

Investigative Noise Surveillance at:

Wienerberger Ltd
Warnham Brickworks
Langhurstwood Road
Horsham
West Sussex
RH12 4ZL

Survey Date:

Thursday 6th November 2025 & Friday 7th November
2025

Survey Start Time:

12.15 PM

Surveyor:

Kay Barker

Introduction

This noise survey has been conducted as continuation to an investigation into new fixed plant at the Warnham site for Wienerberger Ltd. in accordance with BS4142:2014+A1:2019 (the industry standard for rating and assessing industrial and commercial sound). The factory was running at normal capacity on the survey date.

Method

Location Selection

1 survey location was selected which was used in a previous study carried out by Vibrock Ltd in September-October 2023. The selected location can be found on the diagram in Figure 1.

The survey location was between the 3 residential properties to the east of site.

The noise here is produced by vehicle movement on the adjacent entry road to site, vehicle movement on Langhurst Wood Road, low frequency general factory rumble, birds, aeroplanes, fireworks after dusk and mobile plant movement on the stockyard. Subjectively, the predominant noise influence throughout the survey period was the vehicle movement on the adjacent entry road to site.



Figure 1. Sample location (white circle), residential properties (red arrows), heat pump location (yellow box).

Equipment

Class 1 Casella CEL-633.B1 Environmental & Noise at Work Logging Octave Band Frequency Meter Kit. (Serial Number – 4257397) – Last external calibration January 2024.

CEL-120 Acoustic Calibrator. (Serial Number – 5072245) – Last external calibration May 2025.

Kestrel 2000 (Serial Number – 2238487) – Anemometer and thermometer.

Constants

The equipment was fixed using a tripod at 1.4 metres above ground level and at ~60° relative to the ground. In all instances, the noise meter was orientated towards the factory. As the sampling locations are at ground level, the equipment was located as far as possible away from any reflective surfaces in order to reduce interference from the reflective surfaces. The equipment was calibrated to 114.0dB before each test using a field calibrator to ensure reliability of results and drift readings of 0.0 – 0.3dB were taken at the end of every test. A windshield was used in every measurement in order to minimise the influence of wind interference. Surveillance measurement period was 13 hours (12.15pm 06/11/2025 - 01:15am 07/11/2025). The temperature, and wind speed and direction for the location were obtained using the Kestrel 2000. The noise monitor was set in 'fast' mode and all results reported will be A- weighted.

Competency

As Wienerberger Limited's Group Environmental Manager, I have been trained on proper use of the equipment and application of the BS4142:2014 to pre-survey preparations, surveying and interpreting survey results. My relevant qualifications include completion of the "Certificate of Competence in Environmental Noise Measurement" course from the Institute of Acoustics, studied at Derby University. I have abundant experience with the equipment and software, and extensive experience of report writing.

Results

The initial investigatory survey data has been included in the table below as a means of comparison to the data collected post-installation.

Table 1: Noise survey results (dB_A)

Surveyor	Time Period	Ambient Sound Level (L _{Aeq})	Maximum Sound Level (L _{Amax})	Background Sound Level (L _{A90})
VIBROCK (Pre heat pump installation)	Daytime (07:00 – 23:00)	54.4	87.1	47.6
	Night Time (23:00 – 07:00)	48.9	83.4	45.8
Wienerberger (Post heat pump installation)	Daytime (07:00 – 23:00)	54.5	72.5	48.0
	Night Time (23:00 – 07:00)	47.0	65.0	44.5

BS4142:2014 Assessment & Calculations

Using the background readings listed in table 7 of the Vibrock survey (47.5dB daytime, 46dB night time), BS4142 calculations are noted below. Plus 4 (night time) and plus 2 (daytime) has been added for acoustic feature correction due to the tonal nature of the new heat pump. As the noise created by the heat pump is constant and consistent, the post-installation LA90 has been used to calculate the BS4142 calculated difference. This removes the influence of external influencing factors during the surveillance period.

Table 2: Post installation Noise surveillance results with BS4142:2014 assessment

Time Period	L _{Aeq} (dB _A)	L _{AMAX} (dB _A)	L _{A90} (dB _A)	Uncertainty Factor (dB _A)	BS4142 Calculated Difference (dB _A)	Drift (dB _A)
Daytime	54.5	72.5	48.0	+2	-4.0	0.3
Night Time	47.0	65.0	44.5	+4	*	0.1

*L_{A90} level measured lower than background meaning no logarithmic calculation of difference is possible.

Conclusions

The BS4142:2014+A1:2019 4 standard states that:

“A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.”

“A difference of around +5dB or more is likely to be an indication of an adverse impact, depending on the context.”

“The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.”

The variation in results pre and post installation indicate that the addition of the new stationary plant has not significantly changed the surrounding sound environment. The tonal nature of the new sound is slightly distinctive from the other noises of the surrounding environment however, the overall increase at the nearby residential properties (Bramblehurst, Langhurst Moat Cottage, Wealdon) does not fall above the BS4142:2014+A1:2019 threshold for adverse impact, even with correction for this tonality.

Further modelling and details of the new plant are available in the Vibrock report (R23.12003/1/AP dated 24 October 2023).