The Velaphone range

Under floor sound insulation for impact noise reduction

SOPREMA

Acoustic treatment for impact noise: a legal obligation

Neighbourhood noise caused by foot, steps, impact, or moving and dropping objects on the floor constitute a considerable source of annoyance, and is the reason for numerous court proceedings between neighbours and/or promoters or builders.

In order to ageing provision, and set permissible limits and take new construction methods into account, , a new acoustic regulation, the NRA was decreed in France in October 1994. It applies to new construction that have building permits lodged after 1st January 1996.

In addition to provisions for protection from ambient noise, the permissible level for impact noise was lowered from 70 dB(A) to 65 dB(A).

Two implementation Orders issued on 30th June 1999 and implemented on 1st January 2000 apply new changes to the units and the indices used as well as to permissible noise levels.

The product performance assessment index is based on laborhtory result calculation. The weighted impact noise level reduction (ΔLw) is stated in dB.

The weighted pressure for the standardised impact noise (L'nT,w) is now set at 58 dB.

These provisions now apply to any locale, with the exception of :

- Balconies or recessed balconies not located above a main room,

- Communal stairwells where there is a lift,

- Technical facilities.

To summarise a performance obligation should be achieved, whether within a block of flats or a grouping of single family dwellings.

The impact noise efficiency index ΔL_W

ΔL_W is stated in dB. The higher this value is, the better the acoustic performance. This value is determined during adverse standardised tests. An acoustic underlay is placed on 14 cm concrete slab, then recieves a 4 cm sreed. This index is used to estimate in situ performance characteristic depending on the structure's construction and associated coating materials. It is this index which characterises the performance of our acoustic underlays indicated in this document.

Acoustic insulation for airborne noise

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 R_W (C,Ctr), stated in dB. It relates to acoustic insulation qualities of a wall.

The Velaphone underlays used in response to these requirements

Impact noise is transmitted by a building's structure. To avoid the transmission of noise, use a floating floor principle, by fitting a Vélaphone range separation underlay in-between the building's structure (slab) and the support screed.

The thickness of the concrete slab also contributes towards improving the acoustic insulation. One cm of concrete is considered to provide a gain of almost 1 dB for the ΔL_W.

Noise follows a logarithmic law and a **gain of 3 dB** indicates that you **divided the sound intensity of noise transmission by 2**.

Presentation

The Velaphone range consists of 3 products:

- Velaphone Fibre 22
- Velaphone Comfort
- Velafibre Eco

The **Velaphone** range can be laid under parquet or under a floating screed.

Velaphone Fibre 22 and **Velaphone Comfort** have CSTBat certification and are registered on the Cerqual list.

CSTBat Certification

CSTBat certification drawn up and issued by the CSTB (Building Scientific and Technical Centre) certifies :

- Compliance of the product with Standard Technical Document DTU 52.1,
- Compliance with a reference document common to the whole product family,
- Performance characteristic defined by a value or classification.

Through an independent, impartial and competent body that verifies the compliance and effectiveness of testing carried out by the manufacturer product certification provides the user with :

- Consistency product manufactured and its performance,
- The certainty that a product is suitable for its purpose,
- Reduction of acceptance inspections,
- Traceability to facilitate claim.

This quality label forms a determined and qualitative approach by the builder of new housing, elevating their standing and promotion of construction work to customers.

Henceforth, only certified underlays are featured on the Cerqual list run by the Qualitel association.

The Qualitel (LQ) label and the Acoustic Comfort (LQCA) label

Twenty years ago, in order to promote construction solutions that improve acoustic comfort, subject to the requirements of the Qualitel association, a quality label was created. One of the 7 Qualitel criteria specifically relates to the treatment of noise emitted inside a building.

Velaphone Fibre 22 and **Velaphone Comfort** underlay form part of the list of products that can benefit from Cerqual marking, guaranteeing the efficiency level assigned by Qualitel.

Since 1991 and after obtaining the Qualitel label (LQ), the Qualitel association has been able to assign the Qualitel Acoustic Comfort Label (LQCA). The gain is 3 or 6 dB respectively in relation to acoustic regulations.

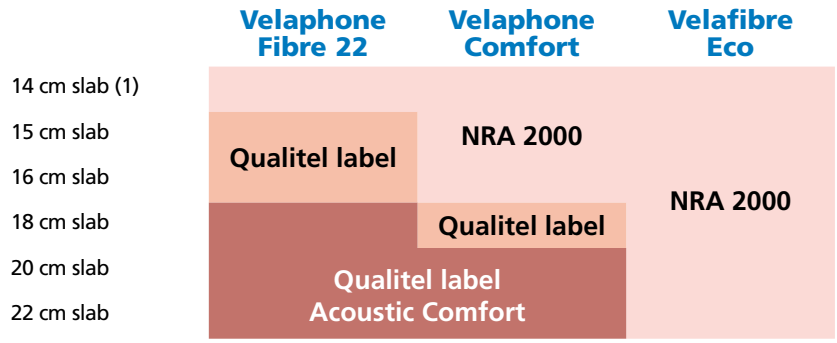
Acoustic performance characteristics under screed

With ΔL_W of 22 dB, the **Vélaphone Fibre 22** offers **unsurpassed performance**.

	Velaphone Fibre 22	Velaphone Comfort	Velafibre Eco
Noise reduction ΔL_W	22 dB	19 dB(*)	20 dB(*)
Test report	CSTB AC 04-038	CTBA 00/PC/ PHY/1034/614	CSTB AC 05-196
Classification	SC1 a4 A - SC1 b3 A	SC1 a2 A	SC1 b3 A
R_W	58 (-2 ; -8)	59 (-3 ; -8)	59 (-4 ; -10)
CSTBat Certification	03a-02	03a-01	non

(*) Vélaphone Comfort achieved an Lw value of 20 dB under 47 mm of roof, wall and floor insulation (CTBA Report 05/CTBA-IBC/PHY/3173-B and its classification became SC1 b2 A Ch.

NRA 2000/LQ/LQCA* Compliance



(*) Table drawn up based on theoretical hypotheses and assessments only as a function of Lw and the thickness of the concrete slab.
(1) Reference concrete slab.

Standard NF P 61-203

This standard, which is common to both DTU 26.2 and DTU 52.1, also defines implementation of underlays.
It defines basic characteristics: SC (1 or 2) a or b (1 to 4) and specific characteristics: A Ch.

■ **Laying conditions :**
SC1: Enables direct laying of sealed tiling (with non-reinforced laying mortar with a nominal thickness of 6 cm or reinforced laying mortar that is 5 cm thick)
SC2: Laying of a 6 cm underlay

■ **Permissible operating load :**
a : Operating load of 500 kg/m² relating to use in offices, classrooms, foyers, etc.
b : Operating load of 200 kg/m² relating to use in housing.
1 à 4 : Index used in the case of 2 acoustic or thermal underlays being superimposed (see NF P 61-203 section 7.2).
A : An impact noise acoustic underlay.
Ch : Indicates that the underlay is compatible with heated floors.

Markings example : SC1 a2 A Ch
Acoustic underlay compatible with a class SC1 heated floor with an operating load of up to 500 kg/m².

Acoustic performance characteristics under parquet

	Velaphone Fibre 22	Velaphone Comfort	Velafibre Eco
Noise reduction ΔL_W	21 dB	20 dB	21 dB
Test report	CTBA 06/CTBA-IBC/ PHY/11	CTBA 99/PC/ PHY/999/602.595	CTBA 06/CTBA-IBC/ PHY/218
Composition	Non-woven polyester on a bitumen support	Non-woven polyester on a bitumen support	Non-woven polyester
Thickness	3,3 mm	2,5 mm	2,8 mm
Dimensions	20 x 1,07 m (20 m² effective)	20 x 1,07 m (20 m² effective)	60 x 1,20 m (72 m² effective)
Weight of the roll	env 13 kg	env 13,5 kg	env 22 kg
Quantity per pallet	16 rlx (320 m²)	25 rlx (500 m²)	8 rlx (576 m²)
Heat resistance	0,100 m².°K/W	0,075 m².°K/W	0,100 m².°K/W

Selection guide

	Velaphone Fibre 22	Velaphone Comfort	Velafibre Eco
Solution	Optimal	High-performance	Economic
SC1 Classification	Yes	Yes	Yes
Acoustic performance	****	***	***
Speed of laying	****	****	***
Traffic flow resistance	****	***	**
Tear strength	****	***	***
CSTBat certified product	Yes	Yes	No

Advantages common to the whole range

- Long experience, millions of m² of references.
- Comprehensive range with the most recognised product on the market.
- Stable acoustic performance over time.
- SC1 classification for implementation whatever the type of laying.
- Compatible with floating parquet.
- Resistance to surfacing and tearing
- Integrated cover strip to prevent grout penetration and enable coverage without excess thickness.
- The products are rolled in the laying direction.
- A large range of edge sealant tape.

Edge sealant tapes for achieving separation

Standard NF P 61-203 (part common to DTU 26.2 & DTU 52.1) stipulates that the separation tapes must exceed the finished floor surface area by at least 2 cm, including the coating.
It is recommended that you avoid any possibility of allowing grout penetration by applying adhesive tape.
Separation can be achieved by raising acoustic insulation underlay rolls up and onto vertical walls around rooming perimiter (recommended with Vélaphone Comfort).
It is also possible to apply separation tape after laying the underlay where the edge sealant tape has an adhesive end (for skirting).
The edge sealant tape must have a minimum thickness of 3 mm. This thickness is 5 mm increased to for heated floors.
Furthermore, you may encounter anhydrite screeds for which the Technical Specification stipulates a thickness of 8 mm edge separation tape when using a heated floors.
With 3 thicknesses, several widths starting with 10 cm, with or without an adhesive flap, our range of separation tapes perfectly fulfils the needs of installers in the installation of floating screeds.

A full range of separation tapes

Use : Separating the floating screed and partitions, skirting boards and pipes.

Product	Description	Width	Thickness	Heated floor	Colour	Packaging
Adhesive raising tape	Polyethylene foam adhered by 2 x 10 mm-wide beads on one side	100 mm	3 mm	no	white	Carton of 6 x 50 ml rolls
		145 mm	3 mm	no	white	Carton of 4 x 50 ml rolls
Adhesive raising tape with a flap	Polyethylene foam made adhesive by a 25 mm-wide bead on one side and a plastic flap (120 mm overlap)	120 mm	3 mm	no	white	Carton of 10 rolls
		150 mm	5 mm*	yes	white	
Heavy-duty tape	Polyethylene foam	100 mm	3 mm	no	white	Carton of 14 x 150 ml rolls
			5 mm	yes	white	Carton of 14 x 100 ml rolls
		145 mm	3 mm	no	white	Carton of 10 x 150 ml rolls
			5 mm	yes	white	Carton of 10 x 100 ml rolls
		140 mm	8 mm	yes	blue	Carton of 7 x 50 ml rolls

** Foam with 5 pre-cuts every cm*

Velajoint

Use : Possible separation tape in-between tiling and the skirting board if the raising tape is not folded back under the skirting board.

Product	Description	Width	Thickness	Heated Floor	Colour	Packaging
Velajoint	Cross-linked polyethylene foam with adhesive underside	8 mm	2 mm	yes	white	Carton of 40 x 40 ml rolls

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