



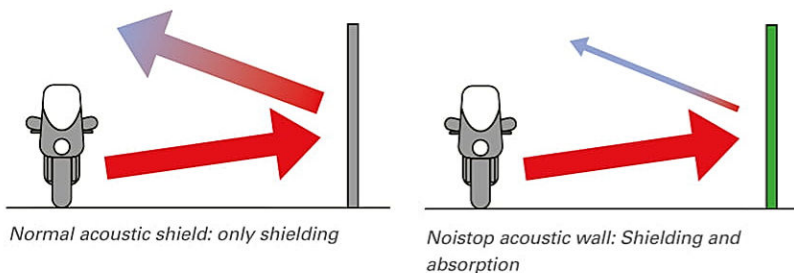
# NoiStop®

## Noise reducing acoustic wall

Sound pollution is one of the biggest problems in the residential environment. Noise can originate from a number of sources including busy roads, railway tracks and from activities in neighbouring areas - just think of gardens that are adjacent to a schoolyard or a workshop.

The NoiStop system, produced by the Danish company RockDelta (part of the Rockwool Group) offers a solution for sound pollution. Unlike many other acoustic barriers that only shield against noise, NoiStop also absorbs the sound waves. This reduces the ambient sound significantly.

Fig 7.1



### The benefits

- Immediate tranquility, privacy and security
- Easy to install without the use of lifting equipment
- Maintenance free
- Efficient wind barrier



## Product range



7.1.4 NoiStop Green



7.1.5 NoiStop Green door



7.1.6 NoiStop cover



7.1.7 NoiStop Wood

NoiStop acoustic wall consists of a core of specially pressed stone wool which is water-repellent and UV resistant. This material is designed for maximum sound absorption and sound insulation. There are two types: NoiStop Green and NoiStop Wood..

### NoiStop Green

NoiStop Green acoustic wall consists of specialized stone wool held in place by a galvanized steel frame and highly durable polyethylene mesh. The galvanised steel frame is designed for use with climbing plants. The vegetation does not affect the sound absorbing and sound isolating properties of the acoustic wall.

#### NoiStop Green product range (L \* H \* D)

<b>Panel</b>	200/45/11 cm	<b>Door</b>	94/180/11 cm
	200/90/11 cm		94/200/11 cm
	200/100/11 cm		94/225/11 cm
	100/45/11 cm		
	100/90/11 cm		
	100/100/11 cm		
	300/60/11 cm		

#### Insulation tape NoiStop

Size (L \* B \* H): 1000 / 0.5 / 10 cm

Application: Insulation tape to be applied between two stacked panels.

#### NoiStop Cover

Size (L \* B \* H): 200 / 3.2 / 11.4 cm

Application: Cover plate to be applied as a finishing edge on the top panel to protect the core of the NoiStop panels

### NoiStop Wood

With NoiStop Wood the mineral wool core is wrapped with a black mesh. The mineral wool is sandwiched between aluminium strips with impregnated wooden slats attached. The screens are easy to customise to a fixed size.

#### NoiStop Wood product range (L \* H \* D)

<b>Panel</b>	200/45/17 cm	<b>Door</b>	94/180/17 cm
	200/90/17 cm		94/200/17 cm
	200/100/17 cm		94/225/17 cm)
	100/45/17 cm		
	100/90/17 cm		
	100/100/17 cm	<b>Cover</b>	200/17,5/2 cm

*Note: Isolation tape is not needed when using NoiStop Wood.*

# Technical Specifications

## Insulation and absorption values

### NoiStop Green

- NoiStop Green sound insulation: DLR: 21 dB (A) Euro class B2
- Green NoiStop sound absorption:  $DL\alpha$ : 9 dB (A) Euro Class A3
- Noise reduction: between 9 and 12 dB (A), which is equivalent to a reduction of 50 - 70% of the perceived noise volume.

### NoiStop Wood

- NoiStop Wood sound insulation: DLR: 21 dB (A) Euro class B2
  - NoiStop Wood sound absorption:  $DL\alpha$ : 11 dB (A) Euro Class A3
- This result depends on the height, length and siting of the NoiStop acoustic wall in relation to the sound source and the receiver.

## Weight

The weight of the NoiStop is approximately 25 kg/m<sup>2</sup>.







### **Warranty and lifespan**

The expected lifespan of the NoiStop acoustic wall is more than 20 years. The warranty period is five years.

### **Fire classification**

Fire Class A1 (EN 13501 -1)

### **Wind load**

NoiStop Green and NoiStop Wood 200x90 tested with a maximum wind load of 1.02 kN/m<sup>2</sup> (Storm 24 m/s = 0.81 kN/m<sup>2</sup>) in accordance with EN 1794-1: 2003



# Examples of NoiStop





# Examples of NoiStop



7.3.6



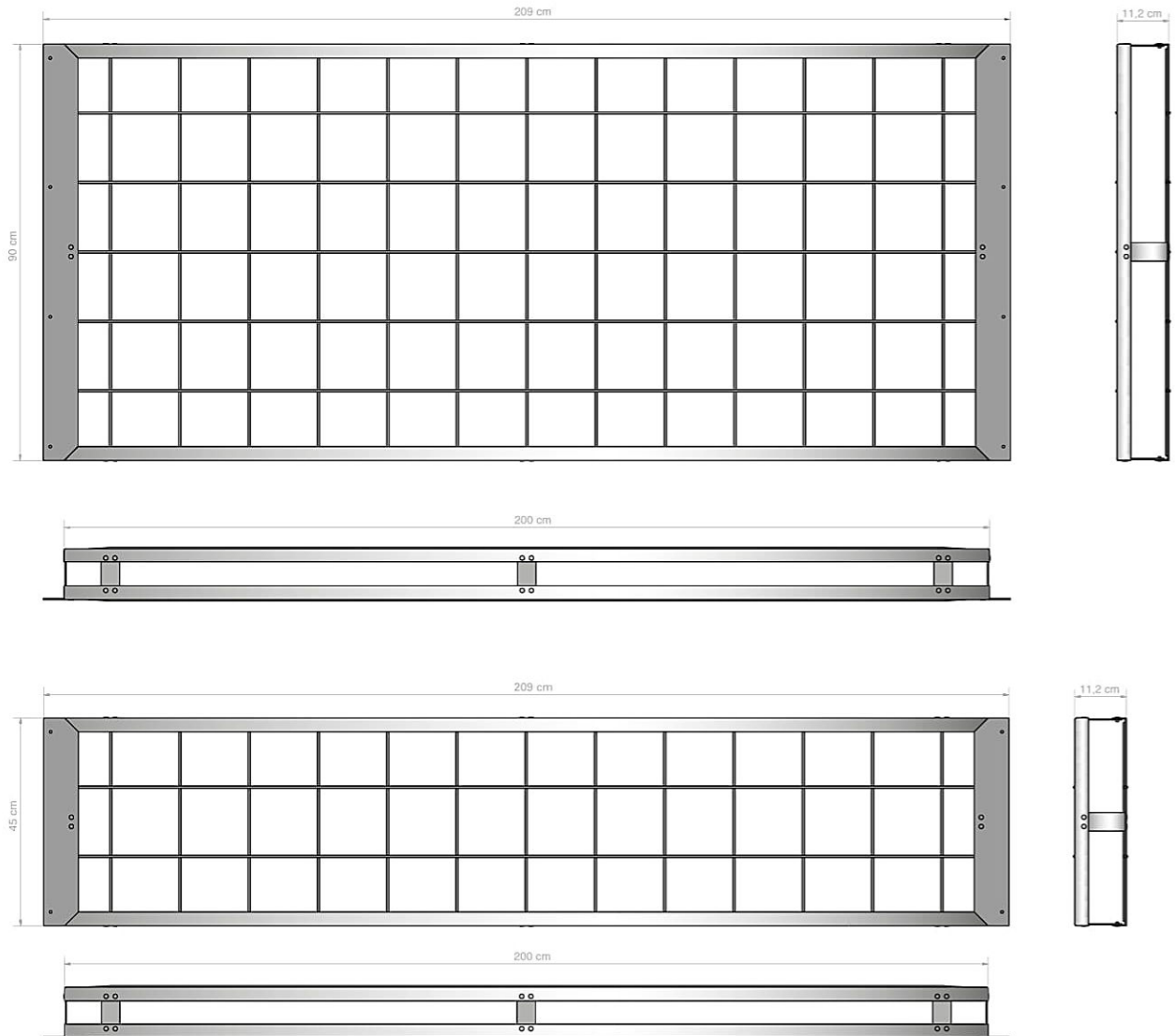
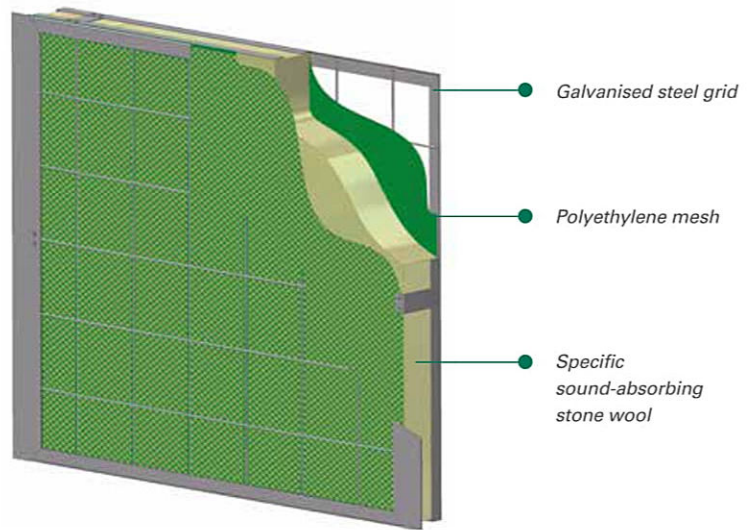
7.3.7



7.3.8

# Technical drawing NoiStop Green

Fig 7.2





# Technical drawing NoiStop Wood

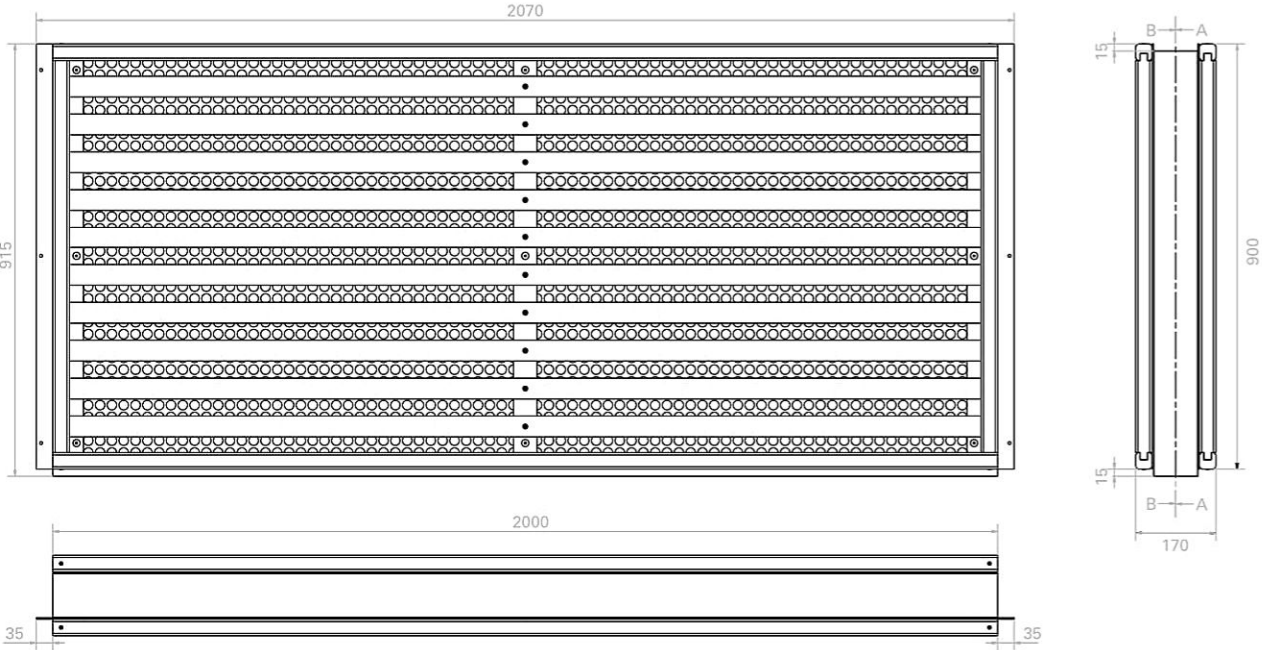


Fig 7.4

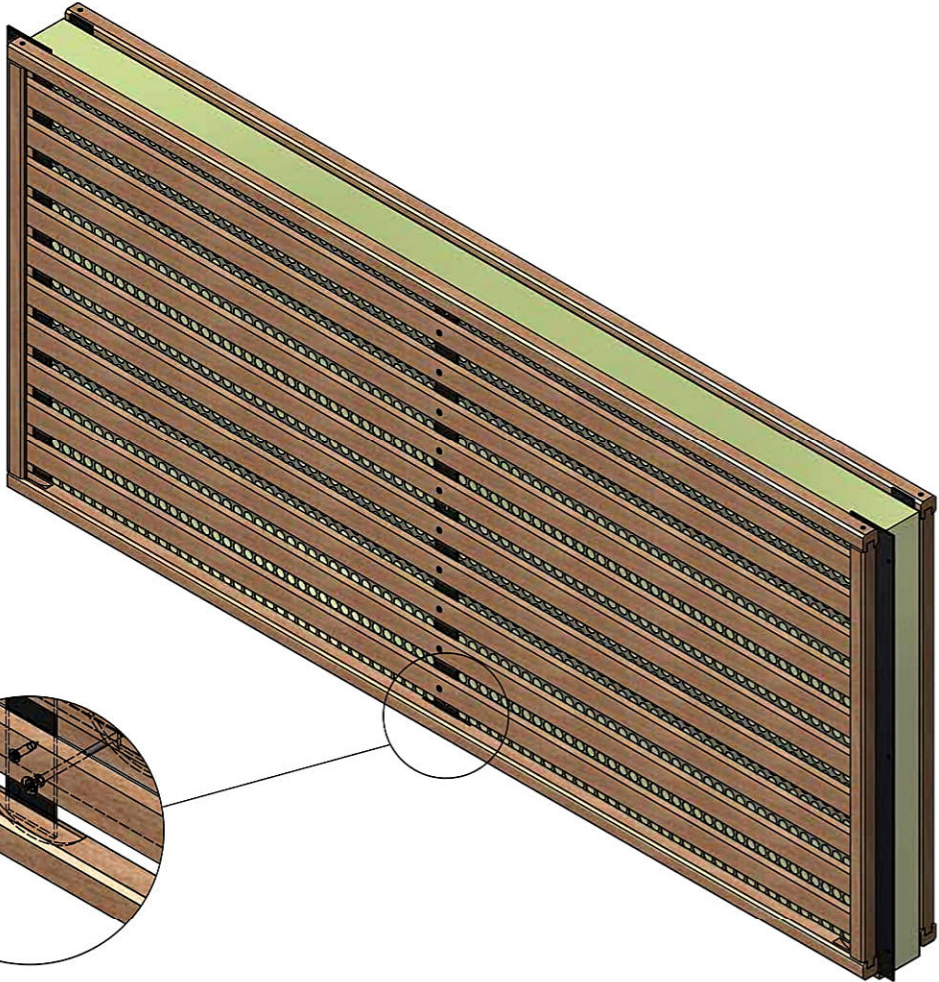


Fig 7.5



# Estimating sound attenuation

The effect on sound attenuation of installing a NoiStop acoustic wall depends on various factors. Where an exact calculation is required, an acoustic consultancy should be contacted. An estimate can be generated based in the information below.



Fig 7.5

## The noise depends on several factors:

- The distance from the screen NoiStop from the sound source.
- The distance from the NoiStop screen to the receiver.
- The height of the noise barrier NoiStop relative to source and receiver.
- The length of the NoiStop screen.
- The shape of the NoiStop screen.
- Reflection of sound against buildings.

The graphs below illustrates how effective sound insulation can be:

For high locations of sound source compared to wall and receiver.

For low locations of sound source compared to wall and receiver.

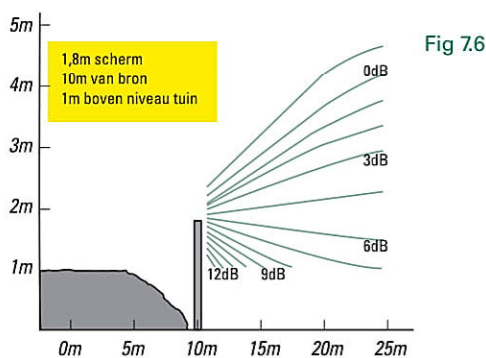


Fig 7.6

*For high locations of the sound source with respect to screen and receiver*

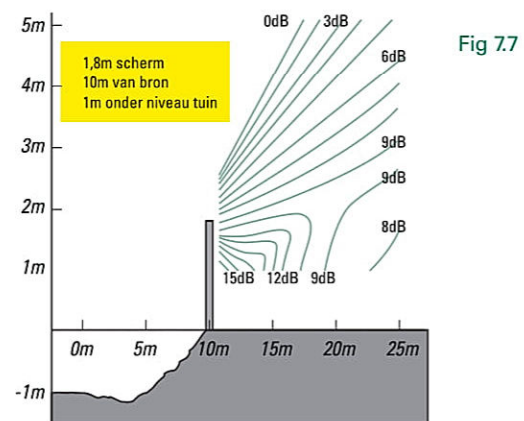


Fig 7.7

*For low locations of the sound source with respect to screen and receiver*

For maximum isolation from sound pollution the receiver should be isolated from the noise. This might mean that the NoiStop acoustic wall should not just be installed between the sound source and receiver, but also at the sides, thereby creating a U-shaped wall.



# Calculation model NoiStop

## NoiStop acoustic wall height determination

- A:** distance from the road to the NoiStop acoustic wall
- B:** distance from the NoiStop acoustic wall to the house
- D:** level difference between the road and the garden
- H:** recommended height of NoiStop acoustic wall

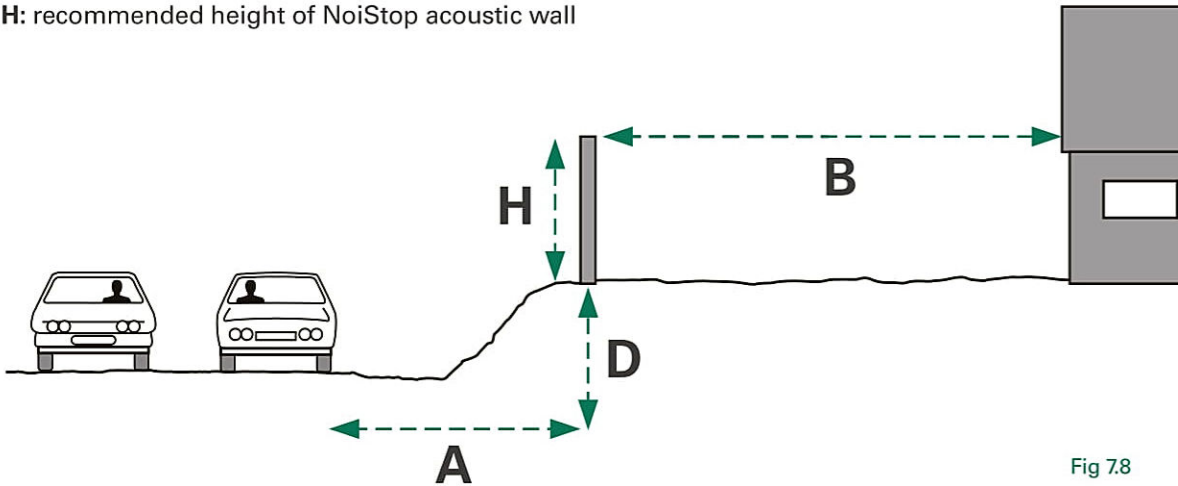


Fig 7.8

A Distance - NoiStop									
		5	10	15	20	25	30	40	50
Distance NoiStop - house B	10	180 cm	225 cm	225 cm	270 cm	270 cm	270 cm	315 cm	360 cm
	15	180 cm	225 cm	225 cm	270 cm	270 cm	315 cm	315 cm	360 cm
	20	225 cm	225 cm	270 cm	270 cm	315 cm	315 cm	360 cm	360 cm
	25	225 cm	270 cm	270 cm	315 cm	315 cm	360 cm	360 cm	360 cm
	30	225 cm	270 cm	270 cm	315 cm	360 cm	360 cm	360 cm	405 cm
	40	270 cm	270 cm	315 cm	360 cm	360 cm	360 cm	405 cm	405 cm
	50	270 cm	270 cm	315 cm	360 cm	360 cm	405 cm	405 cm	405 cm

### Calculation example:

The road is 20 m long by a 10 m plot boundary and the garden, the NoiStop screen is 225 cm high.

- If the garden/plot boundary is higher than the sound source then the height of the noise screen can be reduced by half of this difference.

Example: A = 20 m and B = 15 m, the screen should be 270 cm tall. If the garden/yard line is 90 cm higher, then half (45 cm) of the height of the noise barrier can be removed. The noise screen is then 225 cm (270 cm - 45 cm) high.

- Is the property boundary lower than the sound source, then the difference has to be added to the recommended height of the noise screen.

#### Note:

*These are guidelines based on our experience with NoiStop acoustic wall. However, every situation is different and we can not guarantee that acoustics generate the same effect in every situation. If an exact calculation is required, consultation with an acoustics expert is recommended.*



# Installation Guide NoiStop

- To install NoiStop, wooden posts of 9 x 9 cm can be selected. For a corner post the minimum dimension is 11.7 cm. Sometimes a galvanised steel tube or galvanised steel H-section is used (requires the flange to be ground down), but the use of wooden posts is most common.
- The posts are dependent on the type of soil and the wind load on the appropriate depth and/or in concrete foundation levelled with 100, 200 or 300 cm spacing between the poles.
- The lower panels are preferably placed on a concrete plinth or skirting.
- The NoiStop panel is then positioned in between the posts in such a way that the fittings are at the outer side. The fittings are then fixed to the posts using screws and the holes provided.
- NOTE After installation of the bottom panels of NoiStop Green, NoiStop isolating tape is fixed to the top of the panel along the whole length. This is fitted in one piece from post to post.
- If the property boundary is situated below the sound source, then the difference should be added to the recommended height of the noise screen.
- The next element is placed on the lower element, and screwed in place.
- Installation of NoiStop acoustic walls up a height of 2.70 cm is possible without using lifting equipment.





# 17 STABU Specifications text

## 17 STRUCTURING OF TERRAINS

### 17:41 FENCING, PRE-MANUFACTURED

#### 17:41:39-A WOODEN FENCE POST, FILLING, GROUNDWORK

##### 0. WOODEN FENCE POST

**Type: posts**

**Wood: hardwood or metal box profile**

**Length (mm): depending on screen height and soil type Dimensions (mm): 90x90 mm.**

##### 1. FILLING

**Type: NoiStop Green**

**Size: 2000x900x115 mm**

**Structure:**

- Water-repellent and UV-resistant stone wool core sandwiched in between galvanised steel grid including UV resistant polyethylene mesh

**Planting**

- Type: Green Screen

- Format: Ivy - Hedera helix ,Woerner'

- Dimension: height depending on screen

**Sound Absorption: DL alpha: 9 dB (A) = class B2**

**Sound insulation, DLR: 21 dB (A) = class A 3 Fire class: A1 (EN 13501-1),**

**Accessories:**

- Tape: When using multiple layers, place NoiStop insulation tape between each layer, 100x5 mm

- Fixing material

##### 2. BEEN WORKING IN THE GROUND

**Places anchoring posts in undisturbed ground**

##### 3. MAINTENANCE

**Watering:**

- Required watering frequency depending on weather conditions

- Quantity: to be determined during the work

**Fertilisation:**

- The application of long-acting fertilisation with an NPK ratio of 12-10-18 with micro-elements

- Frequency: first time after installation and first time at the start of the next growing season

- quantity below: based on supplier instructions fertilisation

##### .01 ACOUSTIC SCREEN

**1: ACOUSTIC SCREEN.**

*Other sizes possible 3000x600x115 mm, 2000x1000x115 mm, 2000x450x115 mm, 1000x1000x115 mm, and 1000x900x115 mm 1000x450x115 mm*

- 17:41:39 b WOODEN FENCE POST, FILLING, GROUNDWORK
0. WOODEN FENCE POSTS
    - Type: posts
    - Wood type: hardwood
    - Length (mm): depending on screen height and soil type
    - Dimensions (mm): 90x90 mm.
  1. FILLING
    - Type: NoiStop Wood
    - Size: 2000x900x170 mm
    - Structure:
      - UV-resistant and water-repellent stone wool core sandwiched in between aluminium finished with impregnated wooden slats
    - Sound Absorption: DL alpha: 11 dB (A) = class B2
    - Soundproofing, DLR: 21 dB (A) = class A3
    - Accessories:
      - Fixing material
  2. GROUNDWORK
    - Places anchoring posts in undisturbed ground
  - 01 ACOUSTIC SCREEN
    - 2: ACOUSTIC SCREEN.**

*Other sizes possible 1000x1000x170 mm, 1000x900x170 mm, 1000x450x170 mm, 2000x1000x170 mm and 2000x450x170 mm.*



