Teepiirdesüsteemid. Osa 3: Põrkeleevendite toimivusklassid, kokkupõrkekatse läbimistingimused ja katsemeetodid

- 3:

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

E EVS-EN 1317-3:2010
E EN 1317-3:2010

S E S
30 0 2010
EVS

E
E

07 07 2010

S E

NATIONAL FOREWORD

E EVS-EN 1317-3:2010
E E
EN 1317-3:2010

E S
30 0 2010
E

E
07 07 2010

E

ICS 13 200 3 0 0 30

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1317-3

July 2010

ICS 13.200; 93.080.30

Supersedes EN 1317-3:2000

English Version

Road restraint systems - Part 3: Performance classes, impact test acceptance criteria and test methods for crash cushions

Dispositifs de retenue routiers - Partie 3: Classes de performance, critères d'acceptation des essais de choc et méthodes d'essai pour les atténuateurs de choc

Rückhaltesysteme an Straßen - Teil 3: Leistungsklassen, Abnahmekriterien für Anprallprüfungen und Prüfverfahren für Anpralldämpfer

This European Standard was approved by CEN on 29 April 2010.

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 Management Centre or to any CEN member.

This European Standard exists 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 and United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 1317-3:2010: E

Contents

Page

Foreword

This document (EN 1317-3:2010) 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 January 2011, and conflicting national standards shall be withdrawn at the latest by January 2011.

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 1317-3:2000.

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).

EN 1317 consists of the following parts:

— EN 1317-1, *Road restraint systems — Part 1: Terminology and general criteria for test methods*;

— EN 1317-2, *Road restraint systems — Part 2: Performance classes, impact test acceptance criteria and test methods for safety barriers including vehicle parapets*;

— EN 1317-3, *Road restraint systems — Part 3: Performance classes, impact test acceptance criteria and test methods for crash cushions*;

— ENV 1317-4, *Road restraint systems — Part 4: Performance classes, impact test acceptance criteria and test methods for terminals and transitions of safety barriers*;

— prEN 1317-4, *Road restraint systems — Part 4: Performance classes, impact test acceptance criteria and test methods for transitions of safety barriers* (under preparation: this document will supersede ENV 1317-4:2001 for the clauses concerning transitions);

— EN 1317-5, *Road restraint systems — Part 5: Product requirements and evaluation of conformity for vehicle restraint systems*;

— prEN 1317-6, *Road restraint systems — Pedestrian restraint systems — Part 6: Pedestrian Parapet* (under preparation);

— prEN 1317-7, *Road restraint systems — Part 7: Performance classes, impact test acceptance criteria and test methods for terminals of safety barriers* (under preparation: this document will supersede ENV 1317-4:2001 for the clauses concerning terminals);

— prEN 1317-8, *Road restraint systems — Part 8: Motorcycle road restraint systems which reduce the impact severity of motorcyclist collisions with safety barriers* (under preparation)..

Annex A is normative.

The significant technical changes incorporated in this revision are:

a) Deletion of PHD;

b) Introduction of the measure of VCDI;

c) Reduction of impact angle tolerance to ± 1°;

d) Introduction of combined limit deviation of speed and angle for side tests;

e) New Annex A (normative) – Detailed test report template.

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 and the United Kingdom.

Introduction

Based on safety considerations, the design of roads may require the installation of crash cushions at certain locations. These are designed to reduce the severity of vehicle impact with a more resistive object.

The standard specifies the levels of performance, required of crash cushions, for the restraint and/or redirection of impacting vehicles.

The impact severity of vehicles in collision with crash cushions is rated by the indices Theoretical Head Impact Velocity (THIV), and Acceleration Severity Index (ASI) (see EN 1317-1).

The different performance levels will enable national and local authorities to specify the performance class of crash cushions.

Attention is drawn to the fact that the acceptance of a crash cushion will require the successful completion of a series of vehicle impact tests (see Tables 1, 2, 3, etc.) as well as compliance with the full standard.

1 Scope

This European Standard specifies requirements for the performance of crash cushions during vehicle impacts. It specifies performance classes and acceptance criteria for impact tests, which should be read in conjunction with EN 1317-1 and EN 1317-5.

The modifications included in this European Standard are not a change of test criteria, in the sense of EN 1317-5:2007+A1:2008, ZA.3.

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 1317-1:2010, *Road restraint systems — Part 1: Terminology and general criteria for test methods*

3 Abbreviations

ASI: Acceleration Severity Index

THIV: Theoretical Head Impact Velocity

4 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1317-1:2010 and the following apply.

4.1
obstacle
item or hazard being protected from vehicular impact by the presence of a crash cushion

4.2
front face of the obstacle
surface closest to a plane drawn perpendicular to the centre line of the crash cushion

4.3
family of crash cushions
multiple performance product that can be assembled to form different models from the same set of components, to obtain different shapes and performances, with the same working mechanism for the system and its components

4.4
crash cushion head
structural beginning of a crash cushion, i.e. first point at which the system offers significant resistance to an impact in the direction defined in 5.2

NOTE 1 In some designs, a non-structural beginning (head) may be included which offers no significant resistance to an impact. The crash cushion head is defined by the manufacturer and accepted by the test house performing the test.

NOTE 2 If no agreement is reached between the manufacturer and the test house regarding the definition of the crash cushion head, the test can be performed according to the manufacturer's definition and a note should be added to the test report outlining the diverging points of view.