



SLOVENSKI STANDARD
kSIST FprEN 1790:2011
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Materiali za označevanje vozišča - Predoblikovane oznake

Road marking materials - Preformed road markings

Straßenmarkierungsmaterialien - Vorgefertigte Markierungen

Ta slovenski standard je istoveten z: FprEN 1790

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Road marking materials - Preformed road markings

Straßenmarkierungsmaterialien - Vorgefertigte
Markierungen

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

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Foreword

This document (FprEN 1790:2011) 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 UAP.

This document will supersede EN 1790:1998.

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 EC Directive(s).

For relationship with the Construction Product Directive (89/106/EEC), see informative Annex ZA, which is an integral part of this document.

The Annexes A, B, C, D, E and F of this European Standard are normative.

This European Standard belongs to the following package of inter-related European Standards:

- FprEN 1790, *Road marking materials — Preformed road markings*,
- FprEN 1824, *Road marking materials — Road trials*,
- FprEN 1871, *Road marking materials — Physical properties*,
- FprEN 12802, *Road marking materials — Laboratory methods and identification*,
- FprEN 13197, *Road marking materials — Turntable wear simulators*,
- FprEN 13212, *Road marking materials — Requirements for factory production control*,
- FprEN 13459, *Road marking materials — Sampling and testing*.

Introduction

A particular category of road marking materials, used for horizontal signalization, are preformed, i.e. manufactured products in sheet form, ready for use on the road. They can be applied by means of adhesives, pressure or heat, with or without the use of a primer. Preformed road marking materials can be linear, in pieces of a certain length or in rolls. They can also be cut out in the form of symbols or signs or parts of them, making it possible to assemble them on the road to achieve the desired shape.

Preformed road marking materials can be designed for use as permanent or temporary road markings. In both cases they can be applied with a view to later removal and therefore the specific property of "removability" can be required.

Preformed road marking products are defined as Tape, preformed Cold Plastic road marking or preformed Thermoplastic road marking with or without drop-on materials.

Except for Thermoplastic road markings with drop-on materials, all the other type of products are fully finished during manufacturing and do not change significantly their properties during application.

They are completely covered by this standard.

Thermoplastic road markings with drop-on materials need the addition of drop-on materials during application on the road and therefore they are in some way similar to thermoplastic products covered by FprEN 1871.

This standard provides all the relevant information and cross references to FprEN 1871 in order to cover this kind of products.

1 Scope

The construction products covered and specified on this European Standard are white and yellow, removable or non-removable, preformed road marking materials, under the form of tape, cold plastic, thermoplastics with or without drop-on materials, to be used for permanent and/or temporary road markings in circulation areas. Other products and colours intended for road markings are not covered in this European Standard

This document gives also specifications for the evaluation of conformity for white and yellow, removable or non-removable, preformed road materials under the form of tape, cold plastic, thermoplastics with or without drop-on materials to be used for permanent and/or temporary road markings in circulation areas including type testing and factory production control.

This European Standard also includes an Annex ZA for tapes, preformed cold plastic road marking and thermoplastic road marking without drop-on materials with the clauses addressing the provisions of the EU Construction Product Directive for permanent road marking.

For preformed Thermoplastic road marking with drop-on materials, Annex ZA of FprEN 1871:2011 applies.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1436:2007+A1:2008, *Road marking materials — Road marking performance for road users*

FprEN 1824:2010, *Road marking materials — Road trials*

FprEN 1871:2011, *Road marking materials — Paint, thermoplastic and cold plastic materials — Specifications*

FprEN 12802, *Road marking materials — Laboratory methods and identification*

FprEN 13197:2010, *Road marking materials — Turntable wear simulators*

FprEN 13459, *Road marking materials — Sampling and testing*

EN ISO 4892-3, *Plastics — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps (ISO 4892-3:2006)*

EN ISO 11358, *Plastics — Thermogravimetry (TG) of polymers — General principles (ISO 11358:1997)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

preformed road marking

factory produced road marking system (or product), in sheet or roll form, capable of being applied to the substrate with adhesive, primer, pressure, heat or a combination of them

3.1.1

tape

preformed multilayer road marking, capable of adapting itself to the texture of the substrate, which may be precoated with pressure-sensitive adhesive, capable of being stuck to the substrate without heating the material,

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while the photometric, colorimetric and skid resistance characteristics are not significantly modified during application

3.1.2**preformed cold plastic road marking**

preformed road marking made of cold plastic marking material as defined in FprEN 1871:2011, applied to the substrate by means of an adhesive, while the photometric, colorimetric and skid resistance characteristics are not significantly modified during application

3.1.3**preformed thermoplastic road marking without drop-on materials**

“pre-beaded” preformed road marking made of thermoplastic marking material as defined in FprEN 1871:2011, applied to the substrate by heating the material at melting temperature and without addition of any retroreflective and/or anti-skid materials during application

3.1.4**preformed thermoplastic road marking with drop-on materials**

preformed road marking made of thermoplastic road marking material as defined in FprEN 1871:2011, applied to the substrate by heating the material at melting temperature and with addition of retroreflective and/or anti-skid materials during application

3.2**removability**

characteristic of a preformed road marking capable of being removed, intact or in large pieces, without leaving permanent marks that could confuse the road user during different weather conditions

3.3**adhesive**

substance which is used to bond the preformed road marking to the substrate and the application of which may require heating

3.4**base road marking material**

according to 3.4 of FprEN 1871:2011, paint, a thermoplastic or a cold plastic with a unique identification, which may, or may not, include premix glass beads. This definition is relevant only for preformed thermoplastic road marking with drop-on materials as defined in 3.1.4

3.5**road marking assembly**

according to 3.5 of FprEN 1871:2011, base road marking material together the precise application instructions including the identification of the manufacturer, dosages, types and proportions of drop-on materials needed to build up the applied road markings, every change to which is a new assembly and is identified with the name of the base road marking material followed by the word assembly and a correlative number (e.g. Thermo AX – Assembly 1; Thermo AX – assembly 2, etc). This definition is relevant only for preformed thermoplastic road marking with drop-on materials as defined in 3.1.4

3.6**structured road marking products**

road marking product without areas of regular dimensions and top surfaces, which has flat areas of a maximum width of 75.7 mm a maximum length of 125 mm at the top of the structure. The areas may be crossed by gaps that take up minimum 25% of the total surface area and have widths of minimum 5 mm. The areas may have ridges or edges of blocks with a height of minimum 1,2 mm.

3.7**non structured road marking products**

road marking product with areas of regular dimensions and top surfaces, which has flat areas of a minimum width of 75.7 mm a minimum length of 125 mm at the top of the structure. The areas may be crossed by gaps that take up maximum 25% of the total surface area and have widths of maximum 5 mm. The areas may have ridges or edges of blocks with a height of maximum 1,2 mm.