**Measurement of Water Appliance Noises in the Laboratory**

according to DIN EN ISO 3822-1, 07.2009

**Enclosure 11**

**Client:** Pentair Engineered Electrical & Fastening Solutions, Jules Verneweg 75, 5015 BG Tilburg, The Netherlands

**Test object:** 1" steel pipe, outer dia d = 33.7 mm, fastened with Pipe clamp CADDY® HDPC (EPDM) (Article Number 577036), 29-33 mm, 1", M8/M10

**Operation:** Withdrawal with IGN according to DIN EN 3822-1 at flow pressure of 0.3 Mpa (3 bar)

**Evaluation:**

Measurement of the noise transmission at octave centre frequencies f = 125 to 4000 Hz and calculation of the difference between "rigid" and "decoupled" fastening. Evaluation using the normative IGN-reference values, conversion to the average expected noise transmission in the building. **Measurement 5** on 30.09.2015, air temperature in test stand: 20.1 °C, relative humidity: 53.8 %

<table>
<thead>
<tr>
<th>Frequency f [Hz]</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>VM L_{IN} [dB]</td>
<td>10.2</td>
<td>14.2</td>
<td>16.0</td>
<td>19.4</td>
<td>20.9</td>
<td>21.8</td>
</tr>
</tbody>
</table>

**Evaluation:**

Curve 1: Noise transmission with fastening with pipe clamp type see above

\[ L_{IN} = 27 \text{ dB(A)} \]

Curve 2: Noise transmission when using rigid fastening

\[ L_{IN} = 45 \text{ dB(A)} \]

**Improvement:**

\[ L_{IN} = 18 \text{ dB(A)} \]

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SG-Bauakustik Institut für schalltechnische Produktoptimierung
Mainstrasse 15
45478 Mülheim an der Ruhr, 21.10.2015

Stefan Grüll