Note

subject: Laboratory Measurement of the Effectiveness of Floor coverings in reducing Impact Sound Transmission through concrete floors
date: June 25, 2019
reference: TS/TS/HT/D 3198-1E-NO-001

At the request of Unifloor Underlay Systems based in Deventer (The Netherlands) sound measurements have been carried out in order to determine the reduction of transmitted impact noise of several floor coverings.
The full test results are given in test report A3085-1E-RA and A 3533-2E-RA where a full description is given of the standards, guidelines, materials used, construction, test methods and measurement tolerances. This letter gives a summary of the test results expressed in single-number ratings.
The measurements have been carried out according to ISO 10140-3:2010 Acoustics-Laboratory measurements of sound insulation of building elements – Part 3: Measurement of impact sound insulation. This test method closely follows that described in ASTM E492 and E2179. The measurements are performed one-third octave bands. From those values the following single number rating has been calculated and presented in table 1:

- the "weighted reduction of impact sound pressure level ΔL_W" according to ISO 717-2;
- the "impact insulation class IIC_c" according to ASTM E989-06(2006) for the reference concrete floor with the floor covering under test;
- the "improvement in impact insulation class ΔIIC" according to ASTM E2179-03(2009).

The following results are determined.

t1 *Measurement results*

Variant	Underlayer	topfloor	ΔL_w	IIC_c	ΔIIC
A3085-1E variant 6	PE-Foil + Jumpax Original	Linoleum	**21 dB**	**53**	**25**
A3085-1E variant 11	PE-Foil + Jumpax HD	Linoleum	**21 dB**	**53**	**25**
A3533-2E variant 6	PE-Foil + Jumpax Classic	3 mm LVT glue	**21 dB**	**53**	**25**

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