signs: .1) non trans-illuminated fixed signs; .2) trans-illuminated fixed signs; .3) externally illuminated fixed signs;				
Intended uses: For incorporation into an assembly of fixed vertical, road traffic signs intended to be installed permanently for vehicular and pedestrian traffic uses				
Essential characteristics	Requirement clauses in this standard	Levels and/or classes	Notes	
RELEASE OF DANGEROUS SUBSTANCES		See Notes 1 and 2 in ZA.1		
MECHANICAL RESISTANCES to horizontal loads and covered by:				
- Fixings	7.1.14	-	Calculated or tested & declared as "Pass" or "Fail"	
- Wind action	5.3.1	-	Calculated acc. to 5.3.1.2 and declared as selected value (kNm ²) or taken as class from Table 8	
Temporary deflection: - in bending	5.4.1	-	Calculated or tested acc. to 5.4.3 and declared as "Pass" together with the corresponding class in Table 11	
- Dynamic load from snow clearance	5.3.2	-	Calculated or tested acc. to 5.3.2 and declared as corresponding class acc. to Table 9	
- Point loads	5.3.3	-	Calculated or tested in acc. with 5.3.3 and declared as corresponding class acc. to Table 10	
- Permanent deflection: - in bending	5.4.2	-	Calculated or tested acc. to 5.4.3 and declared as "Pass" together with the corresponding class in Table 11	
PERFORMANCE UNDER IMPACT, as:				
Impact resistance ^{a)}	7.2.2.2	-	Tested acc. to 7.2.2.2 and declared as "Pass" or "Fail"	
VISIBILITY CHARACTERISTICS, as:				
a) CHROMATICITY COORDINATES and LUMINANCE, covered by:				
- Daylight chromaticity and luminance factor	4.1.3 ^{b)}	-	Tested acc. to EN 12899-6:2010, Clause 5, and declared as selected class given therein	
	7.2.2.1.3 ^{c)}	-	Tested acc. to relevant procedure specified in CIE 15 and declared as "Pass" or "Fail" acc. to Table 16 or 17	
	7.3.1.3 ^{d)}	-	Tested acc. to relevant procedure specified in CIE 15 and declared as "Pass" or "Fail" acc. to Table 18	
- Mean	... luminance, or	7.3.1.4 ^{d)}	-	Tested acc. to 7.3.1.7 and declared as "Pass" or "Fail" acc. to Table 19 for selected class
	... illuminance	7.4.1.2 ^{e)}	-	Tested acc. to 7.4.1.2 and declared as "Pass" or "Fail" acc. to Table 22 for selected class
- Luminance contrast		7.3.1.5 ^{d)}	-	Tested acc. to 7.3.1.7 and declared as "Pass" or "Fail" acc. to Table 20 for selected colour
- Uniformity of	... luminance, or	7.3.1.6 ^{d)}	-	Tested acc. to 7.3.1.7 and declared as "Pass" or "Fail" acc. to Table 21 for selected class
	... illuminance	7.4.1.3 ^{e)}	-	Tested acc. to 7.4.1.4 and declared as "Pass"

				or "Fail" acc. to Table 23 for selected class
b) RETRO-REFLECTIVITY, covered by:				
- Retroreflection	4.1.4 ^{g)}	-	Tested acc. to EN 12899-6:2010, Clause 4, and declared as selected application and retro-reflection performance classes given therein	
DURABILITY, as:				
- Resistance to accelerated weathering	4.1.5 ^{g)}	-	Tested acc. to EN 12899-6:2010, Clause 6, and declared as "Pass" or "Fail" including the test method chosen	
	7.2.2.1.4 ^{h)}		Tested acc. to EN ISO 877:1996, method A (i.e. natural) for 2 years and declared as "Pass" or "Fail" acc. to:	7.2.2.1.3
	7.3.1.8 ⁱ⁾			7.3.1.3
- Corrosion resistance, for:	metals	6.4	-	Tested acc. to EN ISO1461 or EN 10240 or declared the material, system of protection and class acc. to Table 15
	timber			Declared the material, system of protection and class acc. to Table 15
- Resistance to penetration of dust and water	6.2	-	Tested acc. to EN 60529 and declared as selected class given therein	
<p>a) For the fixed signs defined under a.1), a.3), b.1) or b.3) only.</p> <p>b) For the fixed signs defined under b.1) or b.3) only.</p> <p>c) For the fixed signs defined under a.1) or a.3) only.</p> <p>d) For the fixed signs defined under a.2) or b.2) only.</p> <p>e) For the fixed signs defined under a.3) or b.3) only.</p> <p>f) For the fixed signs defined under a.2), b.2), a.3) or b.3) only.</p> <p>g) For the fixed signs defined under b.1), b.2) or b.3) only.</p> <p>h) For a non retro-reflective sign-face material, as a component of the fixed signs, as defined under a.1), and limit to durability aspect with regard to its performance on "Daylight chromaticity and luminance factor" only.</p> <p>i) For a non retro-reflective sign-face material, as a component of the fixed signs, as defined under a.2) or a.3), and limit to durability aspect with regard to its performance on "Daylight chromaticity and luminance factor" only.</p>				

Table ZA.6 – Scope and relevant clauses

Construction product: Assembled fixed vertical, road traffic signs					
Intended uses: For permanent installation for vehicular and pedestrian traffic uses					
Essential characteristics		Requirement clauses in this standard	Levels and/or classes	Notes	
RELEASE OF DANGEROUS SUBSTANCES			See Notes 1 and 2 in ZA.1		
MECHANICAL RESISTANCES to horizontal loads, for:					
a) any of the following components:					
- support		Clause 8	-	See relevant line in Tables ZA.2, ZA.3 or ZA.4	
- fixed sign		Clause 8	-	See relevant line in Table ZA.5	
b) in addition, for an assembled fixed vertical, road traffic sign:					
- Temporary deflection	- in bending	5.4.1	-	Calculated acc. to 5.4.3 or tested acc. to 5.4.4 and declared as "Pass", together with the corresponding class acc. to:	- Table 11
	- in torsion				- Table 12
- Permanent deflection: - in torsion		5.4.2	-	Calculated or tested acc. to 5.4.4 and declared as "Pass", together with the corresponding class in Table 12	
PERFORMANCE UNDER IMPACT, for any of the following components:					
- support		Clause 8	-	See relevant line in Tables ZA.2, ZA.3 or ZA.4	
- fixed sign		Clause 8	-	See relevant line in Table ZA.5	
VISIBILITY CHARACTERISTICS, as:					
a) CHROMATICITY COORDINATES and LUMINANCE, for any of the following component:					
- fixed sign		Clause 8	-	See relevant line in Table ZA.5	
b) RETRO-REFLECTIVITY, for any of the following component:					
- fixed sign		Clause 8	-	See relevant line in Table ZA.5	
DURABILITY, for any of the following components:					
- support		Clause 8	-	See relevant line in Tables ZA.2, ZA.3 or ZA.4	
- fixed sign		Clause 8	-	See relevant line in Table ZA.5	
NOTE Further information on the relevant characteristics, including the proxy ones (where applied) are specified in the relevant line of the referred Tables ZA.1 to ZA.5 and in ZA.3, together with the CE marking examples.					

The requirement on a certain characteristic is not applicable in those Member States (MSs) where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these MSs are not obliged to determine nor declare the performance of their products with regards to this characteristic and the option "No performance determined" (NPD) in the information accompanying the CE marking (see ZA.3) may be used. The NPD option may not be used, however, for durability and where the characteristic is subject to a threshold level.

ZA.2 Procedure for attestation of conformity of assembled vertical, road traffic signs and/or of their components

ZA.2.1 System of attestation of conformity

The system of attestation of conformity of assembled vertical, road traffic signs, as defined in Table ZA.6, and/or of their components, as defined in Tables ZA.1 to ZA.5, in accordance with

the Decision of the European Commission 96/579/EC of 1996-06-24 (see *OJEU L254 of 1996-10-08*), as amended by 1999/453/EC of 1999-06-18 (see *OJEU L178 of 1999-07-14*), as given in Annex III of the mandate for circulation fixtures is shown in Table ZA.7 for the indicated intended uses and relevant level or class.

Table ZA.7 — System of attestation of conformity

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
Road traffic signs and traffic control devices installed permanently for vehicular and pedestrian traffic uses: - permanent traffic signs	For circulation areas	-	1
System 1: See Annex III, Section 2, point (i) of Directive 89/106/EEC, without audit-testing of samples.			

The attestation of conformity of assembled vertical, road traffic signs, as defined in Table ZA.6, and/or of their components, as defined in Tables ZA.1 to ZA.5, shall be according to the evaluation of conformity procedures indicated in Table ZA.8 resulting from application of the clauses of this or other European Standard indicated therein.

Table ZA.8 — Assignment of evaluation of conformity tasks for assembled vertical, road traffic signs and/or of their components under system 1

Tasks		Content of the task	Evaluation of conformity clauses to apply
Tasks under the responsibility of the manufacturer	Factory production control (FPC)	Parameters related to characteristics of Tables ZA.1 to ZA.6, relevant for the intended use, which performance to be declared	10.1 and 10.3 with link to EN 12899-4
Tasks under the responsibility of the product certification body	Initial type testing	Characteristics of Tables ZA.1 to ZA.6, relevant for the intended use, which performance to be declared	10.1 and 10.2 with link to EN 12899-5
	Initial inspection of factory and of FPC	Parameters related to characteristics of Tables ZA.1 to ZA.6, relevant for the intended use, which performance to be declared	10.1 and 10.3 with link to EN 12899-4
	Continuous surveillance, assessment and approval of FPC	Parameters related to characteristics of Tables ZA.1 to ZA.6, relevant for the intended use, which performance to be declared	10.1 and 10.3 with link to EN 12899-4

ZA.2.2 EC certificate of conformity

When compliance with the conditions of this annex is achieved, the certification body shall draw up a certificate of conformity (i.e. EC certificate of conformity), which entitles the manufacturer to affix the CE marking. The certificate shall include:

- a) name, address and identification number of the certification body,
- b) name and address of the manufacturer, or his authorised representative established in the EEA, and place of production,

NOTE The manufacturer may also be the person responsible for placing the product onto the EEA market, if he takes responsibility for CE marking.

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- c) description of the product (i.e. type, identification, use),
- d) provisions to which the product conforms (i.e. Annex ZA of this EN),
- e) particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions),
- f) the number of the certificate,
- g) conditions of validity of the certificate, where applicable,
- h) name of, and position held by, the person empowered to sign the certificate.

The above mentioned certificate shall be presented in the language or languages accepted in the Member State in which the product is intended to be used.

ZA.3 CE marking and labelling

ZA.3.1 General

The manufacturer or his authorized representative, established within the EEA, is responsible for the affixing of the CE marking, which consists of the CE-marking symbol, as given by Directive 93/68/EEC, and the appropriate accompanying information.

ZA.3.2 CE marking on the product (i.e. simplified CE making)

The following information shall accompany the CE-marking symbol, placed on each product (i.e. either on assembled vertical, road traffic sign, as defined in Table ZA.6, or on any of their components, as defined in Tables ZA.1 to ZA.5), or given on a label attached to it/them, all representing the simplified CE marking:

NOTE 1 An assembled vertical, road traffic sign, as defined in Table ZA.6, can bear only one CE marking. In this case, its components, which are also defined in Tables ZA.1 to ZA.5, cannot not bear their own CE markings.

- a) identification number of the notified certification body,
- b) name or identifying mark of the manufacturer,

NOTE 2 Registered address of the manufacturer may also be added but only in the complete CE marking (see ZA.3.3).

- c) reference to this European Standard and the year of its publication (i.e. EN 12899-1:2010),
- d) description of the product and its intended use:
 - generic name of the product, as:
 - Retro-reflective sign-face material (see Table ZA.1), or
 - Support (see Tables ZA.2 to ZA.4), or
 - Fixed sign (see Table ZA.5), or
 - Assembled vertical, road traffic signs (see Table ZA.6);
 - intended use of the product, as:

- For incorporation into an assembly of fixed vertical, road traffic signs intended to be installed permanently for vehicular and pedestrian traffic uses (see Tables ZA.1 to ZA.5), or
- For permanent installation for vehicular and pedestrian traffic uses (see Table ZA.6);

NOTE 3 The information on intended use is to be given in the complete CE marking only (see ZA.3.3).

Figure ZA.1 gives an example of such simplified CE marking to be given on each product, in this case of an assembled vertical, road traffic sign.


 0123	<i>CE-conformity marking symbol given in Directive 93/68/EEC</i>
AnyCo Ltd	<i>Identification number of the notified product certification body</i> <i>Name or identifying mark of the manufacturer</i> <i>NOTE Registered address of the manufacturer may be added.</i>
EN 12899-1:2010 Assembled vertical, road traffic sign	<i>Number of the European Standard and the year of its publication</i> <i>Description of the product</i>

Figure ZA.1 — Example of a simplified CE marking on the product

ZA.3.3 CE marking in the accompanying documents (i.e. complete CE making)

ZA.3.3.1 General

The CE-marking symbol and the information a) to d), already listed in ZA.3.2, together with the following ones, shall be given on the packaging or in the commercial documents, accompanying each product (i.e. vertical, road traffic sign, as defined in Table ZA.6, or any of their components, as defined in Tables ZA.1 to ZA.5), all representing the complete CE marking:

- a) last two digits of the year in which the CE marking was affixed;
- b) number of the EC certificate of conformity;
- c) performances on the following product's essential characteristics, as they are listed either in Table ZA.6 or in Tables ZA.1 to ZA.5, which are to be declared for the relevant intended uses and, where relevant, expressed as "Pass" for the pass/fail requirements (where necessary), or "NPD" (i.e. No performance determined), namely for:
 - c.1) release of dangerous substances: see Notes 1 and 2 in ZA.1;
 - c.2) mechanical resistance to horizontal loads: as defined in 5.1 (see Note 1) and declared for the following products as given in:
 - for support, in Tables ZA.2, ZA.3 or ZA.4, or
 - for fixed sign, in Table ZA.5, or
 - for assembled fixed, vertical traffic sign, in Table ZA.6;
 - c.3) performance under impact: declared for the following products as given in:

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- for support, in Tables ZA.2, ZA.3 or ZA.4, or
 - for fixed sign, in Table ZA.5, or
 - for assembled fixed, vertical traffic sign, in Table ZA.6;
- c.4) visibility characteristics: declared for the following products as given in:
- for retro-reflective sign face material, in Table ZA.1, or
 - for fixed sign, in Table ZA.5, or
 - for assembled fixed, vertical traffic sign, in Table ZA.6;
- c.5) durability: declared for the following products as given in:
- for retro-reflective sign face material, in Table ZA.1, or
 - for support, in Tables ZA.2, ZA.3 or ZA.4, or
 - for fixed sign, in Table ZA.5, or
 - for assembled fixed, vertical traffic sign, in Table ZA.6.

The “No performance determined” (NPD) option may not be used for durability and where the characteristic is subject to a threshold level. Otherwise, the NPD option may be used when and where the characteristic, for a given intended use, is not subject to regulatory requirements in the Member State(s) of destination.


In addition to any specific information relating to dangerous substances given in the examples of the CE marking below, the product should also be accompanied, when and where required and in the appropriate form, by documentation listing any other legislation on dangerous substances for which compliance is claimed, together with any information required by that legislation.

NOTE 2 European legislation without national derogations need not be mentioned.

NOTE 3 Affixing the CE marking symbol means, if a product is subject to more than one directive that it conforms to all applicable directives.

ZA.3.3.2 Complete CE marking on retro-reflective sign face material (see Table ZA.1)

Figure ZA.2 gives an example of the complete CE marking to be given in the commercial documents, accompanying the packaging of retro-reflective sign face material, as defined in Table ZA.1.

 0123	<i>CE-conformity marking symbol given in Directive 93/68/EEC</i> <i>Identification number of the notified product certification body</i>
AnyCo Ltd, Po Box 21, B – 1050 11 0123-CPD-00234	<i>Name or identifying mark of the manufacturer, including the registered address of the manufacturer.</i> <i>Last two digits of the year in which the marking was affixed</i> <i>No. of the EC certificate of conformity</i>
EN 12899-1:2010 Retro-reflective sign face material for incorporation into an assembly of fixed vertical,	<i>Number of European Standard and the year of its publication</i> <i>Description of the product and its intended use</i>

road traffic signs installed permanently for vehicular and pedestrian traffic uses		<i>Performances on essential characteristics, which are to be declared for the relevant intended use</i>
RELEASE OF DANGEROUS SUBSTANCES	NPD	
VISIBILITY CHARACTERISTICS, as:		
a) CHROMATICITY COORDINATES and LUMINANCE, by:		
- daylight chromaticity & luminance factor	CR1	
b) RETRO-REFLECTIVITY, by:		
- application classes /corresponding retro-reflection performance classes	A12/P7 A23/P5 A24/P4 A34/P3	
DURABILITY, as:		
- resistance to accelerated weathering (natural, 3 years)	Pass	

Figure ZA.2 — Example of a complete CE marking of the retro-reflective sign face material given in the accompanying documents

ZA.3.3.3 Complete CE marking on support

ZA.3.3.3.1 Declaration of structural characteristics (see Table ZA.2)

According 5.1 a), the characteristic or design values for the mechanical resistance to horizontal loads of the support, determined according to the method(s), given in EN 1995-1-1, taking into account possibly also sets of National Determined Parameters (NDP), valid in the Member State, on which market the product is intended to be placed on, shall be as follows:

- c.2) mechanical resistance to horizontal loads, covered directly by the following information:
 - the load applied, defined as class according to Table 8 (for wind action), to Table 9 (for dynamic action for snow clearance) and/or to Table 10 (for point loads);
 - values for the maximum bending and torsion moment (in kNm), and
 - values for the stiffness for bending and for torsion (in kNm²).

Figure ZA.3 gives an example of the complete CE marking to be given in the commercial documents, accompanying the packaging of the support, as defined in Table ZA.2.

0123	<i>CE-conformity marking symbol given in Directive 93/68/EEC</i>
AnyCo Ltd, Po Box 21, B – 1050 11 0123-CPD-00234	<i>Identification number of the notified product certification body</i> <i>Name or identifying mark of the manufacturer, including the registered address of the manufacturer.</i> <i>Last two digits of the year in which the marking was affixed</i> <i>No. of the EC certificate of conformity</i>
EN 12899-1:2010 Support for incorporation into an assembly of fixed vertical, road traffic signs installed permanently for vehicular and pedestrian traffic uses	<i>Number of European Standard and the year of its publication</i> <i>Description of the product and its intended use</i>
RELEASE OF DANGEROUS SUBSTANCES	NPD
<i>Performances on essential characteristics, which are to be</i>	

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MECHANICAL RESISTANCE to horizontal loads, as:	
- wind action	WL2
- max bending moment, M_u	100 kNm
- stiffness for bending, EI	100 kNm ²
- max moment for torsion, T_u	100 kNm
- stiffness for torsion, GI_t	100 kNm ²
PERFORMANCE UNDER IMPACT , as:	
- vehicle impact (passive safety)	100,NE,3
DURABILITY , as:	
- corrosion resistance:	- hot deep galvanized - SP1
- resistance to penetration of dust and water:	- IP56

declared for the relevant intended use

Figure ZA.3 — Example of a complete CE marking of the support given in the accompanying documents by declaration of structural characteristics

ZA.3.3.3.2 Declaration of material properties and geometrical data (see Table ZA.3)

According to 5.1 b), all data that are needed to indirectly determine the following product's (i.e. support's) characteristic, according to the design method, valid in the Member State of its intended use, shall be:

- c.2) mechanical resistance to horizontal loads, covered by the following information, given in design drawing(s) of the support, with:
 - values for the material properties (i.e. steel, grade),
 - geometrical properties (i.e. diameter, wall thickness, length).

Figure ZA.4 gives an example of the complete CE marking to be given in the commercial documents, accompanying the packaging of the support, as defined in Table ZA.3.

0123	<i>CE-conformity marking symbol given in Directive 93/68/EEC</i>
AnyCo Ltd, Po Box 21, B – 1050 11 0123-CPD-00234	<i>Identification number of the notified product certification body</i>
EN 12899-1:2010 Support for incorporation into an assembly of fixed vertical, road traffic signs installed permanently for vehicular and pedestrian traffic uses	<i>Name or identifying mark of the manufacturer, including the registered address of the manufacturer. Last two digits of the year in which the marking was affixed No. of the EC certificate of conformity</i>
EN 12899-1:2010 Support for incorporation into an assembly of fixed vertical, road traffic signs installed permanently for vehicular and pedestrian traffic uses	<i>Number of European Standard and the year of its publication</i>
RELEASE OF DANGEROUS SUBSTANCES	NPD
MECHANICAL RESISTANCE to horizontal loads, as:	<i>Description of the product and its intended use</i>
- material's properties	- welded steel tube - grade S335J2
- geometrical properties	- diameter 89 mm, - wall thickness 2 mm, - length 3,2 m
	<i>Performances on essential characteristics, which are to be declared for the relevant intended use</i>

PERFORMANCE UNDER IMPACT, as:	
- vehicle impact (passive safety)	100,NE,3
DURABILITY, as:	
- corrosion resistance:	- hot deep galvanized - SP1
- resistance to penetration of dust and water:	- IP56

Figure ZA.4 — Example of a complete CE marking of the support given in the accompanying documents by declaration of material properties and geometrical data

ZA.3.3.3.3 Declaration of compliance with a given production document (see Table ZA.4)

According to 5.1 c), the declaration of mechanical resistance to horizontal loads of the support shall be performed based on the purchaser order by declaring compliance with the given production documents of the support, together with the information on the purchaser and the party responsible for the structural design of the support. The structural design and production documents of the support may be prepared according to any design method valid in the Member State of its intended use under the responsibility of another party than the manufacturer:

c.2) mechanical resistance to horizontal loads, covered by the following information:

- compliance with the dated production documents of the support;
- identification of the purchaser;
- identification of the party responsible for the structural design of the support.

Figure ZA.5 gives an example of the complete CE marking to be given in the commercial documents, accompanying the packaging of the support, as defined in Table ZA.4

0123	<i>CE-conformity marking symbol given in Directive 93/68/EEC</i>
AnyCo Ltd, Po Box 21, B – 1050 11 0123-CPD-00234	<i>Identification number of the notified product certification body</i> <i>Name or identifying mark of the manufacturer, including the registered address of the manufacturer.</i> <i>Last two digits of the year in which the marking was affixed</i> <i>No. of the EC certificate of conformity</i>
EN 12899-1:2010 Support for incorporation into an assembly of fixed vertical, road traffic signs installed permanently for vehicular and pedestrian traffic uses	<i>Number of European Standard and the year of its publication</i> <i>Description of the product and its intended use</i>
RELEASE OF DANGEROUS SUBSTANCES NPD	<i>Performances on essential characteristics, which are to be declared for the relevant intended use</i>
MECHANICAL RESISTANCE to horizontal loads, as:	
Production drawing:	146-65/2010-10-29
Ordered by:	Steel Production Comp. Ltd.
Based on design:	Road Design Comp. Ltd.
PERFORMANCE UNDER IMPACT, as:	
- vehicle impact (passive safety)	100,NE,3
DURABILITY, as:	

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- corrosion resistance:	- steel, - hot deep galvanized, - SP1
- resistance to penetration of dust and water:	- IP56


Figure ZA.5 — Example of a complete CE marking of the support given in the accompanying documents declaration of compliance with a given production document

ZA.3.3.4 Complete CE marking on fixed sign (see Table ZA.5)

According to 5.1 a) the characteristic or design values for the mechanical resistance to horizontal loads of a fixed sign, determined according to the method(s) given in EN 1995-1-1, taking into account possibly also sets of National Determined Parameters (NDP), valid in the Member State, on which market the product is intended to be placed on, shall be as follows:

- c.2) mechanical resistance to horizontal loads, covered directly by the following information:
- fixings,
 - wind action,
 - temporary deflection in bending,
 - dynamic load from snow clearance,
 - point loads,
 - permanent deflection,
 - partial safety factor.

Figure ZA.6 gives an example of the complete CE marking to be given in the commercial documents, accompanying the packaging of fixed sign (e.g. externally illuminated retro-reflective fixed sign, as defined in Table ZA.5, under b.3)).

 0123	CE-conformity marking symbol given in Directive 93/68/EEC Identification number of the notified product certification body
AnyCo Ltd, Po Box 21, B – 1050 11 0123-CPD-00234	Name or identifying mark of the manufacturer, including the registered address of the manufacturer. Last two digits of the year in which the marking was affixed No. of the EC certificate of conformity
EN 12899-1:2010 Externally illuminated retro-reflective fixed sign for incorporation into an assembly of fixed vertical, road traffic signs installed permanently for vehicular and pedestrian traffic uses	Number of European Standard and the year of its publication Description of the product and its intended use
RELEASE OF DANGEROUS SUBSTANCES	NPD
MECHANICAL RESISTANCE to horizontal loads, as:	Performances on essential characteristics, which are to be declared for the relevant intended use
- fixing	Pass
- wind action	WL2
- temporary deflection, in bending	TDB5

- dynamic load from snow clearance	DSL1
- point loads	PL2
- permanent deflection	Pass
- partial safety factor	PAF1
PERFORMANCE UNDER IMPACT, as:	
- impact resistance	Pass
VISIBILITY CHARACTERISTICS, as:	
a) CHROMATICITY COORDINATES and LUMINANCE, by:	
- daylight chromaticity & luminance factor	CR1
- mean illuminance	E3
- uniformity of illuminance	UE2
b) RETRO-REFLECTIVITY, by:	
- application classes /corresponding retro-reflection performance classes	A12/P7 A23/P5 A24/P4 A34/P3
DURABILITY, as:	
- resistance to accelerated weathering (natural, 3 years)	Pass
- corrosion resistance:	- aluminium - SP1
- resistance to penetration of dust and water:	- IP56


Figure ZA.6 — Example of a complete CE marking of the externally illuminated retro-reflective fixed sign given in the accompanying documents by declaring structural characteristics

ZA.3.3.5 Complete CE marking on assembled fixed vertical, road traffic sign (see Table ZA.6)

Figure ZA.7 gives an example of the complete CE marking to be given in the commercial documents, accompanying the packaging of an assembled fixed vertical, traffic sign consisting of:

- a retro-reflective sign-face material (see Table ZA.1),
- a support (see Table ZA.2, using declaration of structural characteristics (see 5.1, a)), and
- an externally illuminated retro-reflective fixed sign (see b.3) in Table ZA.5), also using declaration of structural characteristics, when declaring its mechanical resistance to horizontal loads.

NOTE There may be other such CE marking examples depending on the components of the assembled fixed vertical, road traffic sign.

 0123	
AnyCo Ltd, Po Box 21, B – 1050 11 0123-CPD-00234	
EN 12899-1:2010 Assembled fixed vertical, road traffic sign for permanent installation for vehicular and pedestrian traffic uses Components: - retro-reflective sign-face material, - support, and - externally illuminated retro-reflective fixed sign	
RELEASE OF DANGEROUS SUBSTANCES	NPD
MECHANICAL RESISTANCE to horizontal loads:	
For support:	
- wind action	WL2
- max bending moment, M_u	100 kNm
- stiffness for bending, EI	100 kNm ²
- max moment for torsion, T_u	100 kNm
- stiffness for torsion, G_t	100 kNm ²
- temporary deflection, in bending	TDB6
- temporary deflection, in torsion	TDT4
For fixed sign:	
- fixing	Pass
- wind action	WL2
- temporary deflection, in bending	TDB5
- dynamic load from snow clearance	DSL1
- point loads	PL2
- permanent deflection	Pass
- partial safety factor	PAF1
PERFORMANCE UNDER IMPACT:	
For fixed sign:	
- impact resistance	Pass
For support:	
- vehicle impact (passive safety)	100,NE,3
VISIBILITY CHARACTERISTICS, as:	
a) CHROMATICITY COORDINATES and LUMINANCE, by:	
- daylight chromaticity & luminance factor	CR1
- mean illuminance	E3
- uniformity of illuminance	UE2
b) RETRO-REFLECTIVITY, by:	
- application classes /corresponding retro-reflection performance classes	A12/P7 A23/P5 A24/P4 A34/P3
DURABILITY, as:	

CE-conformity marking symbol given in Directive 93/68/EEC

Identification number of the notified product certification body

Name or identifying mark of the manufacturer, including the registered address of the manufacturer.

Last two digits of the year in which the marking was affixed
No. of the EC certificate of conformity

Number of European Standard and the year of its publication

Description of the product and its intended use incl. its components

Performances on essential characteristics, which are to be declared for the relevant intended use

- resistance to accelerated weathering (natural, 3 years)	Pass
- corrosion resistance (fixed sign):	- aluminium - SP1
- corrosion resistance (support):	- steel, - hot dip galvanized, - SP1
- resistance to penetration of dust and water:	- IP56

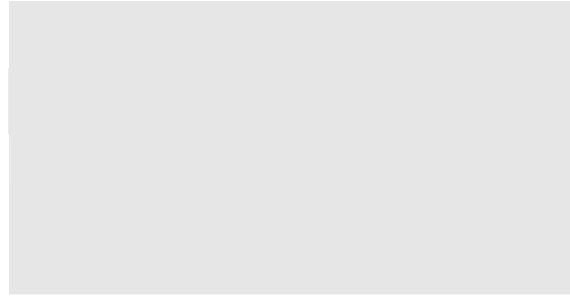


Figure ZA.7 — Example of complete CE marking of assembled fixed vertical, traffic sign consisting of a retro-reflective sign-face material, a support and an externally illuminated retro-reflective sign, given in the accompanying documents by declaring structural characteristics