

Fraunhofer Institute for Building Physics IBP

Director
Prof. Dr. Klaus Peter Sedlbauer

Nobelstr. 12
70569 Stuttgart

Dipl.-Ing. (FH) Sven Öhler
Building Acoustics
Department Acoustics
Phone +49 711 970-3345 | Fax -970-3406
sven.oehler@ibp.fraunhofer.de
www.ibp.fraunhofer.de

Fraunhofer IBP | POB 80 04 69 | 70504 Stuttgart, Germany

GF Hakan Plastik
COSB Gaziosmanpasa Mh. 3. Cd. No: 11-13
CERKEZKOY/TEKIRDAG
TÜRKİE

Your Ref.

Your Message of

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SvO/

Stuttgart, June 11, 2015

Preliminary information - measurement results

Dear Mr. Nadirler,

enclosed please find our test results for the measurements of May 29, 2015 (see table 1).


Test object was the PVC wastewater system "SILENTA FR (FLAME RETARDANT) ATIKSU BORUSU 110 x 5.3" (manufacturer: GF Hakan Plastik). The wastewater system consisted of straight plastic pipes and fittings (size OD 110 mm) and acoustic pipe clamps (double clamps, supporting and fixing clamps) "GF Hakan PLASTIK 110-119, 116-125" (made by GF Hakan Plastik). To avoid contact between supporting clamps and the pipe, 2 spacers (2 x 7.5 mm) on each side of the clamps were used. Mounting details see figures 1 and 2.

This information does not represent a proof for the sound-related suitability of the examined products. Only a test report with detailed description of the proofed items and the measuring procedure can provide this certification.

The official test report will be send to +GF+Hakan Plastik as soon as possible.

Yours sincerely,

Fraunhofer Institute for Building Physics IBP



Dipl.-Ing. (FH) Sven Öhler

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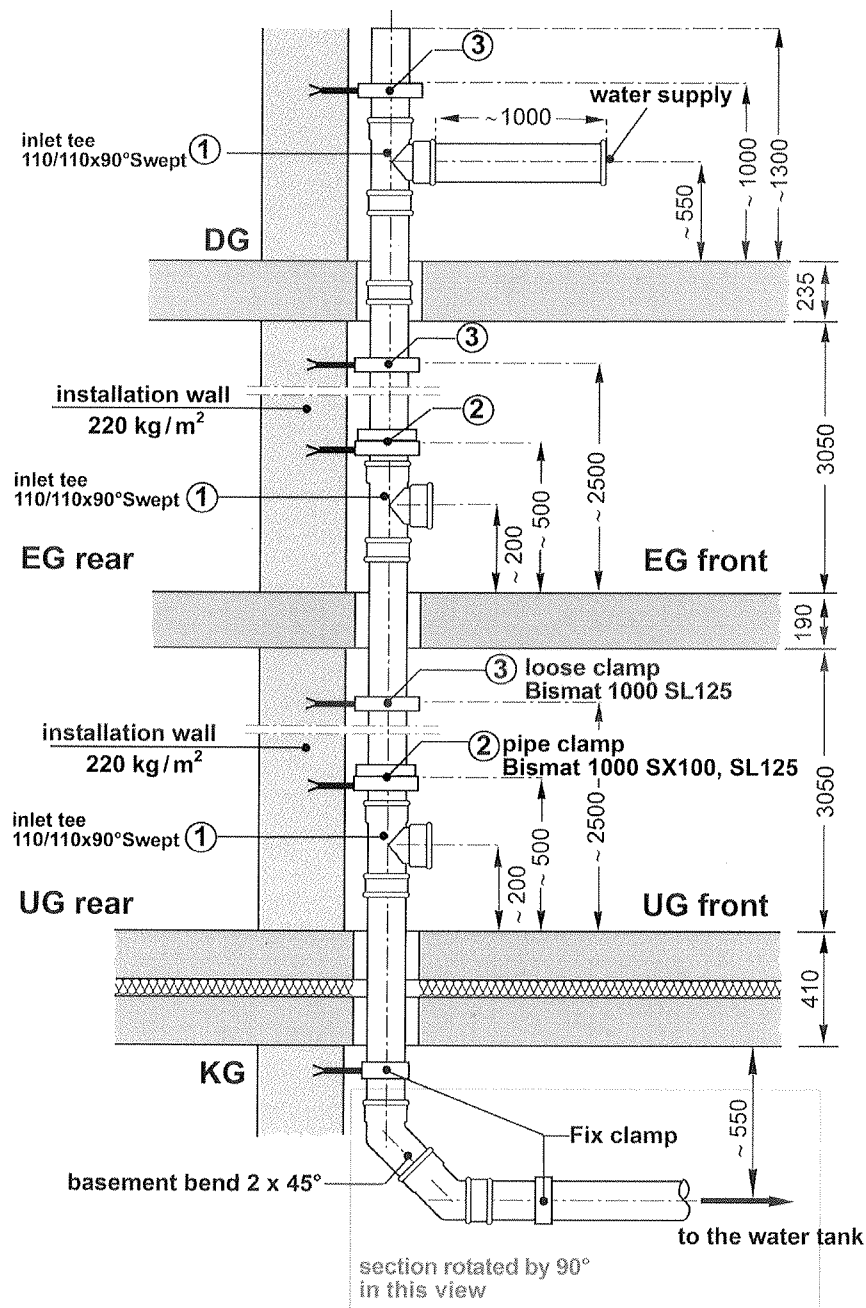
Table 1 GF Hakan Plastik, measurements of May 29, 2015. Sound pressure levels measured in the installation test facility. Test object was the PVC wastewater system "SILENTA FR (FLAME RETARDANT) ATIKSU BORUSU 110x5.3" (manufacturer: GF Hakan Plastik). The wastewater system consisted of straight plastic pipes and fittings (size OD 110 mm) and acoustic pipe clamps (double clamps, supporting and fixing clamps) "GF Hakan PLASTIK 110-119, 116-125" (made by GF Hakan Plastik). To avoid contact between supporting clamps and the pipe, 2 spacers (2x7.5mm) on each side of the clamps were used. Mounting details see figures 1 and 2.

Wastewater system "SILENTA FR (FLAME RETARDANT) ATIKSU BORUSU 110x5.3" (manufacturer: GF Hakan Plastik) with acoustic pipe clamps (double clamps, supporting and fixing clamps) "GF Hakan PLASTIK 110-119, 116-125" (made by GF Hakan Plastik).

To avoid contact between supporting clamps and the pipe, 2 spacers (2x7.5mm) on each side of the clamps were used.

Mounting details see figures 1 and 2.

	Flow rate [l/s]	0.5	1.0	2.0	4.0
Installation sound level $L_{AFeq,n}$ (L_{in}) [dB(A)] according to DIN 4109 measured in the basement test-room UG front		41	46	49	52
Installation sound level $L_{AFeq,n}$ (L_{in}) [dB(A)] according to DIN 4109 measured in the basement test-room UG rear		<10	<10	10	16
Installation sound level $\overline{L}_{AFeq,nT}$ (L_{in}) [dB(A)] according to VDI 4100 measured in the basement test-room UG front		39	44	47	50
Installation sound level $\overline{L}_{AFeq,nT}$ (L_{in}) [dB(A)] according to VDI 4100 measured in the basement test-room UG rear		<10	<10	<10	13
Airborne sound pressure level $L_{a,A}$ [dB(A)] according to EN 14366 in the basement test-room UG front		41	46	49	52
Structure-borne sound characteristic level $L_{sc,A}$ [dB(A)] according to EN 14366 in the basement test-room UG rear		<10	<10	<10	12

**Figure 1**

GF Hakan Plastik, measurements of December 23, 2014, test set up for the wastewater system "SILENTA FR (FLAME RETARDANT) ATIKSU BORUSU 110 x 5.3" (manufacturer: GF Hakan Plastik) with acoustic pipe clamps (double clamps, supporting and fixing clamps) "GF Hakan PLASTIK 110-119, 116-125" (made by GF Hakan Plastik). To avoid contact between supporting (loose) clamps and the pipe, 2 spacers (2 x 7.5mm) on each side of the clamps were used. Mounting details see figure 2.



Figure 2

Mounting of the clamps for the wastewater system "SILENTA FR (FLAME RETARDANT) ATIKSU BORUSU 110 x 5.3" (manufacturer: GF Hakan Plastik) with acoustic pipe clamps (double clamps, supporting and fixing clamps) "GF Hakan PLASTIK 110-119, 116-125" (made by GF Hakan Plastik). To avoid contact between supporting (loose) clamps and the pipe, 2 spacers (2 x 7.5mm) on each side of the clamps were used. Mounting details see figure 1.