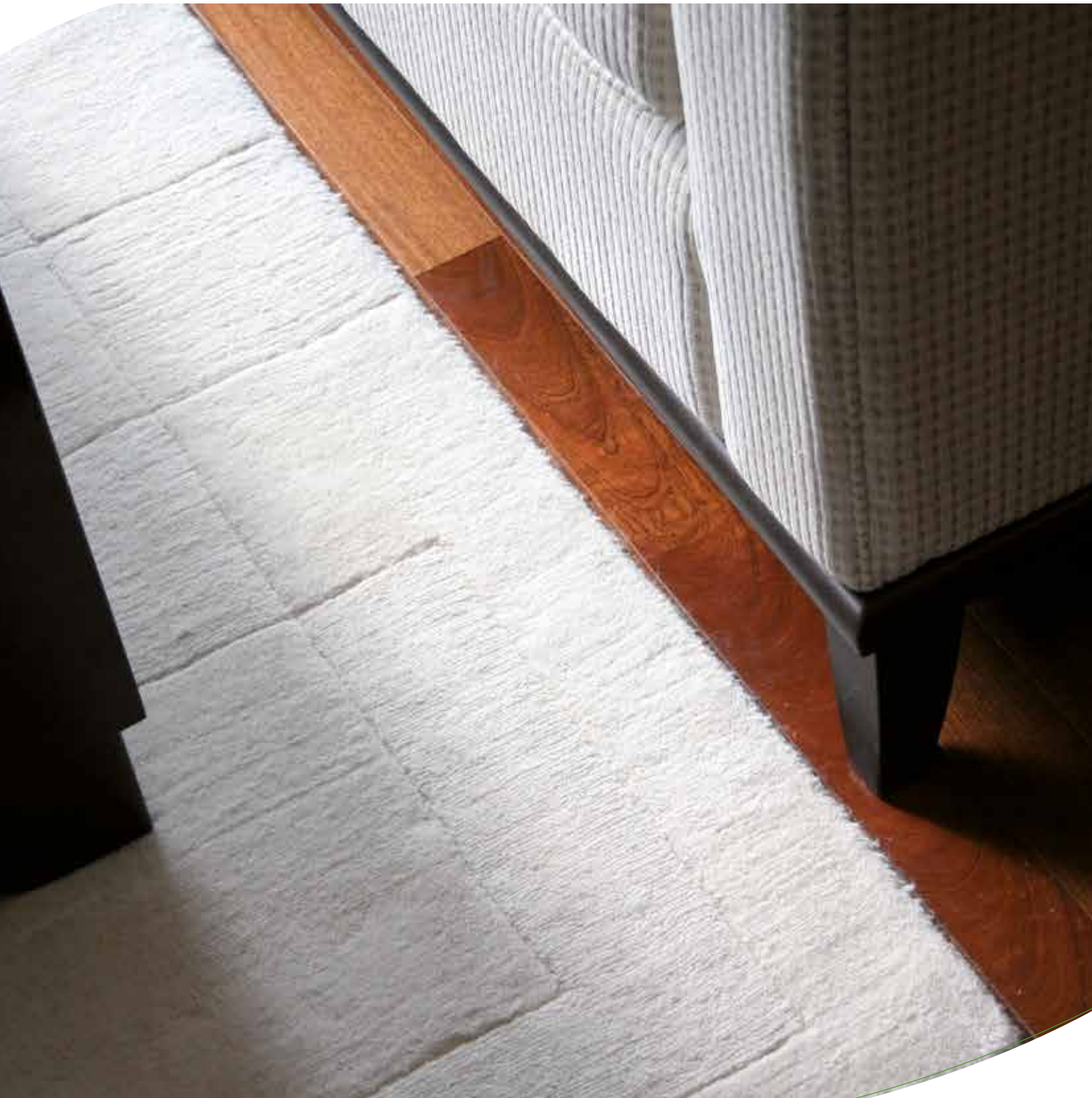
FLOORING UNDERLAY

TROCELLEN INSULATION

Construction



Flooring Underlay

The impact sound spreads between a room and the underlying one, due to the vibrations of the horizontal partitions strained.

Thanks to the sound insulation of the partition, it is possible to reduce the transmission towards the underlying environment from that in which the sound is generated.

The Impact Sound Level Index Lnw represents the capability of a horizontal partition to reduce impact noises. It is evaluated by means of a tapping machine on the floor and by measuring the perceived noise level in the environment below.

SERIE GENERALE

Spediz. abb. post. 45% - art. 2, comma 20/b Legge 23-12-1996, n. 662 - Filiale di Roma

Anno 138° — Numero 297

GAZZETTA UFFICIALE

DELLA REPUBBLICA ITALIANA

The Italian Decree of the President of the Council of Ministers - 5 December 1997 - defines the minimum values for the Impact Sound Level Index L'nw (measured on site), classified according to the intended use of the building. The use of resilient materials allows to satisfy the requirements of the Decree.

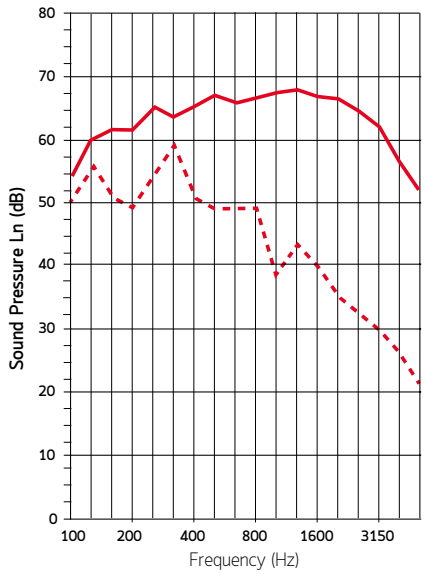
TROCELLEN N and VN

Cross-linked polyethylene foam able to maintain mechanical and acoustic characteristics stable in the time.

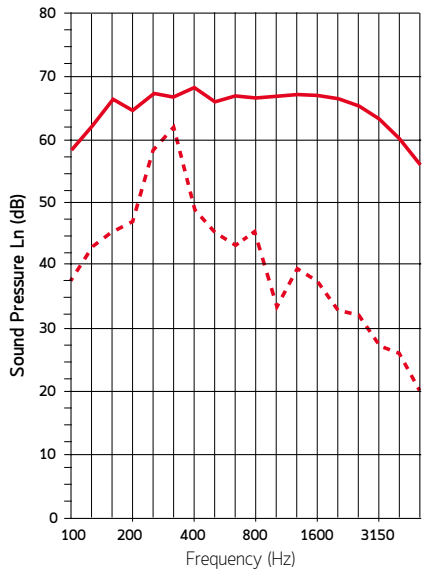
The high compression resistance makes this material ideal for building "floating flooring", even when the flooring – tile system laid on top is particularly heavy. The impact sound insulation value is 26 dB (see graphs).

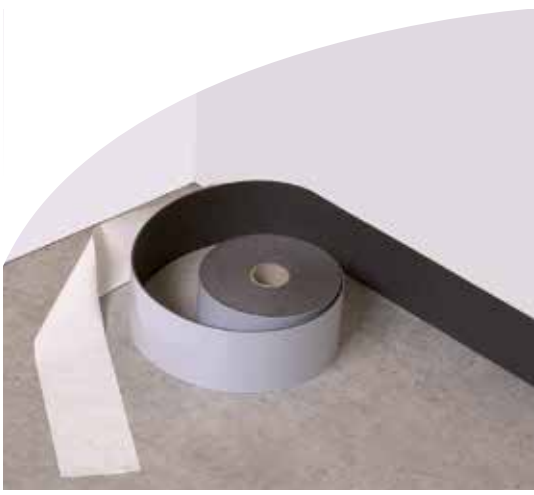
GRAPHS SHOWING REDUCTION OF IMPACT SOUND

N type 5mm



VN type 5mm



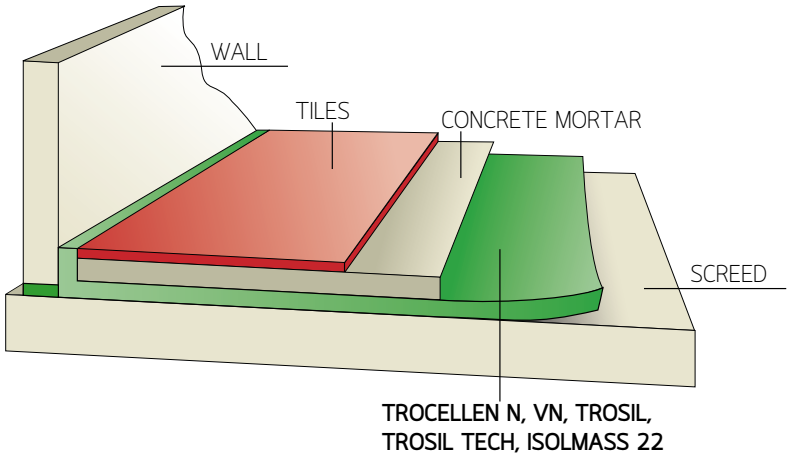


(MEASURES TO BE MADE WITH CONCRETE MORTAR 180 KG/M^3)

TECHNICAL DATA

TECHNICAL CHARACTERISTICS	NORM	UNIT	TROCELLEN N	TROCELLEN VN
Description			Chemically cross-linked polyethylene foam	Physically cross-linked PE foam
Density	EN ISO 845	kg/m³	30	30
Thickness	EN ISO 1923	mm	3 - 5 - 10	2 - 3 - 5
Colour	BASE Spec.		anthracite	anthracite
Reaction to fire	UNI 8457/UNI 9174		NA	NA
Compression stress strength at 10%	EN ISO 3386/1	kPa	19	13
Water vapour diffusion factor (μ-value)	EN 12086 EN ISO 12572		≥ 2000	≥ 2000
Water assorption after 28 days	ISO 2896	Vol.%	<3	< 2
Dimensional stability (< 5%)	ISO 2796	°C	100	95
Thermal conductivity coefficient at 10 °C (λ-value)	EN 12667	W/mK kcal/mh°C	0,0359 0,0309	0,0344 0,0296
Dynamic stiffness s't= s'	EN 29052-1	dB	3 mm= 140 - 5mm=192 - 10mm=79	NA
Impact sound insulation ΔLw (mortar 180 kg/m²)	EN ISO 140/6-8 EN ISO 717/2	MN/m³	3 mm=26 - 5mm=27 - 10mm=28	5 mm= 23,5

LAYING METHOD



TROSIL® – TROSIL TECH®

Sound insulation of new generation, against impact sound, manufactured by **TROCELLEN** for comfortable and quiet living.

Main characteristics:

- Flexible and elastic
- Light and waterproof
- High mechanical strength
- Mould and insect resistant
- Non-rotting
- Easy to install
- CFC-free

TROSIL®

Produced using soft cross-linked polyolefin foam offering excellent mechanical strength as well as sound and thermal insulation.

TROSIL TECH®

Produced using soft cross-linked polyolefin polymer foam laminated to non-woven polyester fiber, with excellent dynamic stiffness.

TECHNICAL DATA

TECHNICAL CHARACTERISTICS	NORM	UNIT	TROSIL	TROSIL TECH
Description			Chemically cross-linked PE foam	Chemically cross-linked PE foam laminated with polyester fiber
Density	EN ISO 845	kg/m³	30	30*
Thickness	EN ISO 1923	mm	4 - 5 - 10	10
Colour	BASE Spec.	-	beige	PE beige - fiber white
Roll size		m	thickness: 4 mm: 1,50x50 - 5 mm: 1,50x50 10 mm: 1,50x40 - 10 mm (battened): 1,50x25	1,50x25
Compression stress strength	EN ISO 3386/1	kPa	10%: 13,6 - 25%: 31,6 - 50%: 89,9	10%: 2,27 - 25%: 8,77 50%: 34,18
Water absorption after 28 days	ISO 2896	Vol.%	<3	< 3*
Dimensional stability (< 5%)	ISO 2796	°C	75	85
Thermal conductivity coefficient at 10 °C (λ-value)	EN 12667	W/mK kcal/mh°C	0,0359 0,0317	0,0359* 0,0317*
Impact sound insulation ΔLw (mortar 180 kg/m²)	EN ISO 140/6-8 EN ISO 717/2	dB	thickness: 4 mm: 28 - 5 mm: 28 10 mm: 36	thickness 10 mm: 33
Dynamic stiffness s't	EN 29052-1	MN/m³	thickness: 4 mm: 73 (s't = s') 5 mm: 52 (s't = s') - 10 mm: 19 (s't = s')	thickness 10 mm: 9

* Values for PE foam

The information contained herein is based on our experiences. They are not legally guaranteed and are indicative only. It is up to designers and users to decide whether or not the product is suitable for its intended use. Also assuming liability arising from the use of the products mentioned. Trocellen Italia SpA reserves the right at any time to make changes to the packaging, size and colour, without notice, due to business needs.

INSTALLATION INSTRUCTIONS

TROSIL and **TROSIL TECH** must be installed using the "floating floor" technique, preparing a foundation of light-weight concrete to cover all pipes.

Clean thoroughly and position **TROSIL** or **TROSIL TECH** over the full surface. Take care to overlap the the rolls at least 5 cm and to splice tightly with the adhesive tape Join Band, in order to avoid creating "sound bridges".

For non-battened **TROSIL** thicker than 5 mm, to prevent the penetration of sand or mortar, match perfectly the rolls and use the adhesive tape Join Band.

TROSIL TECH must be positioned with the polyester face down and the joints covered with the adhesive tape Join Band. Exceeding material can be cut after the floor has been laid, if in direct contact with the vertical walls.

The reinforced concrete (at least 5 cm thick) is laid on top of **TROSIL** or **TROSIL TECH**. Cover the sides of the wall with N-Band to avoid sound-bridges, so that the reinforced concrete floor does not have direct contact with the structural floors or walls.

Alternatively, it is possible to use P-Band, pre-engraved at 50 mm, to facilitate the installation at "L" and reinforced with TNT to prevent breakage.

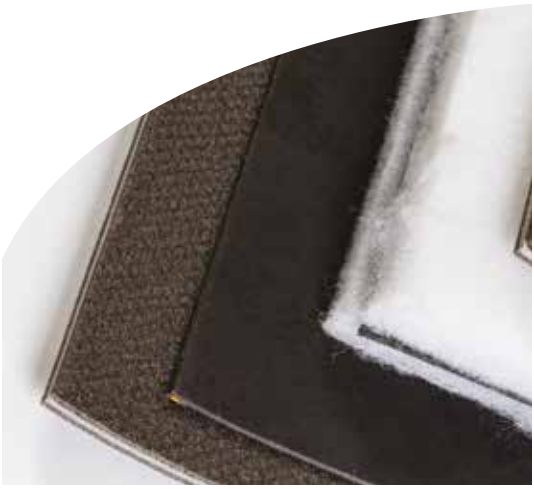
Exceeding material can be cut after the floor has been laid and prior to fitting the skirting boards.

Before the installation of skirting boards it is advisable to apply our specific tape with an uncoupling function. Then trim the excess, sealing the gaps with a little silicon.

We suggest users to consult the guidelines on the Anit-laying floating floors.

ISOLMASS

A multi-layered product range, with heavy sleeve, laminated with flexible, resilient and sound absorbing materials.



ISOLMASS 22

Composition:
- layer of polyethylene foam (anti-vibration), thickness **3 mm**
- heavy layer weighing **4 kg/m²**
- layer of polyethylene foam (anti-vibration), thickness **3 mm**

ACCESSORIES

TROCELLEN BAND

Self-adhesive, closed cell, cross-linked polyethylene foam strip used to edge the join between the floor block and the walls.

Types:
N Band – Resilient material adhesive strips for the perimeter insulation of the flooring, to be used for uncoupling acoustically the flooring from the wall. They are joined to the under-screed layer, thus obtaining the containing "tray" into which can be poured the liquid concrete of the screed.
P Band – Like N type, but pre-engraved at 50 mm, to facilitate the installation at "L" and reinforced with TNT to prevent breakage.

SELF-ADHESIVE STRIPS

TYPES	THICKNESS mm	WIDTH mm	LENGTH m
N	3 - 5	150	50
P	5	150 - 250	50

ITEM SPECIFICATIONS

TROCELLEN N

Chemically cross-linked closed cell foam rolls, density 30 kg/m³, colour anthracite grey, CFC free.
- Thermal conductivity coefficient at 10 °C (λ-value)= 0,0359 W/mK (0,031 kcal/mh°C)
- Water vapour diffusion factor (μ-value) ≥ 2000
- Classified F1, toxicity and opacity of fumes in case of fire, according to NF F 16-101

Resistant to chemical agents, does not rot.

TROCELLEN VN

Physically cross-linked closed cell foam rolls, density 30 kg/m³, colour anthracite grey, CFC free.
- Thermal conductivity coefficient at 10 °C (λ-value)= 0,0344 W/mK (0,030 kcal/mh°C)
- Water vapour diffusion factor (μ-value) ≥ 2000
- Classified F1, toxicity and opacity of fumes in case of fire, according to NF F 16-101

Resistant to chemical agents, does not rot.

TROSIL

TROSIL 4 mm

Chemically cross-linked closed cell polyolefin foam, CFC-free.
TROSIL 4 mm thick, density 30 kg/m³
Certified sound insulation ΔLw = 28 dB
Apparent dynamic stiffness s't = s' = 73 MN/m³

TROSIL 5 mm

Chemically cross-linked closed cell polyolefin foam, CFC-free.
TROSIL 5 mm thick, density 30 kg/m³
Certified sound insulation ΔLw = 28 dB
Apparent dynamic stiffness s't = s' = 52 MN/m³

TROSIL 10 mm

Chemically cross-linked closed cell polyolefin foam, CFC-free.
TROSIL 10 mm thick (available also battened), density 30 kg/m³
Certified sound insulation ΔLw = 36 dB
Apparent dynamic stiffness s't = s' = 19 MN/m³


TROSIL

TROSIL TECH

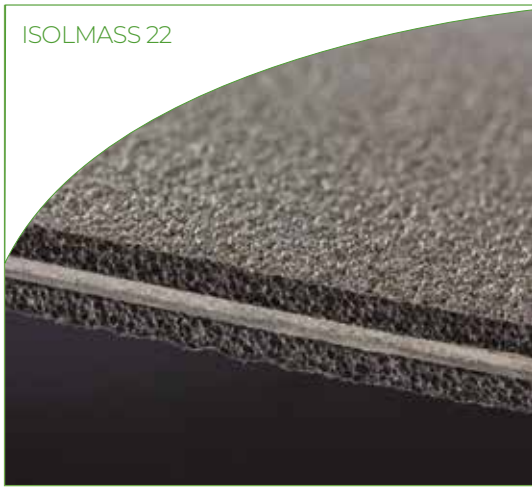
TROSIL TECH 10 mm

Chemically cross-linked closed cell polyolefin foam, CFC-free.
TROSIL TECH density 30 kg/m³, laminated with non-woven polyester fiber, total thickness 10 mm, battened.
Certified sound insulation ΔLw = 33 dB
Apparent dynamic stiffness s't = 9 MN/m³
Dynamic stiffness s'= 20 MN/m³

ISOLMASS

TROCELLEN ISOLMASS 22

A three-layer composite product for impact and airborne sound insulation of floors and walls. Composed of a charged, polyolefin heavy layer, laminated on both sides with **TROCELLEN** cross-linked PE foam with a thickness of 3 mm.
Net weight: 4,2 kg/m²


ISOLMASS 22

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TROCELLEN*

Trocellen is a multinational company owned by Furukawa Electric Co. Ltd, internationally renowned for the design and manufacture of cross-linked polyolefin foam.
Through its different Business Units, the company is able to meet the specific needs of the market with a wide range of products and solutions.
It manufactures both semi-finished and finished products. The Trocellen products stand out for their manufacturing processes and the many industrial sectors in which they can be used: Insulation, automotive, footwear, sport and leisure, adhesive tapes and packaging. Trocellen makes safety a lifestyle and turns safety into a lifestyle.

Insulation Business Unit

The Insulation Business Unit mainly specialises in Sound and Thermal insulation for the building industry. The goal is to create comfortable environments for people or rather to “help people live better!”.

*Trocellen is the member of Furukawa Group.

www.trocellen.com

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