



**National Standards Authority of Ireland**

**IRISH STANDARD**

**I.S. EN 12736:2002**

ICS 17.140.30  
43.120

**ELECTRICALLY PROPELLED ROAD  
VEHICLES - AIRBORNE ACOUSTICAL NOISE  
OF VEHICLE DURING CHARGING WITH  
ON-BOARD CHARGERS - DETERMINATION  
OF SOUND POWER LEVEL**

National Standards  
Authority of Ireland  
Dublin 9  
Ireland

Tel: (01) 807 3800  
Tel: (01) 807 3838

*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland  
and comes into effect on:  
May 24, 2002*

**NO COPYING WITHOUT NSAI  
PERMISSION EXCEPT AS  
PERMITTED BY COPYRIGHT  
LAW**

© NSAI 2002

**Price Code D**

Údarás um Chaighdeáin Náisiúnta na hÉireann



EUROPEAN STANDARD

**EN 12736**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2001

---

ICS 17.140.30; 43.120

English version

## Electrically propelled road vehicles - Airborne acoustical noise of vehicle during charging with on-board chargers - Determination of sound power level

Véhicules routiers à propulsion électrique - Bruit acoustique aérien du véhicule pendant la charge avec des chargeurs embarqués - Détermination du niveau de puissance acoustique

Elektrisch angetriebene Straßenfahrzeuge - Luftschallemission von Fahrzeugen während der Ladung mit bordeigenen Ladegerät - Bestimmung des Schallleistungspegels

This European Standard was approved by CEN on 14 October 2001.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

---

## Contents

	page
Foreword .....	3
Introduction.....	4
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	4
4 Preconditioning of the vehicle.....	5
5 Preparation of vehicle .....	5
6 Acoustical environment .....	5
6.1 Test site .....	5
6.2 Background noise .....	5
6.3 Environmental conditions.....	5
7 Acoustical measurement device.....	5
8 Operation mode.....	5
8.1 Position of microphones.....	5
8.2 Duration of measurement .....	6
8.3 Reading.....	6
9 Test report .....	6
9.1 Data of the test vehicle.....	6
9.1.1 Trade name or mark of the vehicle .....	6
9.1.2 Battery.....	6
9.1.3 Charger .....	6
9.2 Test site and ambient conditions .....	6
9.2.1 Ambient temperature .....	6
9.2.2 Barometric pressure .....	6
9.2.3 Relative humidity.....	6
9.3 Measuring instrument description .....	6
9.4 A-weighted background noise pressure level .....	6
9.5 Readings of the sound pressure levels with the vehicle, expressed in dB(A) .....	6
Annex A (informative) Different airborne noise limits existing in different European countries.....	7

## **Foreword**

This document has been prepared by CEN /TC 301, "Electrically propelled road vehicles", the secretariat of which is held by AFNOR.

This document has to be implemented at national level, either by publication of an identical text or by endorsement, by June 2002, and conflicting national standards have to be withdrawn by June 2002.

Annex A is for information only.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## EN 12736:2002 (E)

# Introduction

Electric road vehicles emit a very low level of noise when being driven because the noise emission of the electric motor is negligible compared with that of an Internal Combustion (I.C.) engine. On the other hand, electric road vehicles emit noise when they are stationary and the battery is on charge. If an electric road vehicle is equipped with an on-board charger, this can be a source of noise during charging, together with a number of other components which may also be operating and producing noise. Such airborne noise should be minimised, to avoid public nuisance, and its intensity should be no higher than that permitted under existing limits or recommendations.

This is the reason why it is important to measure the noise emission of the whole vehicle under precisely defined conditions. The airborne acoustical noise emission is expressed in terms of the sound power level of the electric road vehicle.

## 1 Scope

This standard specifies the procedure for measurement of the airborne acoustical noise emissions of electrically propelled road vehicles from category M<sub>1</sub>, M<sub>2</sub>, N<sub>1</sub>, or N<sub>2</sub><sup>1)</sup> during charging, the vehicle being fitted with an on-board charger.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 3744: 1995, *Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*.

ISO 362: 1998, *Acoustics - Measurement of noise emitted by accelerating road vehicles - Engineering method*.

ISO 1176:1990, *Road vehicles - Masses - Vocabulary and codes*.

ISO 10844:1994, *Acoustics - Specification of test tracks for the purpose of measuring noise emitted by road vehicles*.

## 3 Terms and definitions

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

### 3.1

#### **complete vehicle kerb mass VKM**

the definition of ISO-M06 in accordance with ISO 1176 applies.

**NOTE** The complete vehicle kerb mass VKM includes, in addition to the definition of ISO 1176, the traction battery, on board charger, portable charger or part of it if provided as standard by the manufacturer of the vehicle.

---

<sup>1)</sup> Categories of vehicles M<sub>1</sub>, M<sub>2</sub>, N<sub>1</sub> and N<sub>2</sub> are defined in Directive 92/53 EEC

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-