

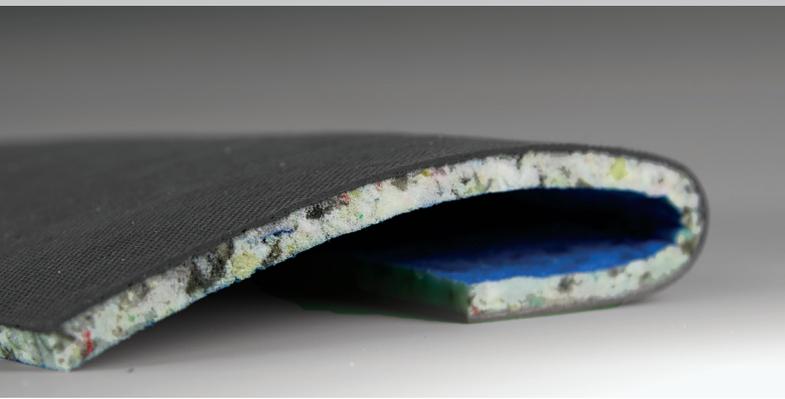
Wavebar acoustic underlay

SILENTSTEP



Pyrotek[®]

SOUNDPROOFING SOLUTIONS FOR ALL INDUSTRIES
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INTRODUCTION

Silentstep® is a new generation of acoustic underlay, comprising a flexible mass-loaded barrier, fused onto a high density premium foam underlay. The combination of these two products allows Silentstep to reduce the transmission of footfall and impact-generated noise.

The trend towards high-density living and light weight building construction over the last decade has required an improvement in the control of noise in multi storey buildings. Noise issues often relate to impact noise created by foot traffic and airborne noise created by activity travelling through light weight or poorly constructed flooring systems. Silentstep offers a solution to these problems.

Silentstep was developed to meet market noise reduction requirements in multi-storey living, commercial, automotive and marine markets.

Easy to cut and lay, it offers excellent support and a firm cushioned base for all types of carpet applications. It is ideally suited for lightweight flooring constructions such as timber and marine applications where fibreglass and composite floor panels are used.

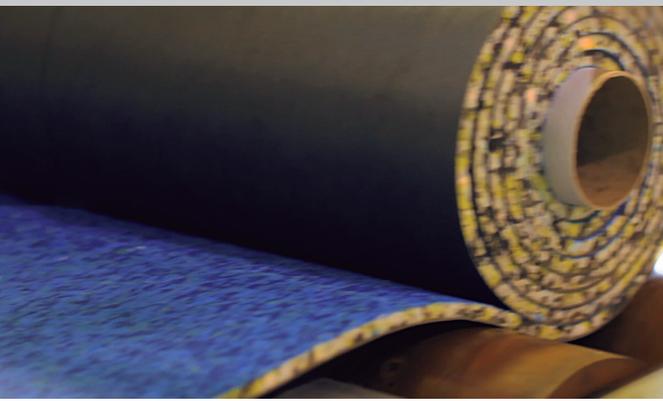
When laying carpet over a floor constructed using lightweight timber and joists, typical standard underlay offers little effect in reducing the transmission of footfall and impact noise.

Silentstep isolates the barrier layer from the floor structure, increasing the performance of the floor system between two rooms. This feature means that critical frequencies generated during speech and electronic audio technologies such as radio and television etc can be reduced. Silentstep products are environmentally safe, contain no ozone-depleting substances and comply with European and Australian standards for Volatile Organic Compound emissions.

SOLUTION/APPLICATION

Silentstep is laid as simply as conventional underlay, replacing existing. Its final manufactured thickness ensures easy installation, as with conventional underlay. Silentstep maintains a high level resilience in carpet underlay applications.

For improved performance in extreme inter-tenancy noise problems, a floating floor can be created using Silentstep by laying a sub floor on top of the Silentstep then replacing the existing underlay and carpet. Silentstep underlay creates a decoupled noise barrier with the bottom layer of foam isolating the noise barrier from the floor construction. Silentstep's flexibility resists compression set, controlling impact noise problems. It is extremely effective as an underlay over tongue and groove floors. Silentstep underlay also performs as a seal to prevent sound transmission through gaps and cracks in older flooring.



PRODUCT CONSTRUCTION

Silentstep is a four part laminate consisting of the following layers:

FACING - 1

A reinforcing layer that acts as slip resistance to prevent carpet rucking, and as a strengthening layer for the barrier providing life long stability.

NOISE BARRIER - 2

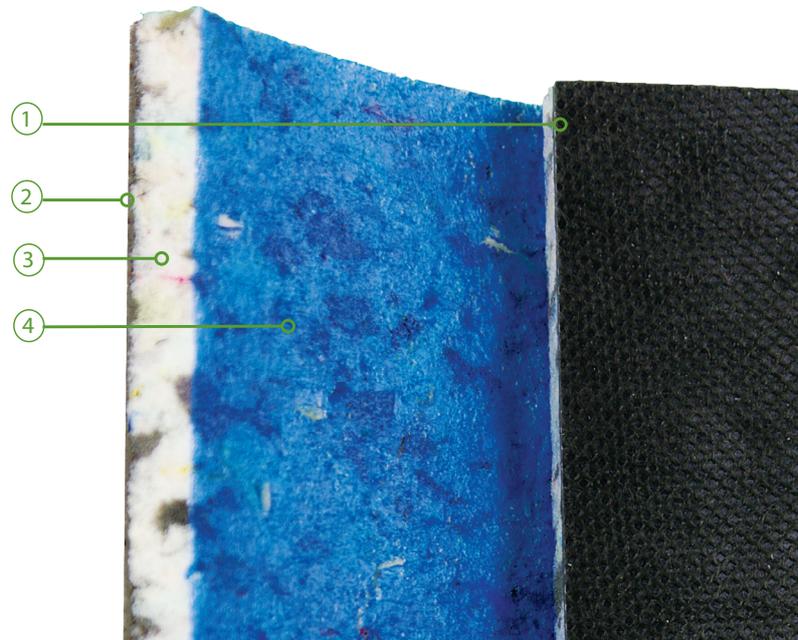
A noise barrier which significantly reduces air borne and impact noise due to the limp heavy nature of the product.

FOAM LAYER - 3

A foam layer which isolates the barrier from the floor structure, allowing the barrier layer to perform independently.

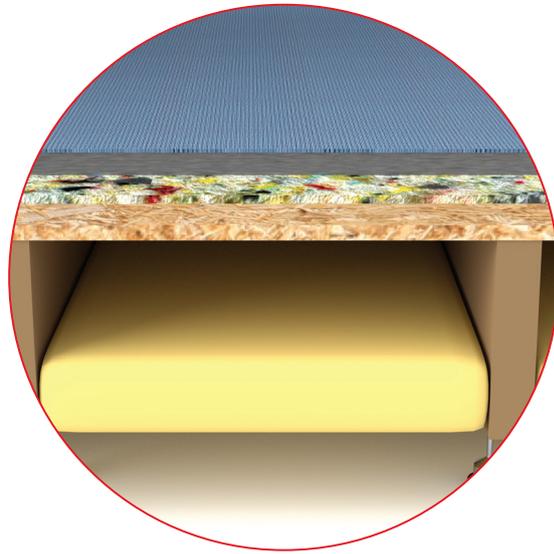
SLIP LAYER - 4

A slip layer to help fitting and also provides reinforcing for the foam layer



Silentstep's construction has been optimised to control impact and airborne noise through its multi layer construction. Impact noise is created by the impact of foot steps across a floor. The combination of the cushioning effect of the acoustic foam and the damping of the noise barrier effectively controls this noise problem. Airborne noise is created by activity from voice, audio equipment, etc. Silentstep's heavy layer reduces the transfer of airborne noise due to its high mass and limp nature.

SILENTSTEP FOR DOMESTIC USE

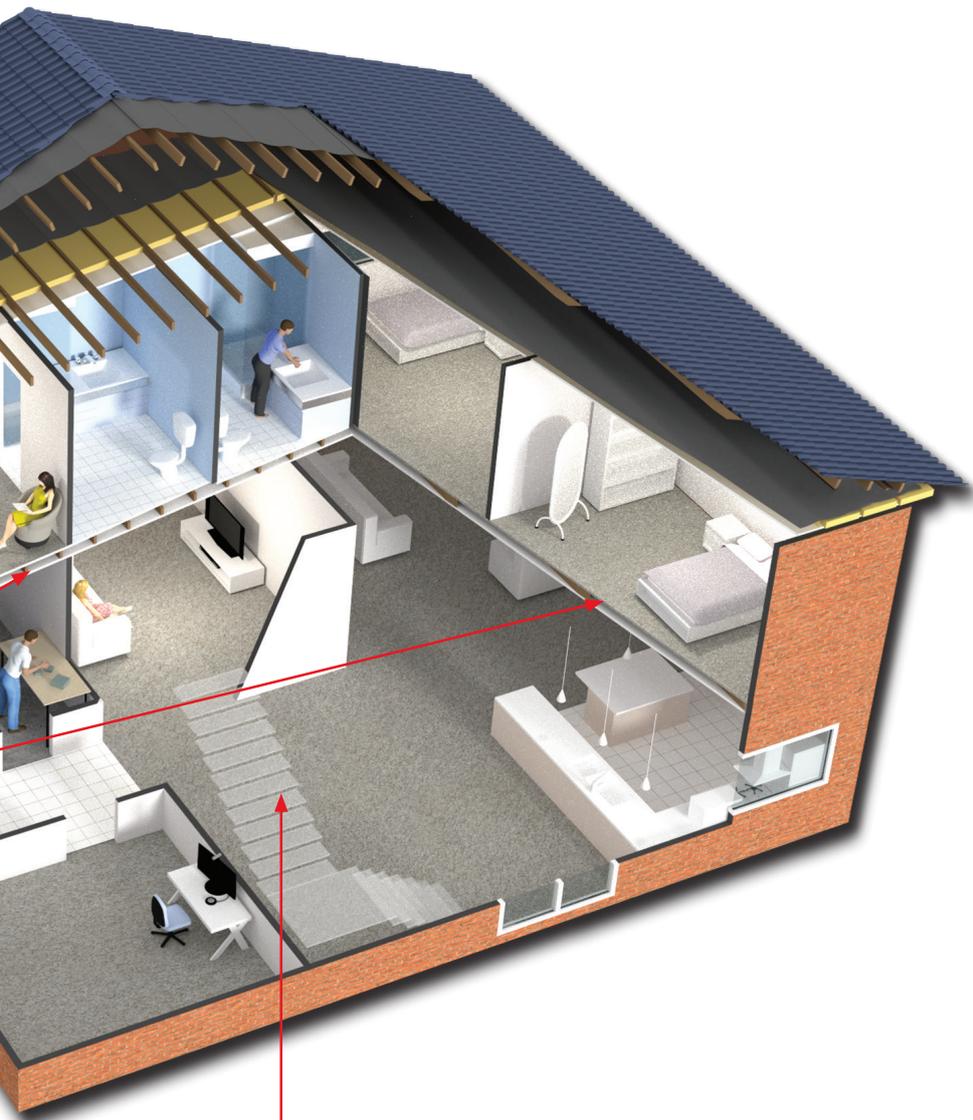


Silentstep for use under floors and stairways to control airborne and impact noise

FOUR STAR RATING FOR HOMES

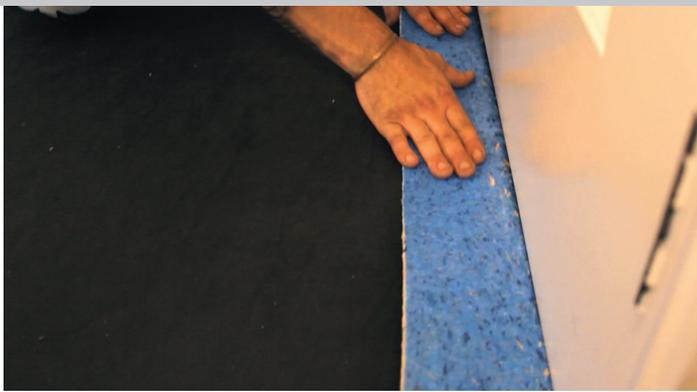
'The floor covering tested met the requirements of Building Code of Australia (BCA) from impact generated sound. It is predicted that using the floor covering tested in combination with a correctly constructed floor structure in dwellings between habitable rooms would meet at least AAAC 4 star rating. The improvement in the floor covering tested, over the bare timber floor, was at least 36 dB for frequencies centred on 315 Hz.' (When compared to a bare timber floor as per test report)

Comments from Report nss21031. Conducted and compiled by Ken Scannell MSc MAAS MIOA - Noise and Sound Services.



Silentstep to cushion impact noise





TRANSMISSION LOSS - FROM A THUMP TO A TIPTOE, FROM A SHOUT TO A WHISPER

The graph shows the performance of standard bonded foam underlay versus Silentstep.

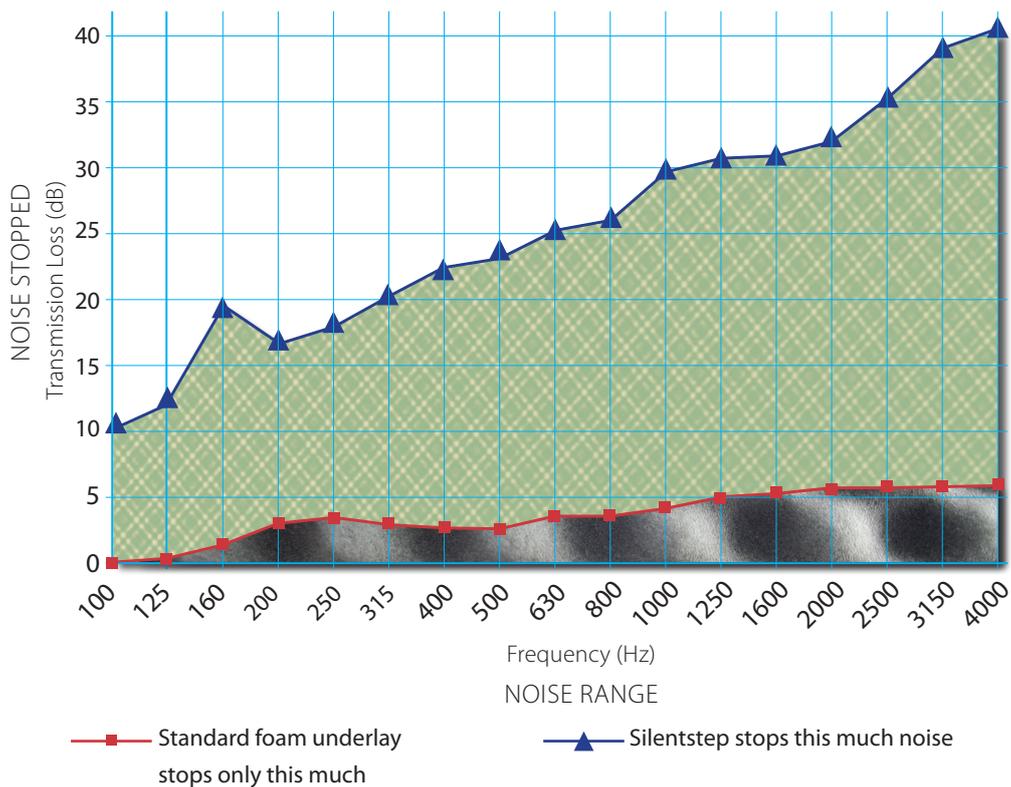
Standard foam underlay stops very little noise due to its very low weight and open structure. You can't see sound, so imagine it is like water. If water can get through, so can sound.

Footfall creates a loud thump as the heel hits the floor (315Hz). Plain underlay has little effect on this impact noise problem.

When tested against a bare floor, Silentstep reduces the impact noise by 36dB so a thump becomes a tiptoe...

400Hz to 1000Hz is the range critical to control the transfer of noise from speech, music, TV and radio.

At 500Hz standard underlay stops only 2dB whereas Silentstep stops 23dB. That's 21dB more - so a shout becomes a whisper....



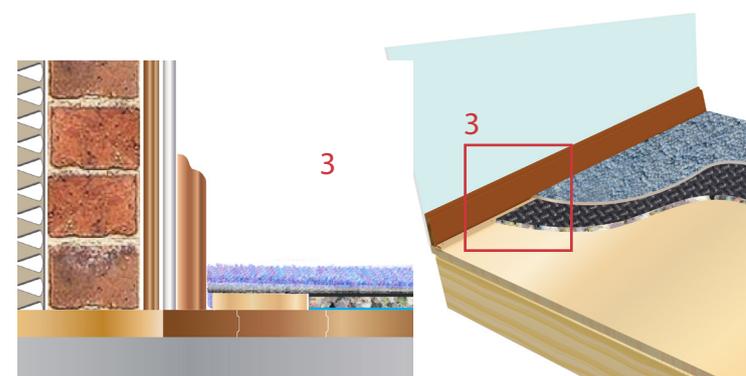
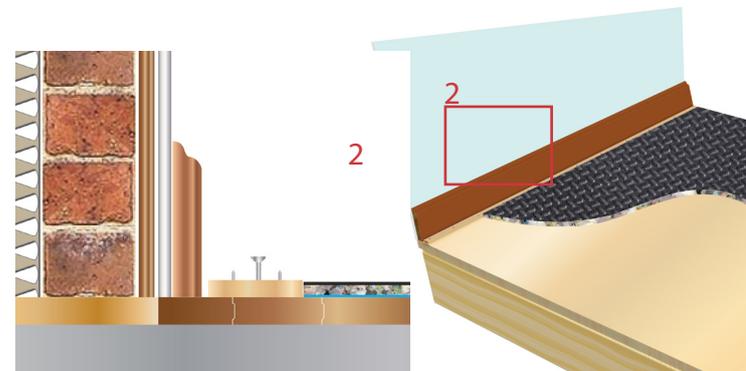
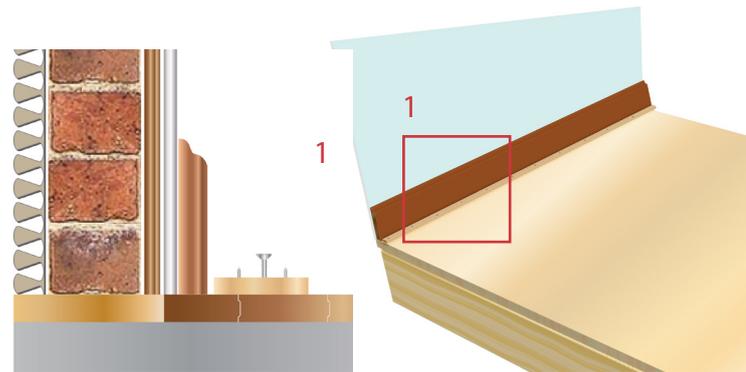


INSTALLATION

- Use standard domestic carpet gripper unless otherwise directed.
- Lay the foam side of the Silentstep onto the floor surface.
- Butt the edges of the Silentstep together – join each sheet with good quality underlay tape.
- Silentstep has sufficient internal weight to remain in position during the fitting of the carpet. Bonding and stapling will reduce the acoustic performance of the material.
- Cut the Silentstep in as per normal underlay installation.
- Make certain the carpet is firmly attached to the leading gripper pins.
- Bolster the carpet between the far side gripper edge and skirting board.

SILENTSTEP PROPERTIES

Thickness (mm nominal)	10
Roll length (m)	5.0
Roll width (m)	1.35
Roll weight (kg nominal)	33
Colour	black facing
Recommended temp range	-20°C to +100°C
Foam treatment	antibacterial





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PYROTEK WORLDWIDE LOCATIONS

AUSTRALIA

CANADA

CHINA

CZECH REPUBLIC

HONG KONG

INDIA

INDONESIA

JAPAN

KOREA

MALAYSIA

SINGAPORE

NEW ZEALAND

TAIWAN

THAILAND

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UNITED ARAB EMIRATES

UNITED KINGDOM

UNITED STATES OF AMERICA

VIETNAM

CONTACT DETAILS

for further information and
contact details, please visit
our website at pyroteknc.com

Pyrotek endorse forest sustainability and the preservation of natural environment. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

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