DRAFT AMENDMENT ISO 717-2:1996/DAmd 2

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Acoustics — Rating of sound insulation in buildings and of building elements —

Part 2: Impact sound insulation

AMENDMENT 2: Procedure for evaluating the weighted reduction in impact sound level by floor coverings on lightweight floors

Acoustique — Évaluation de l'isolement acoustique des immeubles et des éléments de construction —

Partie 2: Protection contre le bruit de choc

AMENDEMENT 2: Méthode d'évaluation de la réduction pondérée du niveau sonore du bruit de choc par des revêtements de sol sur des planchers légers

ICS 91.120.20

ISO/CEN PARALLEL ENQUIRY

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Foreword

This document EN ISO 717-2:1996/prA2:2004 has been prepared by Technical Committee CEN/TC 126 “Acoustic properties of building elements and of buildings”, the secretariat of which is held by AFNOR, in collaboration with Technical Committee ISO/TC 43 “Acoustics”.

This document is currently submitted to the parallel Enquiry.

The present amendment 2 to EN ISO 717-2:1996 introduces a new clause in the main text of the standard.

As a matter of consequence, some additions are introduced in the existing text of:

— Annex A (informative): new sub clause A.2.3;

— Clause 2 Normative reference.

1 Scope

The present amendment 2 to EN ISO 717-2 defines a procedure for evaluating the weighted reduction in impact sound pressure level by floor coverings on lightweight floors.

2 Normative references

The following normative reference is added to clause 2 of EN ISO 717-2:

prEN ISO 140-11:2003, *Acoustics – Measurement of sound insulation in buildings and of building elements – Part 11: Laboratory measurement of the reduction of transmitted impact sound by floor coverings on lightweight reference floors (ISO/DIS 140-11:2003).*

6 Procedure for evaluating the weighted reduction in impact sound pressure level by floor coverings on lightweight floors

The present clause is added in the main text of EN ISO 717-2 behind clause 5:

6.1 General

The reduction of impact sound pressure level (improvement of impact sound insulation), $\Delta L_{t,1}$, $\Delta L_{t,2}$, $\Delta L_{t,3}$, of floor coverings when tested on one of the 3 lightweight reference floors as described in prEN ISO 140-11 is independent of the normalized impact sound pressure level of the bare reference floor $L_{n,t1,0}$, $L_{n,t2,0}$, $L_{n,t3,0}$ respectively.

However the weighted normalized impact sound pressure levels of a lightweight floor with and without a floor covering depend on $L_{n,t,0}$ of the bare floor on which the floor covering is used. In order to obtain values for $\Delta L_{t,,w}$, which are comparable between laboratories and especially which can be used to calculate the normalized impact sound pressure level of lightweight floors with the floor covering, it is necessary to relate the measured values of $\Delta L_{t,1}$, $\Delta L_{t,2}$, $\Delta L_{t,3}$ to the respective reference curves for the lightweight floors in prEN ISO 140-11.

6.2 Reference curves for the reference lightweight floors used to calculate $\Delta L_{t,w}$

In prEN ISO 140-11 there are three different reference lightweight floors and therefore it is necessary to define different types of reference curves for the calculation of $\Delta L_{t,w}$. The reference curves are defined by the relevant values for $L_{n,t,r,0}$. Table 5 contains the reference curves for $L_{n,t,r,0}$ along with the weighted normalized impact sound pressure levels for the different reference floors.

Table 5 — Normalized impact sound pressure level for the lightweight reference floors

Frequency Hz	$L_{n,t,r,0}$ for floors of type No.1and 2 in ISO 140-11 dB	$L_{n,t,r,0}$ for floors of type No.3 in ISO 140-11 dB
100	78	69
125	78	72
160	78	75
200	78	78
250	78	78
315	78	78
400	76	78
500	74	78
630	72	78
800	69	76
1 000	66	74
1 250	63	72
1 600	60	69
2 000	57	66
2 500	54	63
3 150	51	60
weighted normalized impact sound pressure level dB	72	75

Values of $\Delta L_{t,w}$ calculated with the reference floor for type No. 1 or 2 shall be designated as $\Delta L_{t,1,w}$ or $\Delta L_{t,2,w}$ respectively; values of $\Delta L_{t,w}$ calculated with the reference floor for type No. 3 shall be designated as $\Delta L_{t,3,w}$.

6.3 Calculation

The calculation shall be carried out as described in 5.3, substituting Table 5 instead of Table 4 and substituting ISO 140-11 instead of ISO 140-8.

6.4 Statement of results

The single number quantity $\Delta L_{t,1,w}$ or $\Delta L_{t,2,w}$ or $\Delta L_{t,3,w}$ shall be given with reference to this clause of ISO 717-2. The results of measurements shall be given in the form of a diagram as specified in prEN ISO 140-11.

Annex A
(informative)

The following sub clause is added behind A.2.2:

A.2.3 Spectrum adaptation term for the impact sound reduction of floor coverings on light weight floors

To gather experience with the unweighted impact sound level for light weight floors a spectrum adaptation term for flat response for the impact sound reduction may also be calculated for the floor coverings on light weight floors. The spectrum adaptation term $C_{I\Delta,t}$ is calculated from:

$$C_{I\Delta,t} = C_{I,t,r,0} - C_{I,t,r}$$

where

$C_{I,t,r}$ is the spectrum adaptation term for the reference floor with the floor covering under test;

$C_{I,t,r,0}$ is the spectrum adaptation term for the reference floor with $L_{n,t,r,0}$.;

$C_{I,t,r,0}$ = 0 dB for the reference curve for floors of type No. 1 and 2;

$C_{I,t,r,0}$ = -3 dB for the reference curve for floors of type No. 3;

Values of $C_{I\Delta,t}$ calculated with the reference floor for type No. 1 or 2 shall be designated as $C_{I\Delta,t1}$ or $C_{I\Delta,t2}$;

Values of $C_{I\Delta,t}$ calculated with the reference floor for type No. 3 shall be designated as $C_{I\Delta,t3}$.