

## DIN EN 1423



ICS 93.080.20

Supersedes  
DIN EN 1423:2012-04

**Road marking materials –  
Drop on materials –  
Glass beads, antiskid aggregates and mixtures of the two;  
English version EN 1423:2012 + AC:2013,  
English translation of DIN EN 1423:2013-03**

Straßenmarkierungsmaterialien –  
Nachstreumittel –  
Markierungs-Glasperlen, Griffigkeitsmittel und Nachstreugemische;  
Englische Fassung EN 1423:2012 + AC:2013,  
Englische Übersetzung von DIN EN 1423:2013-03

Produits de marquage routier –  
Produits de saupoudrage –  
Microbilles de verre, granulats antidérapants et mélange de ces deux composants;  
Version anglaise EN 1423:2012 + AC:2013,  
Traduction anglaise de DIN EN 1423:2013-03

Document comprises 72 pages

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original shall be considered authoritative.



*A comma is used as the decimal marker.*

## **National foreword**

This document (EN 1423:2012) has been prepared by Technical Committee CEN/TC 226 “Road equipment” (Secretariat: AFNOR, France), Working Group WG 2 “Horizontal signalization” (lead-management: Spain).

The responsible German body involved in its preparation was the *Normenausschuss Bauwesen* (Building and Civil Engineering Standards Committee), Working Committee NA 005-10-22 AA *Straßenmarkierungen*.

### **Amendments**

This standard differs from DIN EN 1423:2003-10 as follows:

- a) the definitions have been modified to clarify the different products, glass beads, antiskid aggregates and mixtures of the two;
- b) the standard has been updated with regard to the new technologies that allow lower defects on glass beads with a diameter equal to or greater than 1 mm;
- c) the essential characteristics of dangerous substances for glass beads and transparent antiskid aggregates in glass have been included;
- d) a test method for determining the presence of dangerous substances has been included;
- e) a test method for determining the glass beads and antiskid aggregates ratio in mixtures of the two has been included;
- f) the order of paragraphs has been changed to comply with the template for European Standards;
- g) Clause 6 “Evaluation of conformity” has been added;
- h) parts of Annex ZA have been modified to comply with the template for product standards.

Compared with DIN EN 1423:2012-04 the following corrections have been made:

- a) the titles of Tables 10 and 11 have been modified.

### **Previous editions**

DIN EN 1423: 1997-10, 2003-10, 2012-04

English Version

**Road marking materials —  
Drop on materials —  
Glass beads, antiskid aggregates and  
mixtures of the two**

Produits de marquage routier —  
Produits de saupoudrage —  
Microbilles de verre, granulats antidérapants et mélange de  
ces deux composants

Straßenmarkierungsmaterialien —  
Nachstreumittel —  
Markierungs-Glasperlen, Griffigkeitsmittel und  
Nachstreugemische

EN 1423:2011 was approved by CEN on 2011-12-17 and Corrigendum AC:2012 on 2013-02-20.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## **Foreword**

This document (EN 1423:2012) has been prepared by Technical Committee CEN/TC 226 “Road equipment”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1423:1997.

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 changes incorporated in this revision are:

- a) Modification of the definitions to clarify better the different products glass beads antiskid aggregates and mixtures of the two;
- b) Update of the standard to the new technologies that allow lower defects on glass beads with diameter equal or bigger than 1 mm;
- c) Addition of the essential characteristic of dangerous substances for glass beads and transparent antiskid aggregates in glass;
- d) Addition of test method to determine presence of dangerous substances;
- e) Addition of test method to determine glass beads and antiskid aggregates ratio in mixtures of the two;
- f) Modification of the order of paragraphs to comply to the template for European Standards;
- g) Addition of Clause 6 “Evaluation of conformity”;
- h) Modification of parts of Annex ZA to comply to the template for product standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **1 Scope**

This European Standard specifies the requirements applicable to glass beads, anti-skid aggregates, and the mixture of the two, which are applied as drop-on materials on road markings products (i.e. paints, cold plastics and thermoplastics).

Glass beads and/or anti-skid aggregates, or their mixture, applied during the process of manufacturing other road marking products are not covered by this European Standard.

## **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 ISO 787-9, *General methods of test for pigments and extenders — Part 9: Determination of pH value of aqueous suspension (ISO 787-9)*

ISO 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 2591-1, *Test sieving — Part 1: Methods using test sieves of woven wire cloth and perforated metal plate*

ISO 7724-2, *Paints and varnishes — Colorimetry — Part 2: Colour measurement*

## **3 Terms and definitions**

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

### **3.1** **types of drop-on materials**

#### **3.1.1** **glass bead**

transparent spherical glass particle, used to provide night visibility for the road markings by retroreflecting the incident headlight beams of a vehicle towards the driver

**NOTE** This product is defined by five characteristics: refractive index, maximum weighted percentage of defective glass beads, granulometry, content of dangerous substances and resistance to chemicals. In addition, surface treatment with its intended use need to be declared by manufacturer (if any).

#### **3.1.2** **antiskid aggregate**

hard grain of natural or artificial origin, used to provide antiskid qualities for the road markings

**NOTE** This product is defined by the following characteristics:

- transparent antiskid aggregates: granulometry, resistance to fragmentation (friability); in addition, for transparent antiskid aggregates in glass, content of dangerous substances;
- non-transparent antiskid aggregate granulometry, resistance to fragmentation (friability) chromaticity co-ordinates and luminance factor.

#### **3.1.3** **mixture of glass beads and antiskid aggregates**

product which is a combination of here above product criteria and their relative ratio