



CARBON NEUTRAL
SUSTAINABLE
RECYCLED

Acoustic Panel Installation Guide



1. Introduction

Tilon acoustic noise barrier panels are designed for ease of installation and providing the following installation guide is followed correctly will provide many years of high acoustic performance.

The Tilon acoustic noise barrier system is based on a series on acoustic panels placed horizontally between vertically orientated supporting structural steel beams, see figure 1 below.

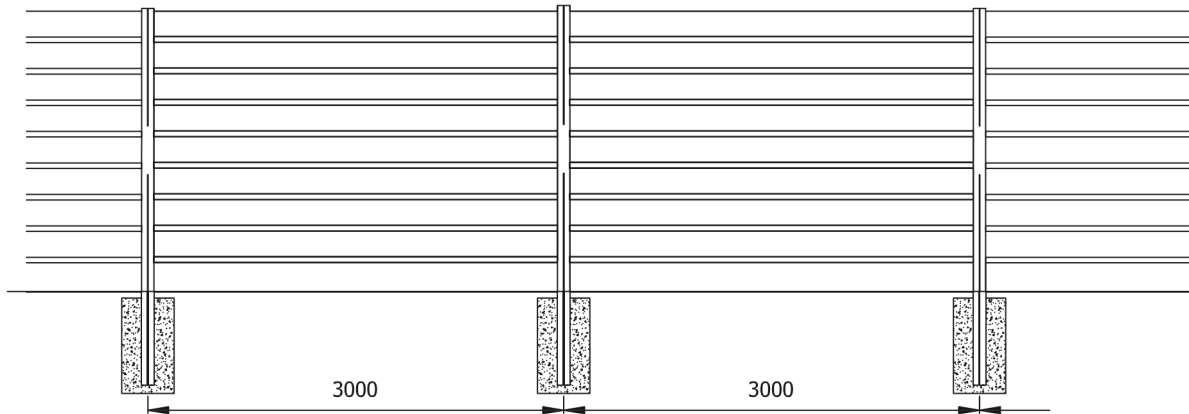
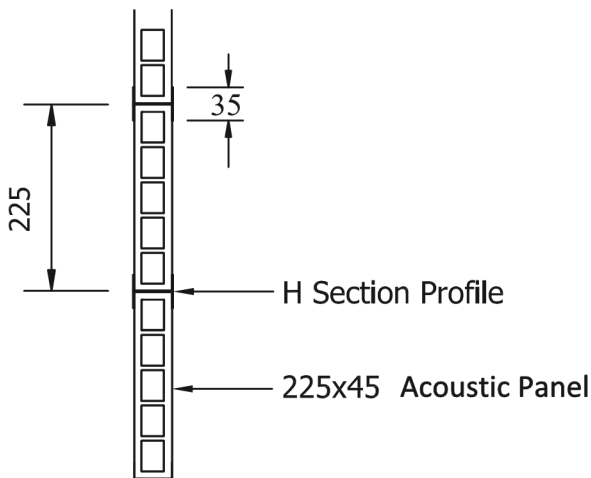


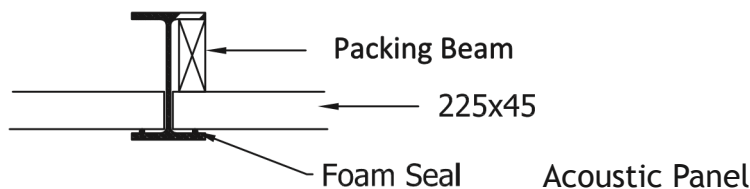
Figure 1. Typical Part Elevation

The acoustic panels are locked together with the use of locking H section profiles and are secured into final position with the use of packing beams placed between the flanges of the steel beams and acoustic panels. Acoustic tightness is achieved by the placement of an expanding foam strip between steelwork and the acoustic panels, see figure 2 below.



* Dimension to suit final post dimensions

Figure 2. General Construction Detail



2. Post selection and preparation

The correct selection of the required steel post will depend on the specified barrier height and wind loadings for each specific height, please refer to Tilon Declaration of Performance and CE certificate for guidance on correct post selection*

All steel posts will have a supporting flange set typically at 50mm below the specified ground level as per figure 3.

All steelwork must be supplied with a valid CE certificate of conformity and be galvanized in accordance with relevant standards.

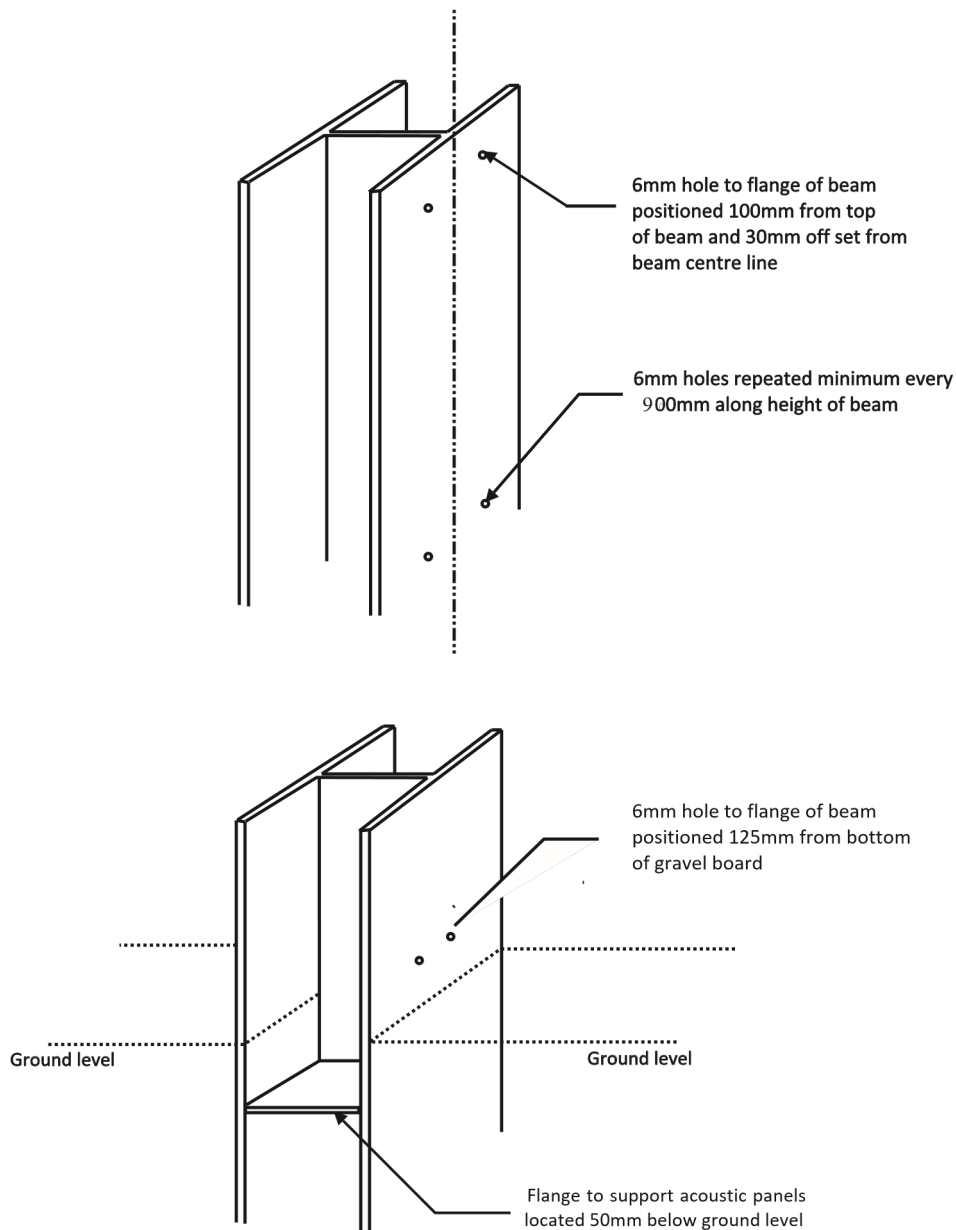


Figure 3. Positioning of securing holes and supporting flange

* Information supplied by Tilon does not negate the purchaser from the requirement to produce a complete scheme design by a relevantly qualified competent person.

3. Setting out

Steel posts must be set out accurately to ensure there is sufficient capture of the acoustic panels. For a typical project with post spacing designed at 3.0m the actual installed posts must not exceed the stated 3.0m centre to centre spacing. Steel posts must be installed with securing holes to the rear of the installed barrier, see figure 4.

4. Installing Foam Seal

In order to achieve a tight acoustic seal between the steel post and acoustic panel a self adhesive foam strip is supplied. The foam strip is to be placed on the internal face of the post flange as shown in figure 4 at a distance of approximately 10mm from the post edge. It is recommended that the foam strip is applied to clean and dry steel work and the foam strips are applied shortly before commencement of step 5, do not apply foam strips to several posts all at once as the foam strip may become loose due to poor weather conditions.

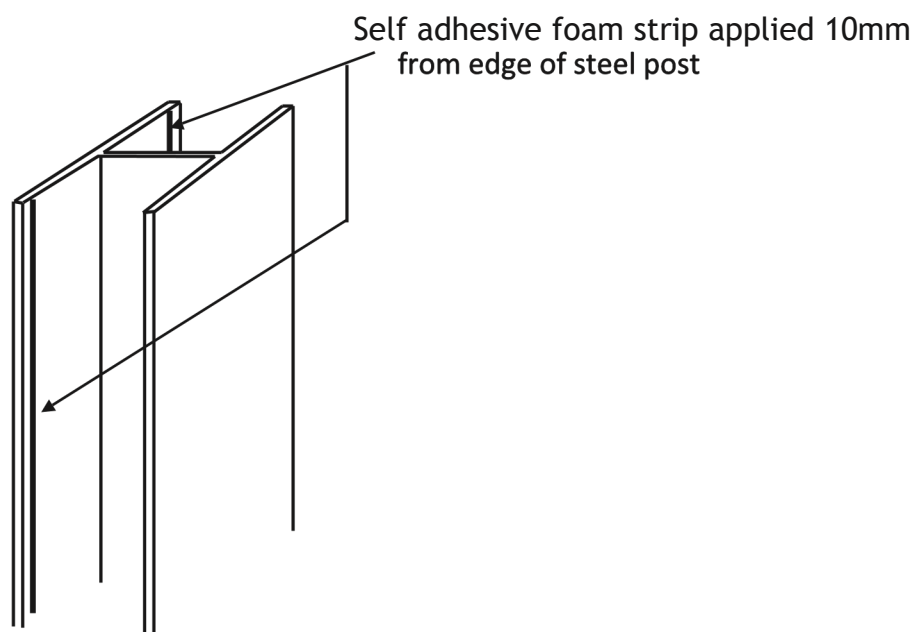


Figure 4. Post orientation and tape placement

5. Installation of Panels

Acoustic infill panels will be supplied with a series of complete panels of depth 255mm and a number of make up sections referred to as gravel boards.

The quantity and dimensions of these gravel boards will be specified on individual schemes by Tilon please liaise with Tilon to confirm quantity and dimension of these parts for your scheme.

5. Installation of Panels (contd.)

Acoustic bays are built up by placing acoustic panels onto one another within the steel posts until the required bay height is achieved. Individual acoustic panels have a weight of approx. 10 kg based on a 3000mm x 225mm panel and therefore can be comfortably placed into position, subject to installation risk assessment by installer.

Gravel boards are to be placed on the bottom of each acoustic bay. Once the bottom gravel board has been dropped into position place a locking H section along the top edge of the gravel board and gently tap into position using a rubber mallet.

Place the first acoustic panel into the H section, gently knock home again with mallet and place the next H section onto the top edge of the installed acoustic panel. Keep adding acoustic panels and H sections until the final height of the acoustic bay is reached. See figure 5.

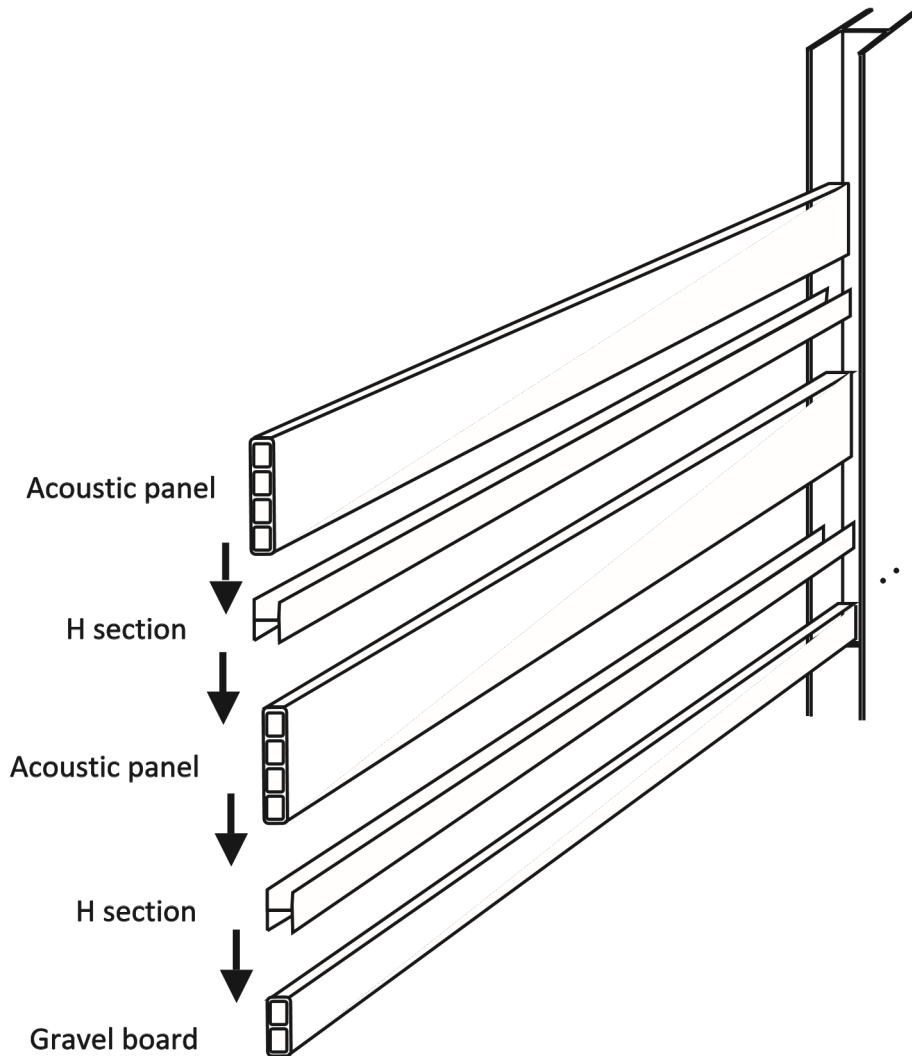


Figure 5. Panel install sequence

6. Installation of Packing Beams

In order to ensure acoustic panels are held securely in position each installation will come with a quantity of packing used to pack out the remaining gap between post flanges and acoustic panels. The dimensions of these packing beams will depend on each specific installation so please liaise with Tilon for packer dimensions for your particular project.

To install, position the packing beams roughly in their vertical position to the rear of the acoustic panels, whilst holding the packing beam in place firmly knock home into their final position with a rubber mallet.

Once packing beams are located into the final position secure them into place with anti-vandal type fixings such as an M5 Torx head in stainless steel through the post. The actual length of the fixing will depend on the post dimensions but should be sufficient to pass through the packing beam and pick up the acoustic panels to ensure a secure fit.

Please contact Tilon if you require any further advice on the correct length of fixing

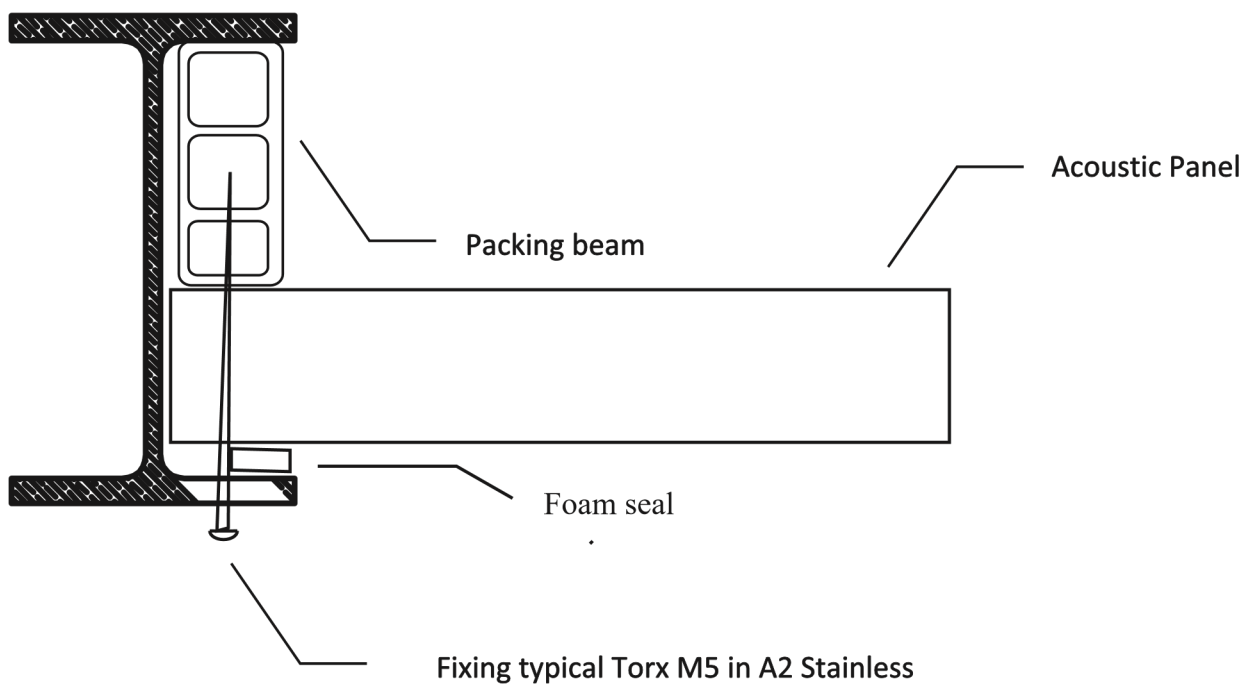


Figure 6. Fixing detail

Disclaimer

The information contained in this install guide is based on best practice, Tilon reserve the right without notice to modify the guide as required.

This information does not constitute a scheme design nor remove the responsibility of the installer to ensure the barrier is installed in line with all regulatory and scheme specific Health

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