

DIN EN 17823:2025-08 (E)

Acoustic properties of building elements and of buildings - Laboratory measurement of the impact sound insulation of stairs and stair isolating elements (includes Corrigendum :2025)

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Principle of the method(s)	12
4.1	General	12
4.2	Horizontal transmission; case of isolated heavy landings or lightweight stairs connected to walls	12
4.3	Horizontal transmission; case of isolated heavy flights of stairs connected to heavy landings	12
4.4	Vertical transmission; case of lightweight stairs connected to heavy lower and upper floors	12
4.4.1	General	13
4.4.2	Connection to lower floors (top in Figure 3)	14
4.4.3	Connection to upper floors (bottom in Figure 3)	15
5	Test facilities and equipment	15
5.1	General	15
5.2	Reference wall	16
5.2.1	General	16
5.2.2	Wall surface	16
5.2.3	Openings or recesses to receive the landing	16
5.3	Auxiliary wall	16
5.4	Reference lower floor	17
5.5	Reference upper floor	17
5.6	Reference landing	17
5.7	Reference flight	18
5.8	Lightweight stair (system)	18
6	Test arrangement	19
6.1	General	19
6.2	Erecting the reference wall	19
6.3	Isolated installation of reference landing	19
6.4	Rigid installation of reference landing	20
6.5	Isolated installation of reference flight	20
6.6	Rigid installation of reference flight	21
6.7	Installation of the lightweight stair system	21
7	Test procedure	22
7.1	General	22
7.2	Structure-borne sound measurements	23
7.3	Generation of sound field	23
7.3.1	General	23

7.3.2	Excitation of reference wall	23
7.3.3	Excitation of reference landing	24
7.3.4	Excitation of reference flight	24
7.3.5	Excitation of lightweight stair	24
7.4	Generation of additional loads	25
13	13.8 Precision	25
9	Evaluation and test report	25
9.1	Evaluation	25
9.2	Expression of results	26
9.3	Test report	26
Annex A (normative) Determining the impact sound pressure level difference		27
A.1	General	27
A.2	Principle of the method	27
A.3	Test arrangement	28
A.4	Procedure	28
A.5	Precision	28
A.6	Evaluation and test report	29
Bibliography		30