



**SOUNDPROOFING**  
SOLUTIONS  
FOR BUILDINGS

## VÉLAPHONE® RANGE



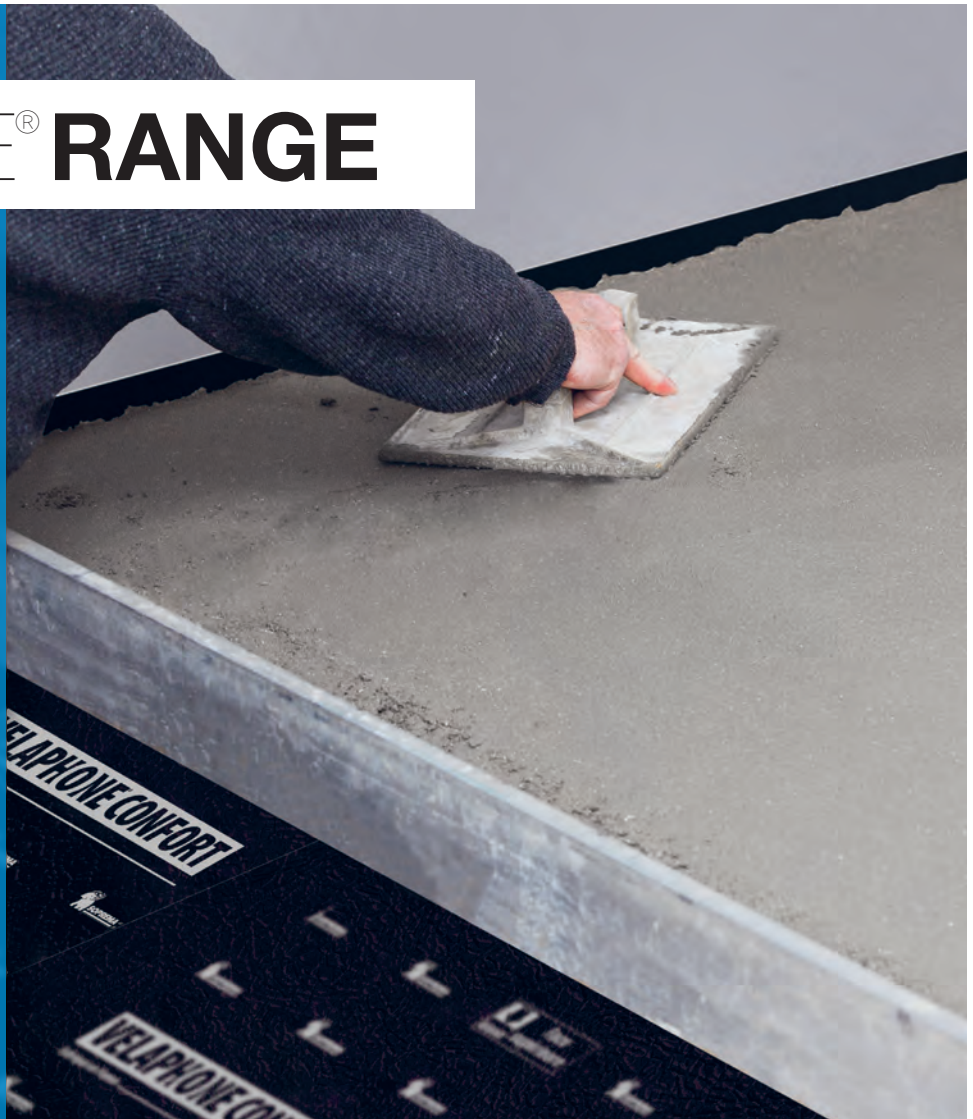
# VÉLAPHONE® RANGE



**SOPREMA** provides a response to current requirements for reducing noise pollution by offering two Thin Acoustic Underlays:

- **Vélaphone® Fibre 22** :  
excellence in sound insulation,
- **Vélaphone® Confort** :  
optimal sound insulation.

**Vélaphone® Fibre 22** and **Vélaphone® Confort** have QB Certification mark <sup>(1)</sup> and benefit from QUALITEL <sup>(2)</sup> approval.



## ENSURING ACOUSTIC COMFORT

The acoustic comfort of interior spaces should not be neglected. This is a regulatory obligation and above all a necessary concern. Good acoustic comfort has a positive influence on the quality of daily life and on the relations between users of a building.

In residential buildings, noise pollution can be a source of neighborhood conflicts. Noise is also a concern in hotels and schools.

For tertiary buildings such as offices, for example, the psychological balance and work productivity of occupants are also closely linked to acoustic comfort.

<sup>(1)</sup> **QB** - Quality in Building, launched by CSTB at the end of 2015, aims to simplify the current certification scene in the construction sector and maximize the legibility of benchmarks for the quality, performance and reliability of products, services and stakeholders.

The QB mark certifies the compliance of products with conditions set out in certification reference systems.

As a certification body, the CSTB performs all certification operations, from the development of reference documents to the issuance of certificates and monitoring of certificate holders.

<sup>(2)</sup> The **QUALITEL** Association promotes, alongside housing professionals, the quality of new and existing housing.

CERQUAL Qualitel Certification, the certification body of the QUALITEL Association, supports all players in the construction industry and public bodies, to build, renovate or operate quality, healthy, comfortable and sustainable housing, for the well-being of their occupants, through the NF Habitat-NF Habitat HQE certification.





The acoustic performance of the flooring underlay solutions is calculated from laboratory results.

**The reduction in the weighted impact noise level  $\Delta L_w$  is stated in dB.**

The higher this value, the better the soundproofing performance.

This value is determined during standardised tests with a 14 cm thick concrete slab combined with a 4 cm screed over the acoustic underlay.

This index is one of the elements making it possible to compare and select the underlays. It is also used to estimate the "in situ" performance of the structure, which is also a function of the construction elements and the nature of the associated materials as coating.

It is this index that characterises the performance of our acoustic underlays present in this document.

### AIRBORNE NOISE SOUND REDUCTION INDEX

Working on the same principle as acoustic insulation for impact noise, for laboratory performance and in situ measuring indices, we have a weighted attenuation index **Rw (C, Ctr)**, expressed in dB. It relates to acoustic insulation qualities of a partition:

- **C** is the corrective term related to indoor airborne noise.
- **Ctr** is the corrective term related to road noise.

## THE +




- Long Lasting and certified performances
- Millions of m<sup>2</sup> of references
- Reliable answers for all types of buildings and finishes
- Independent thin soundproofing solution for floor covering
- Excellent tear resistance thanks to the bitumen surface

### THE + VÉLAPHONE® FIBRE 22 :

- Best performance on the market :  $\Delta L_w$  de 22 dB under a floating screed
- Certified performance allowing to achieve NF Habitat and NF Habitat HEQ™ certification <sup>(3)</sup>

<sup>(3)</sup> **NF Habitat - NF Habitat HEQ** is the benchmark certification in the housing sector. It can apply to an apartment, to the common areas of a condominium or to a house. It is aimed at those who will build, renovate or maintain your home: developer, builder of single-family homes, renovation professionals, condominium managers. As a result, an NF Habitat or NF Habitat HEQ conformity certificate is provided.

PRESENTATION OF THE VÉLAPHONE® RANGE

	Vélaphone® Fibre 22	Vélaphone® Confort
		
Solution	Efficient	Optimal
SC1 classification	Yes	Yes
Acoustic performances	+++	++
Quick installation	++	+++
Behavior during implementation	+++	++
Tear resistance	+++	++
QB certified product	Yes	Yes
Robinson-type floor tester according to ASTM C627-10	Requirements met for : Residential, Light, Moderate, Heavy and Extra Heavy	

Acoustic performances under screed

	Vélaphone® Fibre 22	Vélaphone® Confort
Impact noise reduction $\Delta L_w$	22 dB	19 dB
Classification	SC1 a <sub>4</sub> A - SC1 b <sub>3</sub> A	SC1 a <sub>2</sub> A - SC1 b <sub>2</sub> A Ch
Airborne noise reduction $R_w$ (C ; Ctr)	58 (-2 ; -8) dB	59 (-3 ; -6) dB
QB certification	03a-02	03a-01

Acoustic performances under wood flooring

	Vélaphone® Fibre 22	Vélaphone® Confort
Impact noise reduction $\Delta L_w$	21 dB	20 dB

Characteristics and packaging

	Vélaphone® Fibre 22	Vélaphone® Confort
Constitution	Non-woven polyester on bitumen coated base	Glass fleece on bitumen coated base
Thickness	3,4 mm	2,5 mm
Dimensions	20 x 1,07 m (20 m <sup>2</sup> useful)	20 x 1,07 m (20 m <sup>2</sup> useful)
Roll weight	Approx. 11,5 kg	Approx. 13,8 kg
Roll per pallet	16 rolls (320 m <sup>2</sup> )	25 rolls (500 m <sup>2</sup> )
Thermal resistance	0,100 m <sup>2</sup> .K/W	0,075 m <sup>2</sup> .K/W

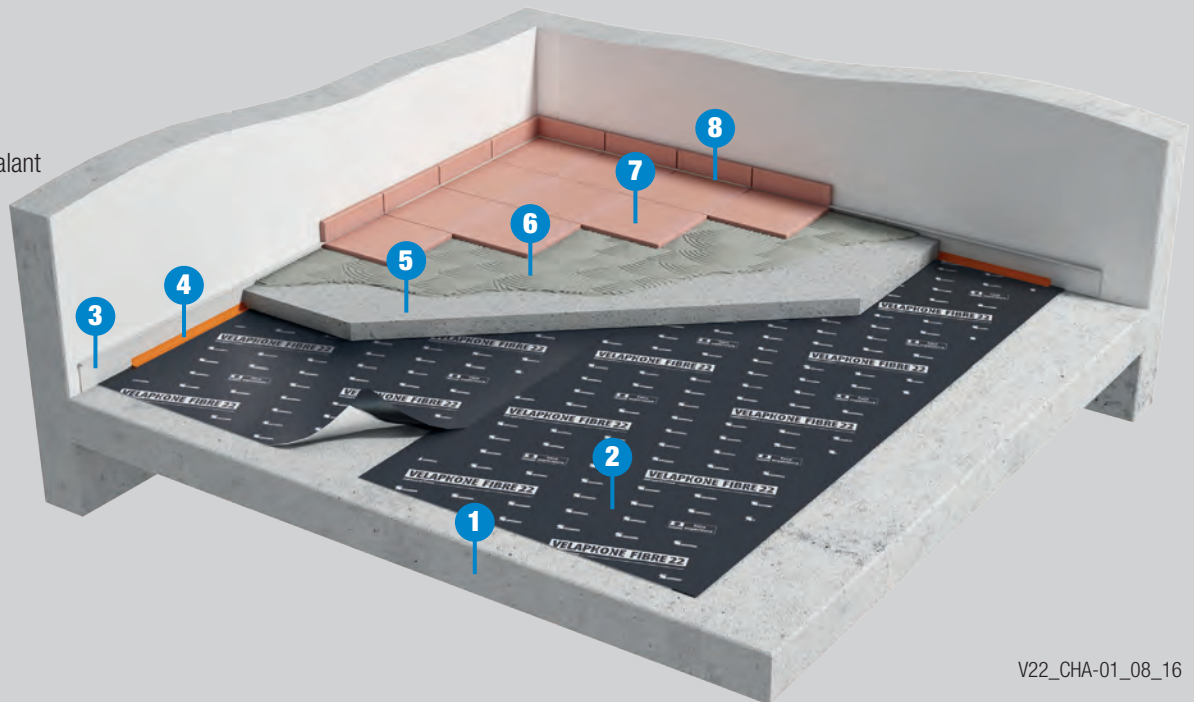


## IMPACT NOISE INSULATION UNDER FLOATING SCREED

The **Vélaphone®** range is laid under floating slab or screed or under sealed tiles. The products of the **Vélaphone®** range provide floors acoustic insulation against impact noise, in accordance to the provisions of standard (Code of Practice) NF DTU 52.10.

### Vélaphone® Fibre 22 installation

- 1- Support
- 2- Thin Acoustic Underlay **Vélaphone® Fibre 22**
- 3- Disconnection strip
- 4- Adhesive tape
- 5- Floating screed
- 6- Tile adhesive
- 7- Flooring
- 8- Flexible mastic bead sealant

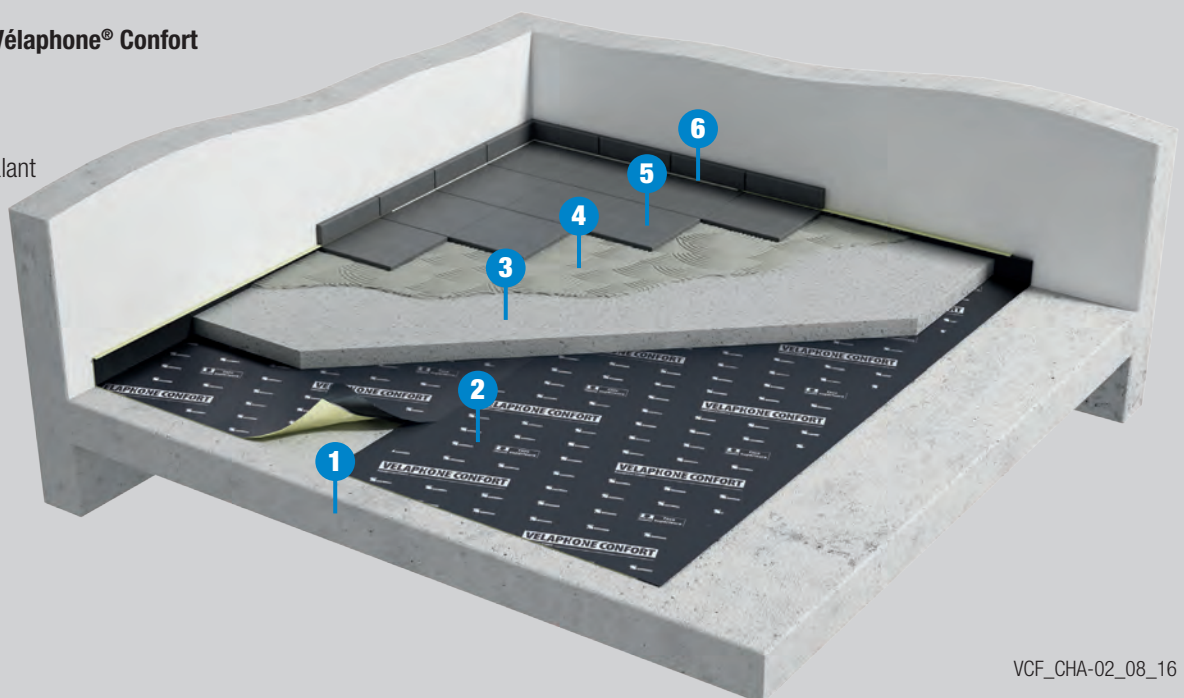


5

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### Vélaphone® Confort installation

- 1- Support
- 2- Thin Acoustic Underlay **Vélaphone® Confort**
- 3- Floating screed
- 4- Tile adhesive
- 5- Flooring
- 6- Flexible mastic bead sealant



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### Installation instructions

- Thin Acoustic Underlays are laid :
  - edge to edge thanks to the integrated self-adhesive overlap to prevent the passage of concrete,
  - or with
  - 5 cm longitudinal overlap.

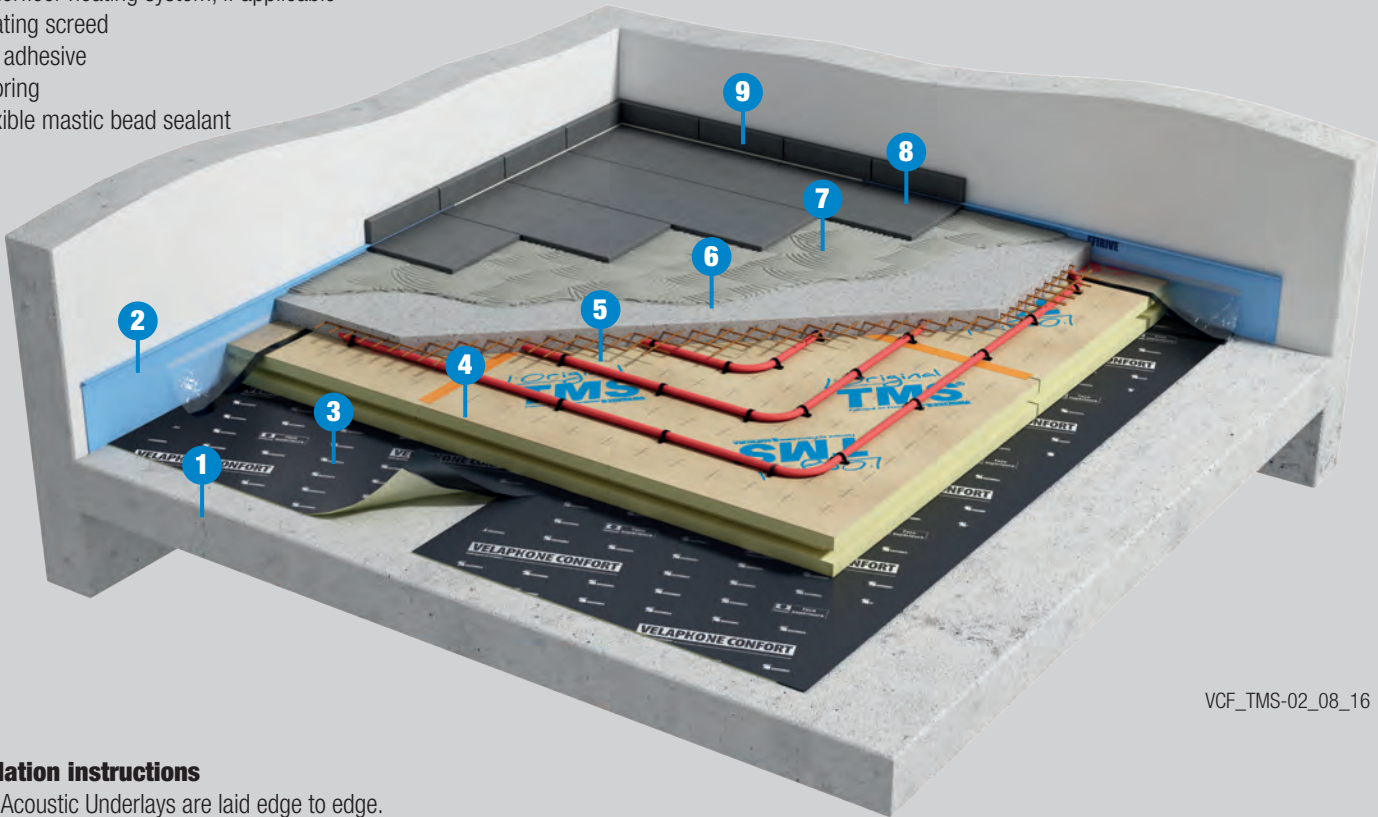




THERMAL & IMPACT NOISE INSULATION UNDER FLOATING SCREED

Vélaphone® Confort Installation

- 1- Support
- 2- Disconnection tape **Efirive**
- 3- Thin Acoustic Underlay **Vélaphone® Confort**
- 4- Thermal insulation **TMS®**
- 5- Underfloor heating system, if applicable
- 6- Floating screed
- 7- Tile adhesive
- 8- Flooring
- 9- Flexible mastic bead sealant



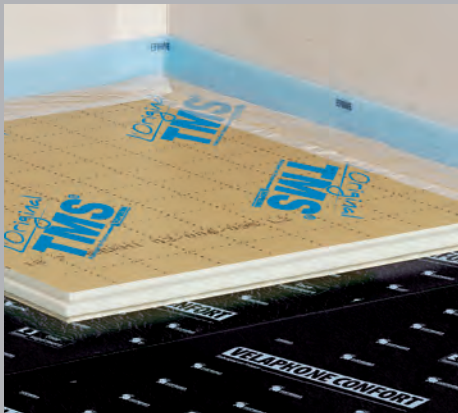
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Installation instructions

- Thin Acoustic Underlays are laid edge to edge.

TMS® AND VÉLAPHONE® CONFORT



The thermal regulations favour insulation solutions such as insulation under a floating screed between business premises, parking lots and living quarters. Such configuration must also take account of the acoustic regulation. **SOPREMA** offers you a high-performance thermo-acoustic solution, in line with these two obligations, by combining **Vélaphone® Confort** with **TMS®**.

This combination makes it possible to satisfy thermal and acoustic requirements, especially in the case of underfloor heating or in the case of rooms above unheated elements.

**TMS®** benchmark thermal insulation for floors under screed ( $\lambda_D = 0,022 \text{ W/(m.K)}$ ). It is intended for thermal insulation of floors and comes in the form of rigid polyurethane foam panels coated with a facing on each of its faces. **TMS®** has an SC1 a<sub>2</sub> Ch classification in accordance to the provisions of standard (Code of Practice) NF DTU 52.10 and ACERMI <sup>(4)</sup> certified (from 25 to 140 mm).

(4) The Association pour la Certification des Matériaux Isolants is a non-profit organization (association loi 1901) formed in 1983 by the CSTB and LNE, which created the ACERMI certification mark. Its purpose is to award qualification certificates for manufactured insulation materials and products within the meaning of French law 78-23 of January 10, 1978. ACERMI certification is based on a double commitment:

- The manufacturer gives its commitment to apply continuous production process controls and produce statistical values for the characteristics of its product.
- ACERMI gives its commitment to conduct an initial audit of the production plant, conduct initial tests on the product and monitor (audit + test) certified products on a twice-yearly basis.

Acoustic performances of Vélaphone® Confort and TMS® under floating screed

	Vélaphone® Confort	
Thickness of TMS ( $\lambda_D = 0,022 \text{ W/(m.K)}$ )	TMS 48 to 80 mm	TMS 100 to 140 mm
Classification of the work	SC2 a <sub>4</sub> A Ch	SC2 a <sub>4</sub> A Ch
Impact noise reduction : $\Delta L_w$	20 dB	22 dB
Airborne noise reduction : $R_w(C ; C_{tr})$	59 (-2 ; -8) dB	61 (-3 ; -10) dB

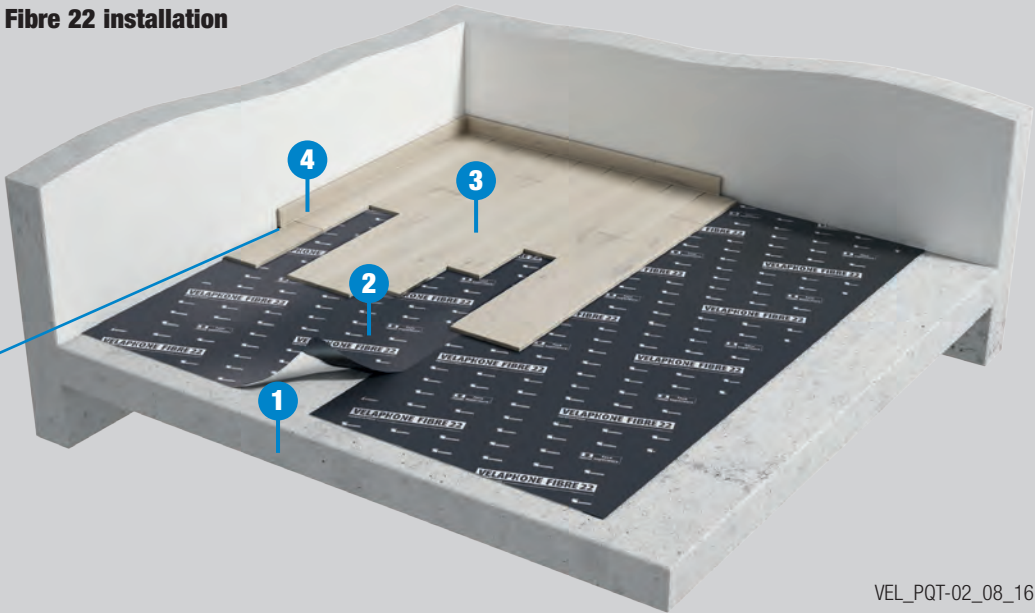


## IMPACT NOISE INSULATION UNDER FLOATING WOOD FLOORING

Vélaphone® Confort or Vélaphone® Fibre 22 products are also installed under wood flooring in accordance to the provisions of standard (Code of Practice) NF DTU 51.11.

### Vélaphone® Confort and Vélaphone® Fibre 22 installation

- 1- Support
- 2- Thin Acoustic Underlay  
Vélaphone® Confort or  
Vélaphone® Fibre 22
- 3- Floating wood flooring
- 4- Flexible mastic bead sealant



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## THERMAL & IMPACT NOISE INSULATION UNDER FLOATING WOOD FLOORING

Vélaphone® Fibre 22 is associated to the Vermaspha® product for level adjustment, thermal insulation ( $\lambda = 0,076 \text{ W/(m.K)}$ ) and soundproofing on old concrete or wood supports. Vermaspha® consists of a ready-to-use mixture of vermiculite grains coated with bitumen.

### Vélaphone® Fibre 22 installation

- 1- Timber support floor
- 2- Vermaspha®
- 3- Vélaphone® Fibre 22
- 4- Floating wood flooring



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A 5 mm thick edge strip is previously placed on the periphery of the room. Vermaspha® is applied dry by simple pouring, then leveled and compacted (minimum height 3 cm, maximum height 12 cm in successive layers 5 cm thick). The Vélaphone® Fibre 22 underlay is placed on Vermaspha®. It is then covered by the floating wood flooring in accordance to the provisions of standard (Code of Practice) DTU 51.3, with wooden-based panels machined on the 4 faces, staggered and glued on their 4 edges.

### Performances example of floating wood flooring on Vélaphone® Fibre 22 + Vermaspha®

	Vélaphone® Fibre 22
Timber support floor	Chipboard wood panel CTBH 22 mm
Levelling layer	Vermaspha® - 30 mm
Thin Acoustic Underlay	Vélaphone® Fibre 22 - 3,4 mm
Floating wood flooring	Chipboard wood panel CTBH 22 mm
Impact noise reduction : $\Delta (L_{n,w})$	21 dB
Airborne noise reduction : $R_w (C ; C_{tr})$	47 (-3 ; -9) dB

RANGE PRESENTATION : DISCONNECTION TAPES

Self-Adhesive disconnection tape



Closed cell polyethylene foam, adhered by 2 x 10 mm-wide threads on one side.

Dimensions	Heating floor	Colours	Packaging
50 m x 100 mm x 3 mm	No	White	Box of 6 rolls / 16 boxes per pallet
50 m x 145 mm x 3 mm	No	White	Box of 4 rolls / 16 boxes per pallet

Self-Adhesive disconnection tape with flap



Polyethylene foam adhered by 1 x 25 mm wide thread on one side and 120 mm overflowing plastic flap.

Dimensions	Heating floor	Colours	Packaging
50 m x 120 mm x 3 mm	No	White	Package of 10 rolls
50 m x 150 mm x 5 mm*	Yes	White	Package of 10 rolls

\*Foam with 5 pre-cuts every cm.

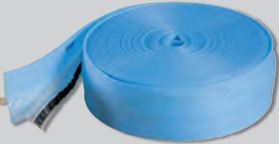
8 Resilient tape



Closed cell polyethylene foam.

Dimensions	Heating floor	Colours	Packaging
150 m x 100 mm x 3 mm	No	White	Package of 14 rolls
100 m x 100 mm x 5 mm	Yes	White	Package of 14 rolls
150 m x 145 mm x 3 mm	No	White	Package of 10 rolls
100 m x 145 mm x 5 mm	Yes	White	Package of 10 rolls
50 m x 140 mm x 8 mm	Yes	Blue	Package of 7 rolls
50 m x 200 mm x 3 mm	Yes	Blue	Package of 6 rolls

Efirive, TMS® disconnection tape



Polyethylene foam disconnection tape with adhesive skirt.

Dimensions	Heating floor	Colours	Packaging
50 m x 120 mm x 5 mm	Yes	Blue	Package of 6 rolls
50 m x 150 mm x 5 mm	Yes	Blue	Package of 6 rolls
50 m x 180 mm x 5 mm	Yes	Blue	Package of 6 rolls
50 m x 210 mm x 5 mm	Yes	Blue	Package of 6 rolls
25 m x 150 mm x 8 mm	Yes	Blue	Package of 6 rolls



## INSTALLATION : DISCONNECTION TAPE

French standard (Code of Practice) NF DTU 52.10 stipulates that the disconnection tapes must exceed the finished flooring surface area by at least 2 cm, including the finishing flooring.

Separation can be achieved by raising soundproofing underlay up on vertical walls (for skirting) around room perimeter (recommended with **Vélaphone® Confort**). As an alternative, it is also possible to apply disconnection tapes after laying the soundproofing underlay using its adhesive flaps. If the peripheral tapes do not have an integrated adhesive flaps, an adhesive tape should be put in place at the junction with the Thin Acoustic Underlay. The disconnection tapes must have a minimum thickness of 3 mm. This thickness is increased to 5 mm for heating floor systems. It can reach 8 mm for fluid screeds (upon Technical Approval).

With 3 thicknesses and several widths with or without self-adhesive flap, our range of disconnection tapes perfectly fulfils the needs of contractors in the installation of floating screeds.

### Vélaphone® Confort



### Vélaphone® Fibre 22

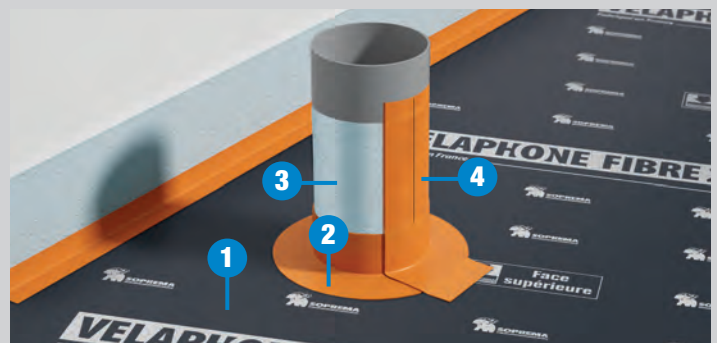


9

## FURTHER IMPLEMENTAION DETAILS



1- Disconnection tape folded under skirting, 2- Tile adhesive, 3- Flooring, 4- Flexible mastic sealant bead



1- Thin Acoustic Underlay, 2- Adhesive tape, 3- Disconnection tape, 4- Adhesive tape

## TIPS

- Use a hook blade cutter for easy and precise cutting of the thin acoustic underlay.
- Cut out the underlayer with a sharp and frank gesture.

A LEGAL OBLIGATION



Acoustic regulations set the acoustic characteristics of residential buildings and establishments in the tertiary sector (education, health, hotels).

Several characteristics considered the most important are the soundproofing towards airborne noise and impact noise.

French regulation (decrees of June 30, 1999) stipulates that the weighted pressure level of the standardized impact noise (L'nT,W) must not exceed 58 decibels (dB), when impacts are produced on the floor of premises outside this dwelling, with the exception of :

- balconies and loggias not located immediately above a main room,
- communal stairwells where there is a lift,
- technical locals.

In addition, French regulations impose an obligation of result which is the responsibility of the builders (Project Owners, Designers, Contractors).

Upon completion of the work on new residential buildings, the Project Owner provides the authority which granted the building authorization with a document certifying that the noise regulations have been considered (decree no. 2011-604 of May 30, 2011 and decree of November 27, 2012)  
This document is drawn up based on observations made during the study and the construction phases, as well as, for operations on acoustic measurements of at least ten housing units, carried out at the end of the work.

LABELS & CERTIFICATIONS

The certification is part of a voluntary and qualitative approach by the Project Owner of new housing or residential building, allowing it to make a difference on the acoustical comfort for the future inhabitants and promote its construction to its potential customers.

10 QB certification



Created and delivered by the CSTB, the QB certification « Thin Acoustic Underlay », previously called CSTBat certify :

- product's compliance with standard (Code of Practice) NF DTU 52.10 and its use under screed or under sealed tiles,
- compliance with a standard set out in a certification reference common to the entire family of products considered,
- performances defined by a value or a classification.

An independent body periodically verifies the performance of the products.

QUALITEL Association and NF HABITAT certification

For the last 40 years, QUALITEL Association promotes, alongside housing professionals, the quality of new and existing housing and especially acoustical comfort.  
On the basis of a single reference system, **NF Habitat** certification is delivered to new housing programmes of multi-family buildings or grouped single-family homes (housing estates).  
It is based in particular on compliance with current French and European standards, including NF DTU, as well as on the use of the of certified products.  
For NF Habitat operations **NF Habitat HQE™**, the acoustic floating screed provides additional points.

L'AFSCAM

L'AFSCAM is an association that brings together manufacturers of Thin Acoustic Underlays (SCAM) based on mineral or organic fibres.

**SOPREMA** is a founding member.

- Its missions :
- to contribute to the acoustic quality of buildings and the comfort of their occupants,
  - promote products that meet real acoustic performances and sustainable,
  - promote thin soundproofing solutions that comply with regulatory requirements.

REGULATORY CONFORMITY (REGL) / NF HABITAT (NF)\*

Slab thickness <sup>(1)</sup> (cm)	Vélaphone® Fibre 22	Vélaphone® Confort
14	REGL	REGL
15	NF <sup>(2)</sup>	
16		
18		
20		
22		
		NF <sup>(2)</sup>

\*Table established based on theoretical assumptions and evaluations only according to the ΔL<sub>w</sub> and the thickness of the concrete slab. (1) Solid concrete floor.  
(2) The NF Habitat certification can be associated to HQE™ mark, which characterizes a higher performance level. In such case, the acoustic screed allows to obtain 2 additional points.



STANDARDS & RULES

Standard NF DTU (code of practice) 52.10

This standard defines implementation of underlays under floating screed or under sealed tiling in low traffic areas. Their performances are characterized and codified as follows:

- One class SC1 or SC2, depending on the crushing under load (defining the thickness of the overlying structure – see table below).
- A letter "a" or "b" indicating the permissible operating loads with, as a subscript, a number from 1 to 4 linked to the reduction in thickness at 10 years.
  - "a" : Operating load of 500 kg/m² relating to use in offices, classrooms, reception halls,...
  - "b" : Operating load of 200 kg/m² relating to use in housing.
- Specific characteristics
  - "a" for an impact noise acoustic underlay.
  - "Ch" indicates that the underlay is compatible with underfloor heating system.

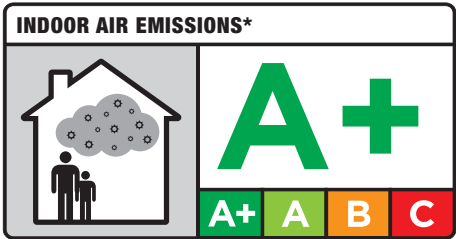
Layering rules

- The superposition is limited to 2 underlays (thermal and / or soundproofing).
- The superposition of 2 underlays is obligatorily classified SC2.  
Example : SC1+SC1=> SC2.
- The sum of the indices "ai" or "bi" of the 2 underlays must remain less than or equal to 4.  
Example : SC1a2 + SC2a1 => SC2a3.
- Combining an underlay classified "a" with a sub-layer classified "b" constitutes a work classified "b", usable only in premises with an operating load limited to 200 kg / m².  
Example : SC1a2 + SC2b1 => SC2b3.
- In the case of the superposition of a thermal insulation associated with a thin soundproofing underlay, the complex formed by these two identified insulating underlays must be the subject of 11 — a specific acoustic test report.
- If we associate a thin soundproofing underlay with a thermal insulation underlay, the thermal underlay is placed on the thin soundproofing underlay.
- In case of underfloor heating, it is not mandatory that the thin soundproofing underlay is classified "Ch" if it is associated with a thermal insulation layer with a minimum thermal resistance equal to 1 m².K/W.

Good to know

Fluid screeds Technical Approval validates their implementation on a Thin Acoustic underlay.

	Destination	Installation conditions
SC1	Sealed tiles (DTU (Code of Practice) 52.1)	Directly with sealing mortar ≥ 6 cm
	Screed/Slab (DTU (Code of Practice) 26.2)	≥ 5 cm
SC2	Sealed tiles (DTU (Code of Practice) 52.1)	On preform type E (6 cm cement mortar) with sealing mortar ≥ 4 cm
	Screed/Slab (DTU (Code of Practice) 26.2)	≥ 6 cm



\* Information on the level of emission of volatile substances in indoor air, presenting a risk of toxicity by inhalation, on a class scale from A+ (very low emissions) to C (high emissions).

Good to know

All the products of Vélaphone® range are classified A+.





### SOPREMA at your disposal

You are looking for commercial contact for a future or current project ?  
You have any queries on our products ?

Contact SOPREMA EXPORT Department  
☎ **+ 33 (0) 3 88 79 84 84**

[export@soprema.com](mailto:export@soprema.com)  
[www.soprema.com](http://www.soprema.com)

