SLOVENSKI STANDARD
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Protihrupne ovire za cestni promet - Trajnostnost: izjava o ključnih kazalnikih učinkovitosti (KSPI)

Road traffic noise reducing devices - Sustainability : Key Sustainability Performance Indicators (KSPI) Declaration

Lärmschutzvorrichtungen an Straßen - Nachhaltigkeitsbewertung - Deklaration der Leistungsindikatoren

Dispositif de réduction du bruit du trafic routier - Contribution au développement durable : déclaration des indicateurs clés de performance en matière de contribution au développement durable (ICPCDD)

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Road traffic noise reducing devices - Sustainability : Key Sustainability Performance Indicators (KSPI) Declaration

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document has been prepared by the Technical Committee CEN/TC 226 “Road equipment”, the secretariat of which is held by AFNOR, it concerns the whole life sustainability of Road Traffic Noise Reducing Devices (NRDs).

This document is currently submitted to the CEN Enquiry.

The document presents a list of the Key Sustainability Performance Indicators (KSPIs) of noise reducing devices, as the basis for further relevant sustainability assessment(s) of those devices, following their intended use.

The KSPIs address, as far as possible; the (i) technical, (ii) environmental, (iii) economic and (iv) social sustainability characteristics.

Introduction

This document presents the KSPIs the manufacturers will provide in order to allow better understanding on how their product can be considered “sustainable”. It focuses on four sets of sustainability characteristics: (i) technical, (ii) environmental, (iii) economic and (iv) social. NRD manufacturers are expected to declare the data available in series of measurable quantities that will be used for the evaluation of the relevant sustainability KSPIs.

This information can help manufacturers to identify the product stages with the most important impact on different sustainability aspects.

This information can then be further used in the sustainability assessment of the NRDs over their entire life cycle while those devices will be used following their intended use.

This document identifies the data that is to be provided setting out the quantitative and qualitative performance indicators to be declared.

The aim is that of supporting manufacturers to focus on different aspects and production stages to improve the manufacturing process. In addition, procuring entities can use the KSPIs in tender specifications to promote more sustainable solutions and innovations.

When placing a product (NRD) on the market the manufacturer is expected to declare its performance with reference to the work requirements and to the CPR (Regulation EU 305/2011).

With reference to sustainability, the declaration is voluntary and can involve the consideration of their relevant characteristics over the whole life cycle. Those characteristics can be of the technical, environmental, economic and social type.

Sustainability evaluation of NRD implies a global approach where information provided by the manufacturer are used by other stakeholders or by another party involved.

1 Scope

This document lists KSPIs providing information that is relevant for assessing the sustainability of Noise Reducing Devices (NRD) products when used as complete systems alongside roads.

The KSPIs identified in this document are intended for the assessment of the technical, environmental, economic and social performance of NRDs over their life cycle and include the considerations listed in Annex A.

This document does not address the assessment of sustainability but provides the relevant information for such assessment.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 14388:2015, *Road traffic noise reducing devices — Specifications*

EN 15804:2012+A1:2013, *Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products*

EN ISO 14025, *Environmental Labels and declarations — Type III Environmental Declarations — Principles and Procedures*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

Definitions related to NRDs

3.1
noise reducing device
NRD
system designed to reduce the propagation of traffic noise away from the road environment.

Note 1 to entry The NRD comprises acoustic elements only or both structural and acoustic elements.

Note 2 to entry Applications of NRD include noise barriers, claddings, covers and added devices.

3.2
acoustic element
element whose primary function is to provide the acoustic performance of the device

3.3
structural element
element whose primary function is to support or hold in place acoustic elements

3.4
working life
period of time during which the performance of the device will be sustained

[SOURCE: EN 14389-2]

3.5
design life
useful life of an NRD, as intended by the designer

3.6
durability
ability to maintain the required technical performance throughout the working life subject to specified maintenance under the influence of foreseeable actions

Note 1 to entry: See EN 14389-1 and EN 14389-2.

3.7
roadside exposure
the conditions experienced by the noise reducing device installed alongside a road

Definitions related to NRD sustainability and life cycle stages

3.8
NRDs sustainability
optimal consideration of the relevant characteristics involved during the whole life cycle of NRDs following their intended use alongside roads

3.9
environmental characteristic of NRD
characteristics of NRD used to assess the environmental sustainability of the road (construction work) where the NRD is to be incorporated

3.10
economic characteristic of NRD
characteristics of NRD used to evaluate changes to the economic conditions, whether adverse or beneficial, due to the NRD

3.11
social characteristic of NRD
characteristics of NRD used to evaluate changes that may occur to the society or to quality of life, due to the NRD

3.12
technical characteristic of NRD
characteristics of NRD which may affect the requirements of the road (construction work) where the NRD is to be incorporated

3.13
primary characteristic
top level characteristic used for the evaluation of NRD sustainability

Note 1 to entry A primary characteristic is not usually measurable by itself and will typically have a set of secondary characteristics below them, which define the primary characteristic in question.

3.14
Secondary characteristic
characteristic that underpins the primary characteristic and is specific to the primary characteristic under consideration

Note 1 to entry Secondary characteristics are evaluated through the use of indicators.

Note 2 to entry In some cases, secondary characteristics may have further attributes/tertiary characteristics that define them further and are measured through the use of indicators.

3.15
Key Sustainability Performance Indicator
KSPI
relevant performance evaluation of a characteristic, which may be quantitative or qualitative

3.16
NRD Life Cycle
succession of four key distinct stages; (1) Production; (2) Installation; (3) Usage, including maintenance, repair and replacement, and (4) Removal

Definitions related to the Life Cycle Assessment procedure

3.17
Environmental Product Declaration
EPD
environmental declaration providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information

Note 1 to entry The calculation of predetermined parameters is based on the ISO 14040 series of standards, which is made up of ISO 14040, and ISO 14044. The selection of the predetermined parameters is based on ISO 21930 (adapted from ISO 14025).

Note 2 to entry An EPD covering only the product stage in LCA is said to be "cradle to gate" and is based on information modules A1 to A3 as per EN 15804. See Figure 1.

Note 3 to entry An EPD is said to be "cradle to gate with options" when it covers the product stage and selected further life cycle stages. It is based on information modules A1 to A3 plus other selected optional modules, e.g. end-of-life information modules C1 to C4. Information module D may be included in this EPD as per EN 15804. See Figure 1.

Note 4 to entry An EPD may cover the life cycle of a product according to the system boundary. In this case, the EPD covers the product stage, installation, use and maintenance, replacements, demolition, waste processing for re-use, recovery, recycling and disposal, and is said to be "cradle to grave". It covers all information modules A1 to C4 as per EN 15804. In this EPD, the information module D may be included. See Figure 1.

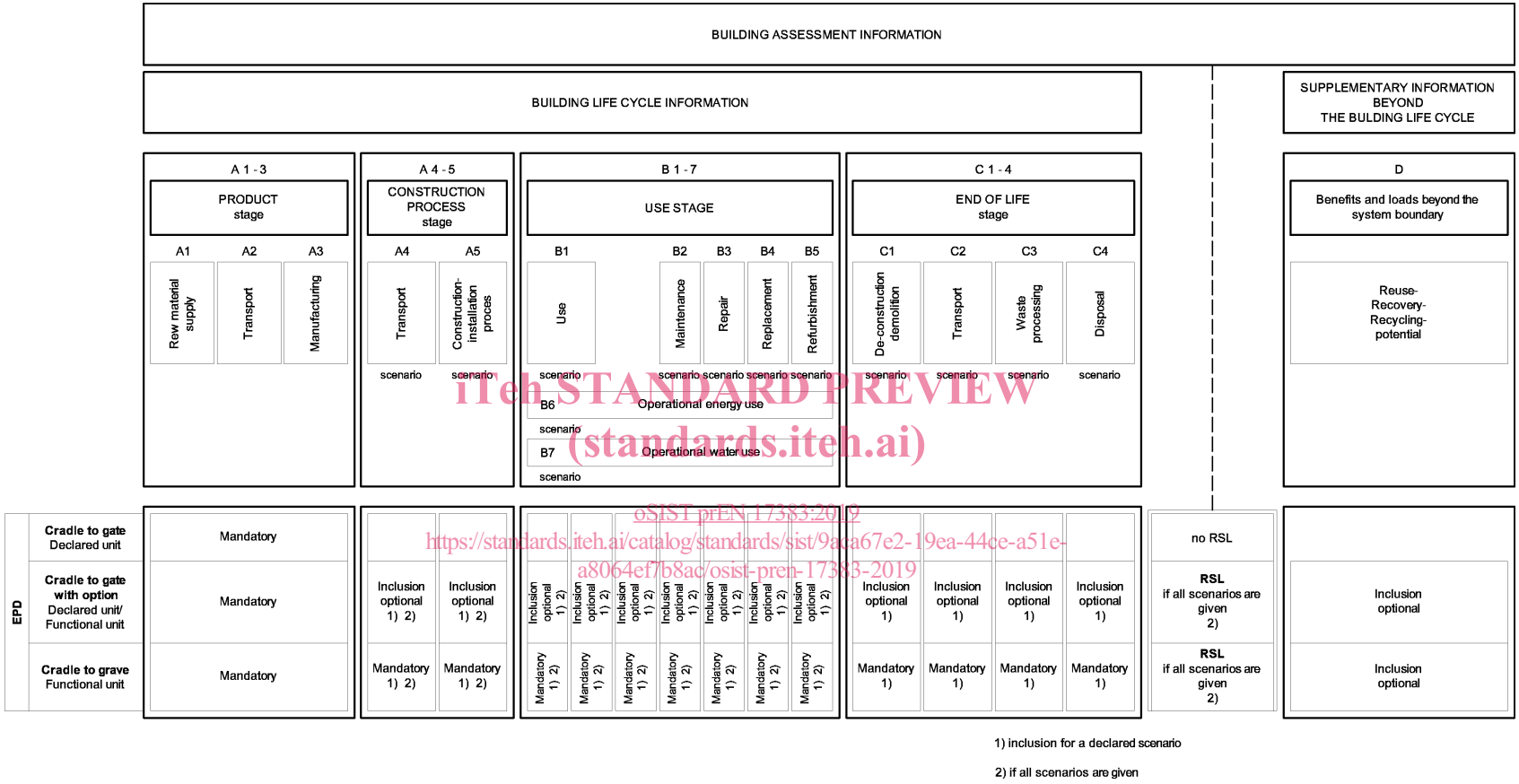

Figure 1 — Types of EPD with respect to life cycle stages covered and modules for sustainability assessment (from EN 15804:2012+A1:2013, Figure 1)

3.18
product category rules
PCR
set of specific rules, requirements, and guidelines for developing Environmental Declarations for one or more product categories

[SOURCE: EN ISO 14025:2010]

3.19
life cycle assessment
LCA
compilation and evaluation of the inputs, outputs and the potential environmental impacts of a NRD throughout its life cycle

[SOURCE: EN ISO 14044:2006]

3.20
life cycle cost
LCC
cost of a NRD throughout its life cycle, while fulfilling technical requirements and functional requirements

3.21
life cycle impact assessment
LCIA

phase of life cycle assessment aimed at understanding and evaluating the magnitude and significance of the potential environmental impacts for a product system throughout the life cycle of the product

3.22
life cycle inventory
LCI

phase of life cycle assessment involving the compilation and quantification of inputs and outputs for a product throughout its life cycle

3.23
system boundary
set of characteristics specifying which unit processes are part of the assessment

3.24
cut-off rule
criterion for the exclusion of input and outputs in the life cycle assessment

3.25
functional unit
quantified performance of a product system for use as a reference unit

3.26
declared unit
quantity of a construction product for use as a reference unit in an EPD for an environmental declaration based on one or more information modules

Note 1 to entry Examples of declared unit are mass (kg), volume (m^3).