

Sound

E 5.0 General Information

E 5.1 Specifier's Information

Fig.1

Statutory requirements (DK)

In multi-storey residential buildings, hotels, student hostels, residential care homes, etc. the Danish building regulations require that airborne-sound insulation R'_w is minimum 55 dB for the dividing floor between two residential units, and between residential units and common rooms.

For the same building categories there are requirements of a step-sound level, $L'_{n,w}$ of maximum 53 dB, measured in an adjacent residential unit.

For building acoustics requirements outside Denmark, reference is made to national building regulations.

For recommended step-sound reduction values for selected Junckers floor - systems → **Table 1**

Fig. 2

Introduction

The Specifier's Information describes recommended values for step-sound reduction and absorption coefficients for a wide range of Junckers flooring systems.

For general information on sound and practical guidelines on acoustics in floor constructions with Junckers solid hardwood flooring → **E 5.0**.

Furthermore, reference made to Junckers floor systems → **C 1.0**.

Step-sound reduction – recommended values

	ΔL_w [dB]
Floor systems for residential and commercial applications	
22 / 20.5 mm clip system on JunckersFoam or PolyFoam	16
22 / 20.5 mm clip system on cardboard wool felt, 500 g/m ²	15
14 / 15 mm clip system on JunckersFoam or PolyFoam	17
14 / 15 mm clip system on cardboard wool felt, 500 g/m ²	16
22 / 20.5 mm batten system on 45 x 45 mm battens with soft packing	19
22 / 20.5 mm batten system on 45 x 45 mm battens with plastic packing	17-19
14 / 15 / 20.5 / 22 mm Glue Down System	9
Sports floors	
22 mm clip sports system on 10 mm SportsFoam underlay	17
22 mm clip sports system on 5 mm SportsFoam underlay	15
22 mm DuoBat 110+ double-layer sports batten system and 50 mm insulation	25
22 mm DuoBat 110+ double-layer sports batten system	25
22 mm UnoBat 62+ single-layer sports batten system	21
22 mm UnoBat 50 single-layer sports batten system	18

Table 1 - Recommended step-sound reduction for floors for residential and commercial applications laid on concrete dividing floors.

Absorption coefficient

Absorption coefficients for selected floor systems	Frequency, Hz					
	125	250	500	1,000	2,000	4,000
22/20.5 mm batten systems with soft packing on concrete	0.15	0.11	0.10	0.07	0.06	0.07
22/20,5 mm clip systems with ProFelt or PolyFoam on concrete	0.02	0.19	0.04	0.02	0.04	0.05
14 mm clip systems with ProFelt or PolyFoam on concrete	0.01	0.13	0.07	0.02	0.03	0.01

Table 2 - Recommended absorption coefficients in the frequency range 125-4,000 Hz for selected floor systems. For calculation of reverberation time.