

# DIN EN ISO 10140-5:2021-09 (E)

## Acoustics - Laboratory measurement of sound insulation of building elements - Part 5: Requirements for test facilities and equipment (ISO 10140-5:2021)

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
Foreword .....		5
Introduction .....		6
<b>1</b>	<b>Scope .....</b>	<b>8</b>
<b>2</b>	<b>Normative references .....</b>	<b>8</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>9</b>
<b>4</b>	<b>Laboratory test facilities for airborne sound insulation measurements .....</b>	<b>9</b>
4.1	General .....	9
4.2	Test rooms .....	9
4.2.1	Volume .....	9
4.2.2	Diffusion .....	9
4.2.3	Reverberation time .....	9
4.2.4	Background noise .....	10
4.2.5	Suppression of flanking transmission .....	10
4.3	Test opening .....	10
4.3.1	General .....	10
4.3.2	Full-sized test opening .....	10
4.3.3	Reduced-size test opening .....	12
4.3.4	Specific small-sized test opening .....	13
<b>5</b>	<b>Laboratory test facilities for impact sound insulation measurements .....</b>	<b>15</b>
5.1	General .....	15
5.2	Receiving room .....	15
5.2.1	Volume .....	15
5.2.2	Further requirements .....	15
5.3	Test opening .....	15
5.3.1	Full-sized test opening .....	15
5.3.2	Frame specification .....	15
<b>6</b>	<b>Equipment .....</b>	<b>16</b>
6.1	Airborne sound field .....	16
6.2	Impact sound source .....	16
6.3	Measurement system .....	16
<b>Annex A (normative) Estimation of the maximum measurable sound reduction index .....</b>		<b>18</b>
<b>Annex B (normative) Standard basic elements for measuring the improvement of airborne sound insulation by linings .....</b>		<b>22</b>
<b>Annex C (normative) Standard floors for measuring the improvement of impact sound insulation by floor coverings .....</b>		<b>23</b>
<b>Annex D (normative) Qualification procedure for loudspeakers and loudspeaker positions .....</b>		<b>28</b>
<b>Annex E (normative) Standard tapping machine .....</b>		<b>32</b>

<b>Annex F (normative) Alternative impact sound sources .....</b>	<b>34</b>
<b>Annex G (normative) Wooden mock-up floor for measuring the improvement of impact sound insulation by floor coverings .....</b>	<b>39</b>
<b>Annex H (normative) Specification of heavy and intense rain--Example of a tank with perforated base .....</b>	<b>40</b>
<b>Annex I (informative) Reference test specimens for rainfall sound measurements .....</b>	<b>43</b>
<b>Bibliography .....</b>	<b>46</b>