Sample Report

Construction Site-Related Noise Immissions

Betontest Ingenieurdienstleistungen
Mühltalstr. 68
64297 Darmstadt
Germany

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1 Inducement

Betontest Ingenieurdienstleistungen was contracted to perform measurements of construction site-related noise immissions.

2 Measuring Devices

The measurements were carried out utilising a noise level meter of type Bruel & Kjaer 2250.

Figure 1: noise level meter*, type Bruel & Kjaer 2250*

3 Regulations

The measurements where performed according to the German guideline *„Allgemeine Verwaltungsvorschrift zum Schutz gegen Baulärm (Geräuschimmissionen – AVV Baulärm)“* (engl.: Genaral Administrative Regulation Concerning Construction Noise).

Maximum values:

For the area where the measurements were carried out the following maximum values are allowed:

day	**65dB(A)**
night	**50dB(A)**

This value is exceeded if the evaluation level is greater than the assessment level according to the regulation.

4 Procedure

4.1 Points of Measurement

The measurements were performed in the directly neighbouring residential area. On the occasion of the visit on site at mm.dd.yyyy four points of measurement were defined. These points are shown in figure 2.

Figure 2: measurement points in the neighbouring residential area of the building site

4.2 Performance of Measurements

The measurement data was aquired at a height of 1.5 m in a distance of 3 m to a reflecting wall. Because there was no work performed at building-site in the night no measurements were carried out in the night-time.

4.3 Average Effective Sound Level

Based on the collected data the average sound level was calculated. If significant sounds were present in the noise pattern a correcting value for burdensomeness was applied.

4.4 Evaluation Level

In order to consider the average daily operating time of building machines a correction level has to be subtracted from the average sound level to get the evaluation level. These correction levels are given in table 1.

Table 1: Time Correction

average daily operating time of building machines		**time correction level**
from 7 am until 8 pm	**from 8 pm until 7 am**	
up to 2 ½ h	up to 2h	10 dB(A)
from 2 ½ h to 8 h	from 2 ½ h up to 8 h	5 dB(A)
more than 8 h	more than 6 h	0 dB(A)

Ingenieurdienstleistungen
Mühltalstraße 68
64297 Darmstadt, Germany
Telefon: 0049-6151-57925
Mobil: 0049-173-3239601
Fax: 0049-6151-57986
E-Mail: info@betontest.de

5 Measurement Results

The results of the noise measurements are given in table 2.

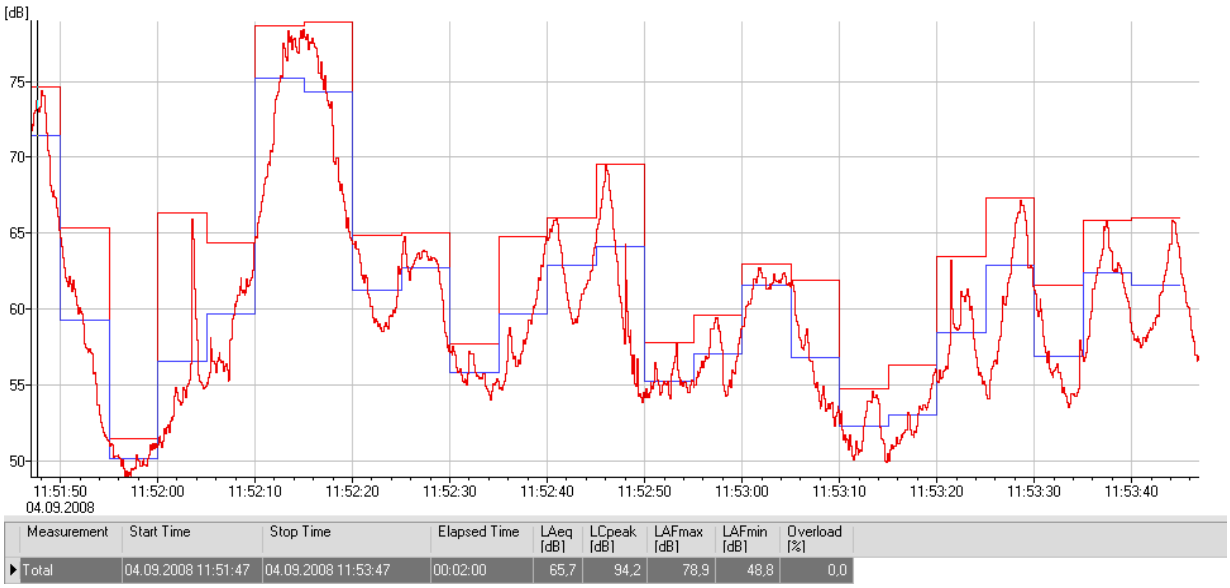
Table 2: Determined Sound Levels

point of measurement	effective sound level [dB(A)]	evaluation level [dB(A)]	maximum values [dB(A)]
point of measurement 1	**66**	**66**	**65**
point of measurement 2	**58**	**58**	**65**
point of measurement 3	**74**	**74**	**65**
point of measurement 4	**70**	**70**	**65**

Details are given in the protocols (section 6). The effective sound level at measurement points 3 and 4 were without doubt generated by traffic noise which was permanently present.

6 Measurement Protocol

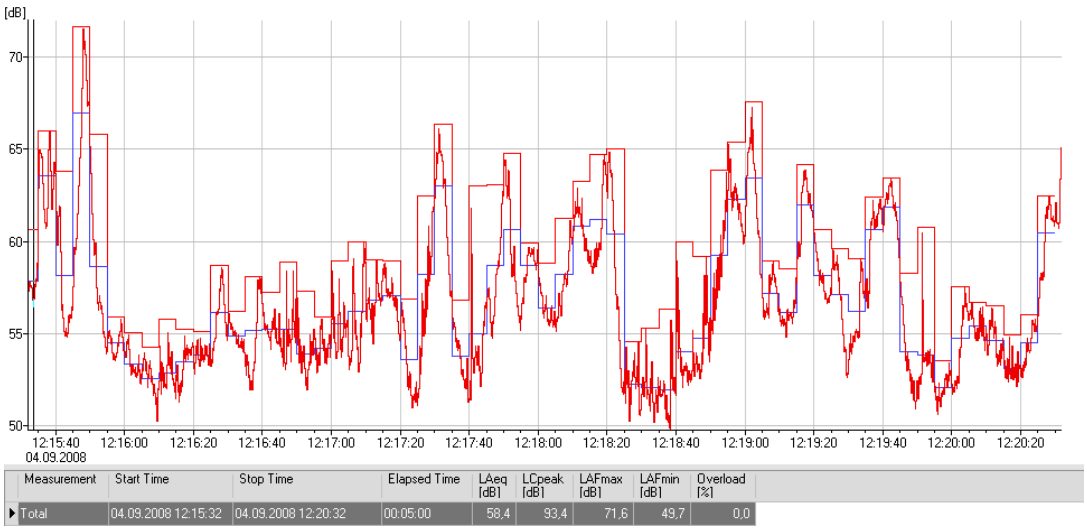
point of measurement	point of measurement 1
date of measurement	mm.dd.yyyy
time of measurement	hh:mm Uhr
significant sounds present	no
background noise	traffic noise
wind and weather conditions	dry, 20° C, slight wind out of south west



Measurement	Start Time	Stop Time	Elapsed Time	LAeq [dB]	LCpeak [dB]	LAFmax [dB]	LAFmin [dB]	Overload [%]
Total	04.09.2008 11:51:47	04.09.2008 11:53:47	00:02:00	65,7	94,2	78,9	48,8	0,0

point of measurement	**effective Sound Level [dB(A)]**	**correction for burdensomeness [dB(A)]**	**time correction level [dB(A)]**	**evaluation level [dB(A)]**
point of measurement 1	**66**	**0**	**0**	**66**

point of measurement	point of measurement 2
date of measurement	mm.dd.yyyy
time of measurement	hh:mm Uhr
significant sounds present	no
background noise	slight traffic noise
wind and weather conditions	dry, 20° C, slight wind out of south west



Measurement	Start Time	Stop Time	Elapsed Time	LAeq [dB]	LCpeak [dB]	LAFmax [dB]	LAFmin [dB]	Overload [%]
Total	04.09.2008 12:15:32	04.09.2008 12:20:32	00:05:00	58,4	93,4	71,6	49,7	0,0

point of measurement	**effective sound level [dB(A)]**	**correction for burdensomeness [dB(A)]**	**time correction level [dB(A)]**	**evaluation level [dB(A)]**
point of measurement 2	**58**	**0**	**0**	**58**

betonTEST.de
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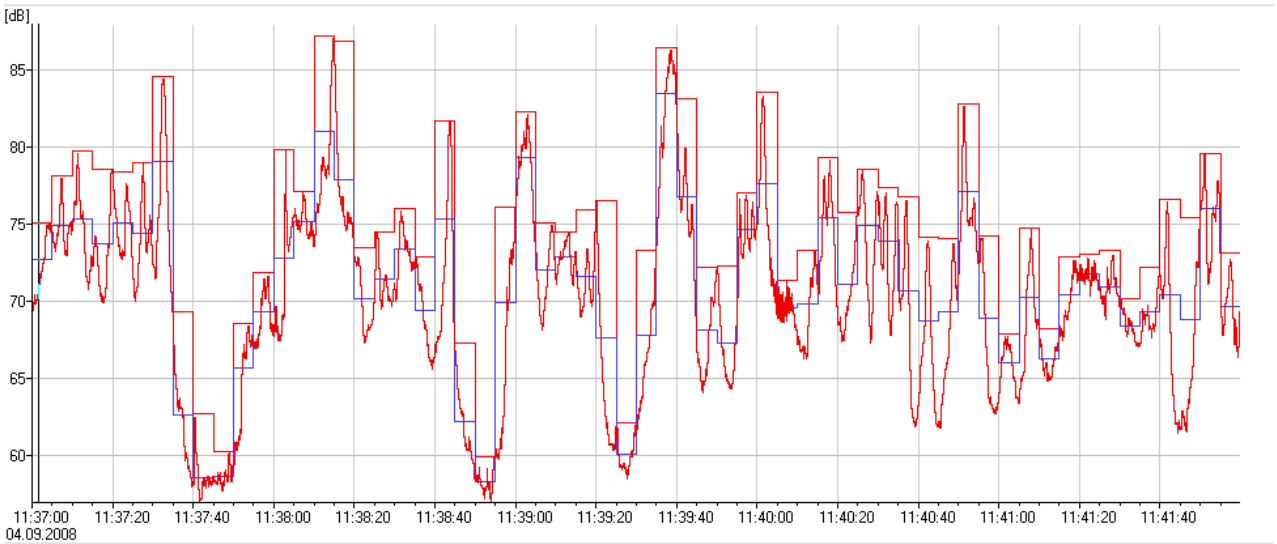
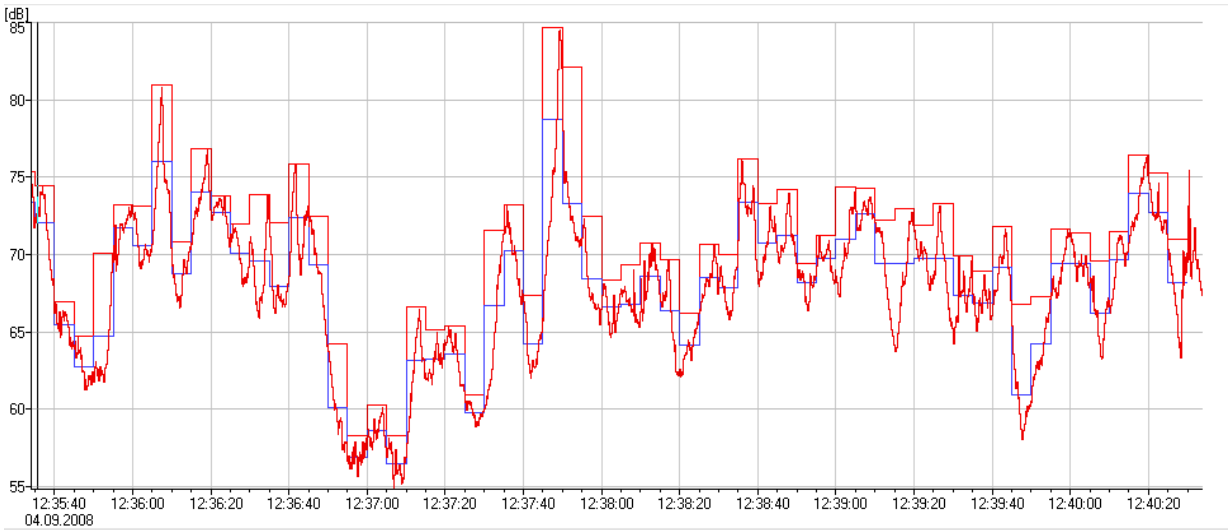
point of measurement	point of measurement 3
date of measurement	mm.dd.yyyy
time of measurement	hh:mm Uhr
significant sounds present	no
background noise	heavy traffic noise
wind and weather conditions	dry, 20° C, slight wind out of south west



Measurement	Start Time	Stop Time	Elapsed Time	LAeq [dB]	LCpeak [dB]	LAFmax [dB]	LAFmin [dB]	Overload [%]
Total	04.09.2008 11:37:00	04.09.2008 11:42:00	00:05:00	73,9	103,7	87,2	56,9	0,0

point of measurement	**effective sound level [dB(A)]**	**correction for burdensomeness [dB(A)]**	**time correction level [dB(A)]**	**evaluation level [dB(A)]**
point of measurement 3	**74**	**0**	**0**	**74**

point of measurement	point of measurement 4
date of measurement	mm.dd.yyyy
time of measurement	hh:mm Uhr
significant sounds present	no
background noise	heavy traffic noise
wind and weather conditions	dry, 20° C, slight wind out of south west



Measurement	Start Time	Stop Time	Elapsed Time	LAeq [dB]	LCpeak [dB]	LAFmax [dB]	LAFmin [dB]	Overload [%]
Total	04.09.2008 12:35:34	04.09.2008 12:40:34	00:05:00	70,1	107,8	84,7	54,7	0,0

point of measurement	**effective sound level [dB(A)]**	**correction for burdensomeness [dB(A)]**	**time correction level [dB(A)]**	**evaluation level [dB(A)]**
point of measurement 4	**70**	**0**	**0**	**70**

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