



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 12767:2007

ICS 93.080.30

**PASSIVE SAFETY OF SUPPORT
STRUCTURES FOR ROAD EQUIPMENT -
REQUIREMENTS, CLASSIFICATION AND
TEST METHODS**

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Passive safety of support structures for road equipment - Requirements, classification and test methods

Sécurité passive des structures supports d'équipements de
la route - Prescriptions et méthodes d'essai

Passive Sicherheit von Tragkonstruktionen für die
Straßenausstattung - Anforderungen und Prüfverfahren

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Foreword

This document (EN 12767:2007) 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of an identical text or by endorsement, at the latest by May 2008, and conflicting national standards shall be withdrawn at the latest by May 2008.

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Introduction

The severities of accidents for vehicle occupants are affected by the performance of support structures for items of road equipment under impact. Based on safety considerations, these can be made in such a way that they detach or yield under vehicle impact.

This European Standard provides a common basis for testing of vehicle impacts with items of road equipment support.

This European standard considers three categories of passive safety support structures:

- high energy absorbing (HE);
- low energy absorbing (LE);
- non-energy absorbing (NE).

Energy absorbing support structures slow the vehicle considerably and thus the risk of secondary accidents with structures, trees, pedestrians and other road users can be reduced.

Non-energy absorbing support structures permit the vehicle to continue after the impact with a limited reduction in speed. Non-energy absorbing support structures may provide a lower primary injury risk than energy absorbing support structures.

In this European Standard, several levels of performance are given using the two main criteria related to the performance under impact of each of the three energy absorbing categories of support structure.

Support structures with no performance requirements for passive safety are class 0.

There are four levels of occupant safety.

Levels 1, 2 and 3 provide increasing levels of safety in that order by reducing impact severity. For these levels two tests are required:

- test at 35 km/h to ensure satisfactory functioning of the support structure at low speed.
- test at the class impact speed (50, 70 and 100) as given in Table 1.

Level 4 comprises very safe support structures classified by means of a simplified test at the class impact speed.

All the tests use a light vehicle to verify that impact severity levels are satisfactorily attained and compatible with safety for occupants of a light vehicle.

The different occupant safety levels and the energy absorption categories will enable national and local road authorities to specify the performance level of an item of road equipment support structures in terms of the effect on occupants of a vehicle impacting with the structure. Factors to be taken into consideration include:

- perceived injury accident risk and probable cost benefit;
- type of road and its geometrical layout;
- typical vehicle speeds at the location;
- presence of other structures, trees and pedestrians;
- presence of vehicle restraint systems.

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