

# DIN EN 1793-6:2018-08 (E)

Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 6: Intrinsic characteristics - In situ values of airborne sound insulation under direct sound field conditions

---

## Contents

	Page
European foreword .....	4
Introduction .....	6
1 Scope .....	8
2 Normative references .....	8
3 Terms and definitions .....	8
4 Sound insulation index measurements .....	13
4.1 General principle .....	13
4.2 Measured quantity .....	13
4.3 Test arrangement .....	14
4.4 Measuring equipment .....	19
4.4.1 Components of the measuring system .....	19
4.4.2 Sound source .....	19
4.4.3 Test signal .....	19
4.5 Data processing .....	20
4.5.1 Calibration .....	20
4.5.2 Sample rate .....	20
4.5.3 Background noise .....	21
4.5.4 Scanning technique using a single microphone .....	21
4.5.5 Scanning technique using nine microphones .....	21
4.5.6 Adrienne temporal window .....	22
4.5.7 Placement of the Adrienne temporal window .....	23
4.5.8 Low frequency limit and sample size .....	24
4.6 Positioning of the measuring equipment .....	25
4.6.1 Selection of the measurement positions .....	25
4.6.2 Post measurements .....	26
4.6.3 Additional measurements .....	26
4.6.4 Reflecting objects .....	26
4.6.5 Safety considerations .....	26
4.7 Sample surface and meteorological conditions .....	27
4.7.1 Condition of the sample surface .....	27
4.7.2 Wind .....	27
4.7.3 Air temperature .....	27
4.8 Single-number rating .....	27
4.8.1 General .....	27
4.8.2 Acoustic elements .....	27
4.8.3 Posts .....	28
4.8.4 Global .....	28
5 Measurement uncertainty .....	29
6 Measuring procedure .....	29
7 Test report .....	29

<b>Annex A (informative) Categorization of single-number rating .....</b>	<b>31</b>
<b>Annex B (informative) Guidance note on use of the single-number rating .....</b>	<b>32</b>
<b>Annex C (informative) Measurement uncertainty .....</b>	<b>33</b>
C.1 <b>General .....</b>	<b>33</b>
C.2 <b>Measurement uncertainty based upon reproducibility data .....</b>	<b>33</b>
C.3 <b>Standard deviation of repeatability and reproducibility of the sound insulation index .....</b>	<b>33</b>
<b>Annex D (informative) Template of test report on airborne sound insulation of road traffic noise reducing devices .....</b>	<b>36</b>
D.1 <b>General .....</b>	<b>36</b>
D.2 <b>Test setup (example) .....</b>	<b>38</b>
D.3 <b>Test object and test situation (example) .....</b>	<b>39</b>
D.4 <b>Results (example) .....</b>	<b>42</b>
D.4.1 <b>Part 1 - Results for 'element' in tabular form .....</b>	<b>42</b>
D.4.2 <b>Part 2 - Results for 'element' in graphic form .....</b>	<b>43</b>
D.4.3 <b>Part 3 - Results for 'post' in tabular form .....</b>	<b>44</b>
D.4.4 <b>Part 4 - Results for 'post' in graphic form .....</b>	<b>45</b>
D.4.5 <b>Part 5 - Results for global condition (average of 'element' and 'post') in tabular form .....</b>	<b>46</b>
D.4.6 <b>Part 6 - Results for global condition (average of 'element' and 'post') in graphic form .....</b>	<b>47</b>
D.5 <b>Uncertainty (example) .....</b>	<b>47</b>
<b>Bibliography .....</b>	<b>50</b>