

MANUAL SECTION	ISSUE DATE	AUTHORISED	REPLACES	PAGE
<i>General Products</i>	<i>August 1999</i>	<i>PM</i>	<i>New Issue</i>	<i>1 of 3</i>

## VELAPHONE ACOUSTIC INSULATION

**DESCRIPTION:**

Velaphone is a sheet mat that reduces sound transmission by separating the flooring material from the structure of the building. Noise is created by foot impact on tiles, parquet etc. Velaphone reduces the transmission of this noise to the subfloor base.

**FEATURES:**

- Sound reduction
- Simple to lay

**BENEFITS:**

- Quieter building spaces
- Economical installation

**DESCRIPTION:**

Velaphone is a fiberglass matt on a bituminous base.

- Thickness:** 2.5mm
- Weight:** 0.2kg/m<sup>2</sup>
- Packaging:** 20m x 1.07m roll (20m<sup>2</sup> effective area)
- Sound Reduction.** 18dB

**SOUND CONTROL:**

Velaphone is used as a **component** to make up the **Impact Insulation Class** (IIC) required in the building structure. The IIC is a single number rating derived from **measured** volumes of normalised **impact** sound pressure levels in accordance with method ASTM E-492 (Anex A1 laboratory measurement of impact sound transmission through floor-ceiling assemblies using the tapping machine). It provides an estimate of the impact sound insulating performance of a floor-to-ceiling assembly. Field tests of these assemblies may be performed using ASTM E989.

The New Zealand Building Code G6 (airborne and impact sound) states:

- G.6.3.1 The sound transmission class of walls, floors and ceiling shall be no less than 55.
- G.6.3.2 The Impact Insulation Class of floors shall be no less than 55.

No warranty either expressed or implied or statutory is made by NUPLEX in this document except as expressly stated in any sale and purchase agreement entered into between NUPLEX and the buyer.

This document is a technical data information sheet. The description of the product or products and the properties of the product or products contained in this document is for the sole purpose of identifying the product or products and describing their property or properties and does not constitute a warranty that the product or its properties shall conform to that description; nor is the description of the product and/or its properties a warranty by NUPLEX that the goods are suitable for a particular purpose.

**NUPLEX CONSTRUCTION PRODUCTS**

PO Box 1 2841, Penrose, Auckland Telephone 0-9-579 2029 Fax 0-9-525 3709 www.nuplexbuilding.co.nz email: bpdsales@nuplex.co.nz

<b>H A M I L T O N</b>	<b>PALMERSTON NORTH</b>	<b>W E L L I N G T O N</b>	<b>C H R I S T C H U R C H</b>
Telephone 0-7-847 8658	Telephone 0-6-353 3685	Telephone 0-4-499 1341	Telephone 0-3-366 6802
Fax 0-7-847 3766	Fax 0-6-353 3632	Fax 0-4-471 5709	Fax 0-3-365 7845

**VELAPHONE** (cont'd)

Suggested **assemblies** for multiple occupancy buildings could be:

- Tiles
- 30mm mortar bed
- Velaphone
- Concrete structure (150mm)
- Air space
- Double gib sound control

This should result in an IIC of greater than 55.

**IMPACT SOUND EFFECTIVENESS INDEX:**

$\Delta L$  is expressed in **dB(A)**. The greater the value of  $\Delta L$ , the smaller the value of  $L_n$  and the greater the efficiency.

Sound level is expressed in decibels (dB) and is logarithmic eg: sound intensity is halved when the sound level is decreased by 3dB (i.e. 65dB + 65dB = 68dB).

**SOUND LEVEL PERCEIVED BY THE AIR:**

Corrected decibels dB(A) are used to express the sound level perceived by the ear. The ear is not identically sensitive to all the frequencies of the sound range (low, medium, high).

**SOUNDPROOFING:**

Concrete is a good soundproofers. The thicker the slab, the better the soundproofing. As a general rule each additional 10mm of concrete thickness increases the soundproofing capacity by 1dB.

The easiest and most effective way of reducing impact sound transmission consists in creating a **break** in the structure to stop the propagation of vibrations. This is the principal of a floating flooring system.

**VELAPHONE** is intended to make fine, non-reinforced screeds or directly sealing tile on the base mortar. **VELAPHONE** can also be used underneath floating flooring or floor on joists.

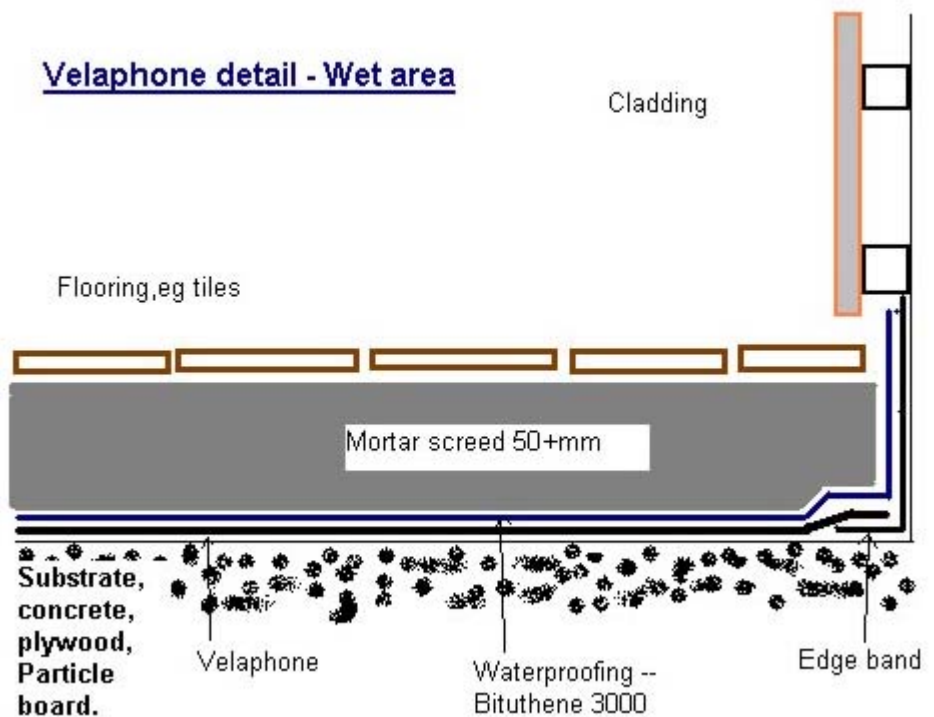
**VELAPHONE SOUNDPROOFING PERFORMANCE:**

Impact Soundproofing Efficiency  $\Delta L = 18\text{dB(A)}$   
(CSTB reports 7139500175 and 71386000354)

**VELAPHONE** (cont'd)**INSTALLATION:**

Install the self adhesive edge striping around the perimeter. This isolates the tiles from the walls and prevents sound transmission into the wall. Sweep and level the substrate slab. Roll out the Velaphone so that the fibrous side is in contact with the floor. Do not remove the dividing polythene film. Turn down the lob so as to ensure continuous soundproofing and prevent the passage of concrete fluids. When laying mortar screed, prevent the liquid mortar going under the Velaphone by using flashing tapes or sand.

Lay mortar beds as detailed by the tiler. Floating timer floors may be laid directly onto Velaphone. Leave a gap around all perimeter edges (ensure the self adhesive isolator strip is installed). The skirting then cover this gap.

**WATERPROOFING:**

Velaphone must remain **dry** to be effective.

**a) Exterior Tiled Pecks**

Install Velaphone as specified. Waterproof with liquid waterproofing such as Elastodeck BT or Procor (both supplied by Nuplex). Tiles may then be bonded using Nuplex Red Label, two-part waterproof adhesive. A mortar bed can be installed over the waterproofing membrane if required.

**b) Interior Bathroom or Kitchens**

As in part (a) above. Waterproof around all pipes or penetrations with a layer of liquid waterproofing prior to the main waterproofing layer.

The waterproofing, tile mortar bed, Red Label adhesive all contribute to the sound transmission reading efficiency.

Consult Nuplex technical staff for any specific advice.