



SLOVENSKI STANDARD
SIST EN 12899-4:2008/kFprA1:2012
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Stalna vertikalna cestna signalizacija - 4. del: Kontrola proizvodnje v tovarni

Fixed, vertical road traffic signs - Part 4: Factory production control

Ortsfeste, vertikale Straßenverkehrszeichen - Teil 4: Werkseigene Produktionskontrolle

Signalisation routière verticale - Signaux permanents fixes - Partie 4 : Contrôle de la production en usine

Ta slovenski standard je istoveten z: EN 12899-4:2007/FprA1

ICS:

93.080.30	Cestna oprema in pomožne naprave	Road equipment and installations
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English Version

Fixed, vertical road traffic signs - Part 4: Factory production control

Signalisation routière verticale - Signaux permanents fixes -
Partie 4 : Contrôle de la production en usine

Ortsfeste, vertikale Straßenverkehrszeichen - Teil 4:
Werkseigene Produktionskontrolle

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 12899-4:2007. 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.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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Foreword

This document (EN 12899-4:2007/FprA1:2012) 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 is an amendment to EN 12899-4:2007.

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.

EN 12899-4:2007/FprA1:2012 (E)**1 Modifications to the Foreword**

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."

Replace the introductory sentence to the list of parts, as given in paragraph 4 with the following text:

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

In paragraph 5, add also "Part 6: Retroreflective sign face materials" to the end of the list.

2 Modifications to Clause 2

Replace "EN 12899-1:2007" with "EN 12899-1:2007+A1:2013".

Replace "EN 12899-2:2007" with "EN 12899-2:2007+A1:2013".

Replace "EN 12899-3:2007" with "EN 12899-3:2007+A1:2013".

In the title of EN ISO 9000:2005, delete in the brackets the year after ISO 9000 to read:"(ISO 9000)".

Replace "EN ISO 9001:2000, Quality management systems — Requirements (ISO 9001:2000)" with "EN ISO 9001:2008, Quality management systems — Requirements (ISO 9001:2008)".

Add:

"EN 12899-6, Fixed vertical road traffic signs — Part 6: Performance of retroreflective sign face materials"

3 Modification to Clause 3

Replace "EN 12899-1:2007" with "EN 12899-1:2007+A1:2013", "EN 12899-2:2007" with "EN 12899-2:2007+A1:2013" and "EN 12899-3:2007" with "EN 12899-3:2007+A1:2013".

4 Modifications to 4.2

Add a new sub-clause 4.2.1 with the following text and Tables 1 to 4 (former sub-clause 4.2.1 becomes 4.2.2)

"

4.2.1 Coefficient of retroreflection for traffic signs

The integral method of evaluation of retroreflectivity in EN 12899-6 is not appropriate to be used for the factory production control on fixed vertical traffic signs at the traffic sign producer. For that purpose the values of the following tables shall be used at the traffic sign producer's FPC using portable measuring instruments. The evaluation of the FPC-Level has to be carried out at the initial type testing of the retroreflective sheeting and every combination of sign face material to be used.

Table 1 — Coefficient of retroreflection R_A FPC-Level 1 ($\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$)

Geometry of measurements		Colour							
A	β_1 ($\beta_2 = 0^\circ$)	White	Yellow	Red	Green	Blue	Brown	Orange	Grey
20'	5°	50	35	10	7	2	0,6	20	30
	30°	24	16	4	3	1	0,2	8	14,4

Table 2 — Coefficient of retroreflection R_A FPC-Level 2 ($\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$)

Geometry of measurements		Colour								
α	β_1 ($\beta_2 = 0^\circ$)	White	Yellow	Red	Green	Dark Green	Blue	Brown	Orange	Grey
20'	5°	180	120	25	21	14	14	8	65	90
	30°	100	70	14	12	11	8	5	40	50

Table 3 — Coefficient of retroreflection R_A FPC-Level 3 ($\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$)

Geometry of measurements		Colour								
α	β_1 ($\beta_2 = 0^\circ$)	White	Yellow	Red	Green	Dark Green	Blue	Brown	Orange	Grey
20'	5°	300	195	60	30	20	19	10	150	150
	30°	165	110	33	17	12	11	6	83	80

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Table 4 — Coefficient of retroreflection R_A FPC-Level 4 ($\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$)

Geometry of measurements		Colour								
α	β_1 ($\beta_2 = 0^\circ$)	White	Yellow	Red	Green	Dark Green	Blue	Brown	Orange	Grey
20'	5°	425	275	85	40	26	28	14	210	210
	30°	225	145	45	20	13	15	8	110	110

NOTE These tables are valid to be used for the factory production control at the traffic sign producer. They are not appropriate to classify the retroreflective sheeting or material combination used referring to EN 12899-6."

Add the headline of 4.2.2 as follows: "Control procedure"

Delete Table 1a to Table 1d and replace by Tables 5 to 11:

"

Table 5 — Minimum frequency of testing during production for product testing and evaluation as part of FPC for fixed signs and components (retroreflective sheeting materials)

Essential Requirements	Characteristics	Minimum number of samples	Frequency and documentation
Performance under impact	Impact resistance (sign-face material)	One	Per batch of sign face material
Adhesion	Adhesion of retroreflective sheeting	One	Per batch of sign face material
Visibility characteristics	Chromaticity coordinates and luminance factors	Five per colour and type, a sample shall be taken at the start and end of each continuous production run	All samples in each batch shall meet the requirements of EN 12899-6
	Coefficient of retroreflection	Five per colour and type, a sample shall be taken at the start and end of each continuous production run	All samples in each batch shall meet the requirements of EN 12899-6
	Coefficient of retroreflection - FPC-Level for traffic sign producer's FPC $\alpha = 20^\circ$ and $\beta_1 = +5^\circ$ and $\beta_1 = +30^\circ$ ($\beta_2 = 0^\circ$ and $\varepsilon = 0^\circ$)	Three per colour and type	Once per year. Measurement and comparison with the FPC-Level at ITT of retroreflective sheeting.
Durability	Resistance to accelerated natural weathering – retroreflective sign-face materials	One per colour and type	Every 5 years
<p>Tests for the purpose of FPC may not necessarily be the same as those for ITT.</p> <p>The above testing may not be necessary for any raw material or component which bears CE marking, but see EN 12899-5:2007+A1:2013, 4.1.</p> <p>Characteristics shall be selected and applied as appropriate to the product or component.</p> <p>For sampling purposes, the batch size referred to in Table 12 shall not exceed one year's production.</p>			