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Test report P-BA 65/2011e

Determination of the Acoustic Performance of a Wastewater Installation System in the Laboratory

Client: Dizayn Teknik Plastik Boru ve Elemanları San Tic. A.Ş.

Atatürk Mahallesi İnönü Caddesi No:6 34522

Kıraç-Esenyurt ISTANBUL 34522 TÜRKİYE

Test specimen: Wastewater installation system "Dizayn Atıksu Çok Sessiz Boru

(Triplex)" (manufacturer: Dizayn) mounted with pipe clamps

"Bismat 1000 SX100 SL125" by Walraven.

Contents: Table 1: Summary of test results

Figures 1 to 3: Detailed results
Figure 4 and 5: Test set-up

Annex A: Measurement set-up, noise excitation,

acoustic parameters

Annex F: Evaluation of measurements
Annex P: Description of test facility

The tests were performed in a laboratory accredited by the German Accreditation System for Testing (DAP, file no. PL-3743.26) according to standard EN ISO/IEC 17025.

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Stuttgart, June 7, 2011

Responsible Test Engineer: Head of Laboratory:

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Weber

Determination of the installation sound level L_{In} in the laboratory

P-BA 65/2011e Table 1

Client:

Dizayn Teknik Plastik Boru ve Elemanları San Tic. A.Ş., Atatürk Mahallesi İnönü Caddesi No:6 34522, Kıraç-Esenyurt, ISTANBUL, 34522, TÜRKİYE

Test specimen: Wastewater installation system (test specimen S 10374-01) consisting of "Dizayn Atıksu Çok Sessiz Boru (Triplex)" plastic pipes (manufacturer: Dizayn) and fittings mounted with acoustic pipe clamps with elastomer inlay "Bismat 1000 SX100 SL125" by Walraven.

Test set-up:

- The pipe system was mounted according to figure 4 (see also Annex A).
- The system consisted of wastewater pipes (nominal size OD 110), three inlet tees (90°), two 45°basement bends and a horizontal drain section. The inlet tees in the basement and in the ground floor were closed by lids supplied by the manufacturer. The pipe system was mounted by the
- Pipe system "Dizayn Atıksu Çok Sessiz Boru (Triplex)": Size OD 110, 3 layer pipe with attached sleeve. Material polypropylene, wall thickness 3.4 mm, weight 1.4-1.5 kg/m, density 1.23 g/cm³. One-layer fittings: Size OD 110, material polypropylene, wall thickness 2.7 mm, density 1.12 g/cm³. Connection of the pipes by plug-on socket connection.
- Acoustic pipe clamps "Bismat 1000 SX100 SL125": structure born sound insulating support attachment consisting of supporting and fixing clips. Fixed to the installation wall with a fastening plate and with dowels and thread rods. To avoid contact between supporting clamps (SL) and the pipe, SL clamps in dimension DN 125 were used (Fig. 5).

Test facility:

Installation test facility P12, mass per unit area of the installation wall: 220 kg/m², installation rooms: sub-basement (KG), basement (UG) front, ground floor (EG) front and top floor (DG), measuring rooms: UG front, UG rear (details in Annex P and EN 14366: 2005-02).

Test method:

ÖRDERUNG DER

The measurements were performed following EN 14366; noise excitation by stationary water flow with 0.5 l/s, 1.0 l/s, 2.0 l/s and 4.0 l/s (details in Annexes A and F).

Results:

	Waste water system "Dizayn Atıksu Çok Sessiz Boru (Triplex)" with pipe clamps "Bismat 1000 SX100 SL125"				
10	Flow rate [l/s]	0,5	1,0	2,0	4,0
B	Installation sound level L _{In} [dB(A)] measured in the basement test- room UG front	47	50	51	53
Z	Installation sound level L_{ln} [dB(A)] measured in the basement testroom UG rear	11	16	16	20
A PERSONAL PROPERTY.	Airborne sound pressure level L _{a,A} [dB(A)] 1)	47	50	51	53
WINDSHOP CO.	Structure-born sound characteristic level L _{sc,A} [dB(A)] ¹)	<10	14	14	18

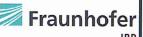
¹⁾ Evaluation according to EN 14366.

Date of tests:

May 9, 2011

Comments:

- The requirements of DIN 4109 only apply for the Installation sound level $L_{\mbox{\tiny In}}$ measured in test room UG
- Sound levels below 10 dB(A) are not mentioned in the test report, since they are subject to an increased measurement uncertainty and moreover are not noticeable in a normal living environment.
- For the experimental setup investigated in the test facility the used supporting and fixing clips Bismat 1000 normally doesn't guarantee a realistic load transmission. Consequently, in case of practical application in a real building significant higher levels of installation noise may be expected.



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Stuttgart, June 7, 2011 Head of Laboratory:

