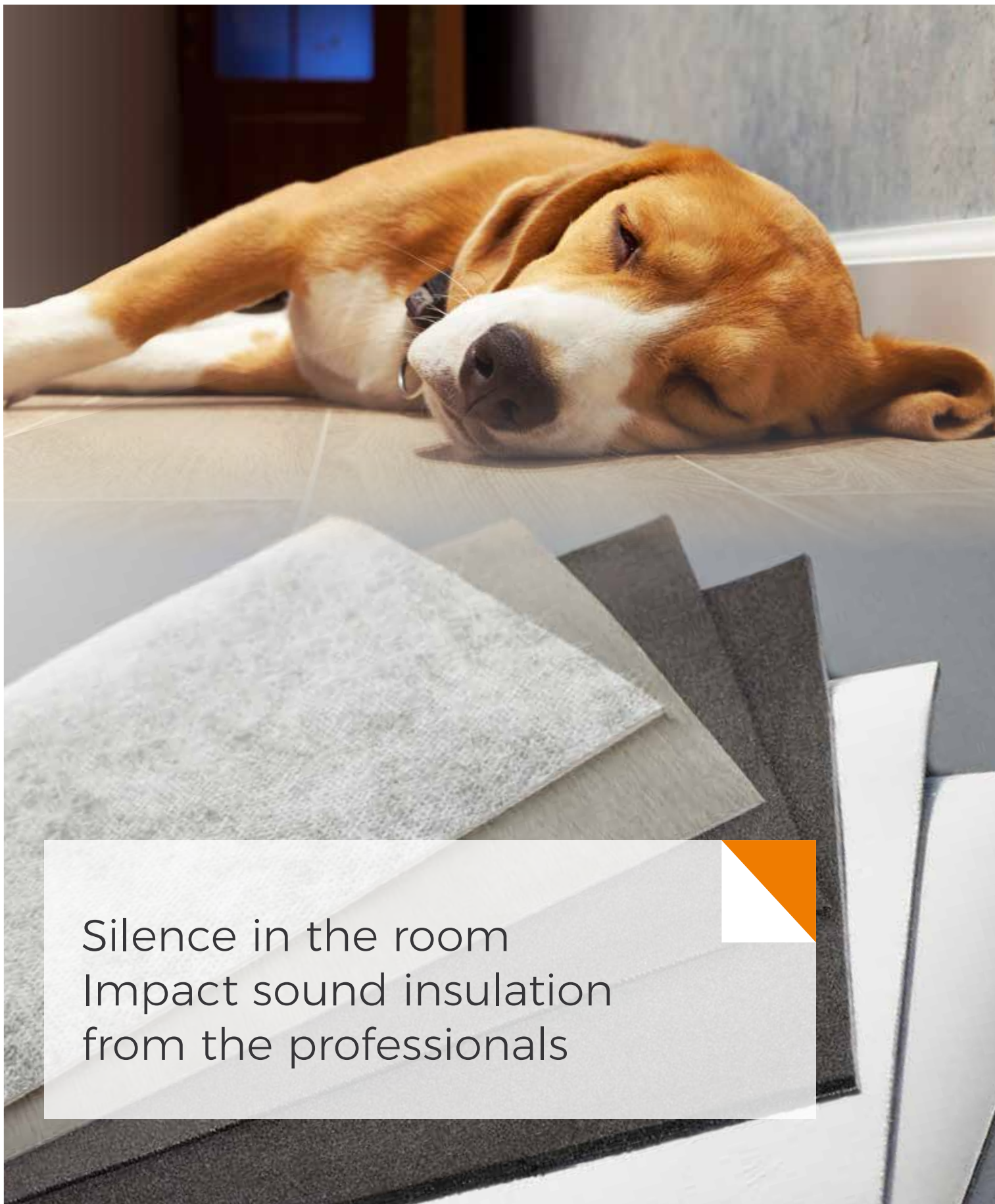


**PAPSILENT**

## **FLOORING UNDERLAYS**



Silence in the room  
Impact sound insulation  
from the professionals

# PAPSILENT

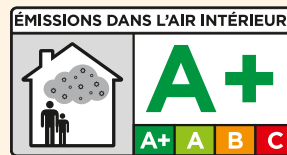
## FLOORING UNDERLAYS

The new Happich brand **PAPSILENT**, is an innovative and unique product portfolio of underlay flooring, specifically developed and put together for the specialist retail.

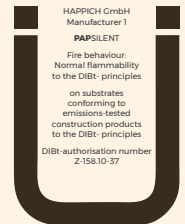
The **PAPSILENT** product portfolio for the specialist retail with the highest product quality and an innovative brand concept, allows the consumer to find the right underlay quickly and easily.



[www.blauer-engel.de/uz156](http://www.blauer-engel.de/uz156)



\* Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions)



### THE FOLLOWING AWARDS WERE GRANTED TO ALL PAPSILENT INSULATION UNDERLAYS:

- The „Blue Angel“ eco-label from german federal government certifies protection for the consumers and the environment.
- According to the VOC, this regulation concerning the construction products emissions are classified and identified. All **PAPSILENT** underlay insulation received the highest rating A + and received the approval of the German Institute for Construction Engineering (DIBt).



### TÜV CERTIFICATION: DIN EN ISO 9001:2015 DIN EN ISO 14001:2015

These certificates were issued by TÜV Rhineland, a member of Germany's independent Technical Supervision Association, to certify that **HAPPICH GmbH** is run in its entirety in conformity with internationally recognised quality and environmental standards and that proof was furnished that these standards are being implemented in

HAPPICH's business routines. For HAPPICH they are the official acknowledgement of a comprehensive management system which will further its goal of greater customer satisfaction. In the future, we shall continue to abide by our commitment to develop this management system constantly.

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for best price-performance ratio

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for highest standards

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for special applications

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# HAPPICH GmbH

With a consistent focus on quality, a traditional home base in Wuppertal since 1924 and simultaneously deep-rooted in the global markets - that is HAPPICH GmbH strategically oriented, family-run company.

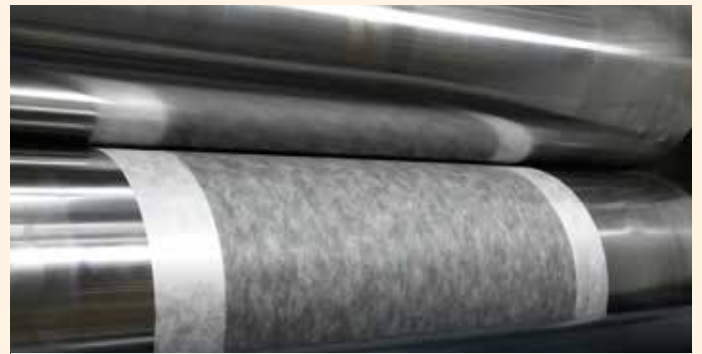


Logistics centre

Our group of companies has been developing and supplying the automotive industry with HIGH-TECH sound proofing products for over 25 years.

Highly effective acoustic and thermal insulation products are exactly what we design, manufacture and develop for you - all under one roof.

Technologies from the automotive industry and the resulting synergy effects with our further developments for construction acoustic are the reason why PAPSILENT is renowned in the market as innovative brand for insulation underlays.



Production of acoustic insulation underlays



Headquarters in Wuppertal, Germany

# PAPSILENT-underlays

Our new production site for highly effective acoustic insulation underlays is equipped with modern extruders, which have an extremely high output capacity. State of the art process technology allows the fabrication of products with unique acoustic characteristics. We offer great flexibility of the system due to short modification processes, which allows us to produce a variety of products in a short period of time.

In addition to insulation underlays made of one material, we also manufacture high quality combination products made of different materials. The resulting high quality insulation underlays bundle the advantages of different qualities in just one product.

At the customer's request, we offer our PAPSILENT insulation underlays with individual dimensions with different colours, qualities, surfaces and designs. Our insulation underlays can be equipped with metallized film in silver, gold or other colours, with all types of aesthetic design films, textile sheets of yarn and felts. Anti-slip films and coatings, self-adhesive coatings, glass wool or nets, structured surfaces and various prints (logo) can be supplied at the customer's request.



According to quality of the insulation underlays, they can be utilized either under parquet, laminate, vinyl or design floors. We also offer especially developed underlays for ceramic and stone floors.

The use of our innovative PAPSILENT insulation underlays provides you with sense of quietness in the room.

## The product advantages in comparison to conventional insulation underlays

### Standard insulation underlays

- cost-efficient quality for standard requirements
- the best price-performance ratio
- outstanding noise reduction
- universal application for all floorings

### Premium insulation underlays

- extremely high noise reduction
- avoidance of the damage to the top flooring due to residual moisture
- ideal for rooms with underfloor heating systems
- universal application for all floorings

### Special insulation underlays

- special insulation for rooms with vinyl and design floors
- special insulation for rooms with tiles and ceramic floors
- special insulation for rooms with parquet or laminate floors
- special insulation for floor coverings of all types without click connection with special one-sided adhesive coating

# Standard insulation underlays

The standard insulation underlays can be used with floor coverings of all types. They are of an excellent standard with optimum acoustic characteristics and best price-performance ratio.



**PAPSILENT  
1200 basic slim**

**515P001**

**Best underlay for low installation heights for highly frequented areas**

- extremely thin, offering a very high compressive strength and excellent protection of floors that are subject to intense wear and tear
- with optimum acoustic insulation
- very suitable for rooms with underfloor heating



**PAPSILENT  
visco basic**

**515P002**

**Best underlay for uneven surfaces**

- high noise reduction
- perfectly evens out the unevenness of your floor
- particularly high walking comfort with a quiet sense of well-being
- lightweight material









**PAPSILENT  
visco basic slim**

**515P003**

**Best choice for low installation heights**

- high compression strength and excellent protection against floor loading
- very good walking sound reduction and impact sound insulation
- lightweight and extremely thin

Thickness	0.62 mm	2.0 mm	1.0 mm
Format	0.75 x 13.4 m	0.98 x 15.3 m	1 x 15 m
Area	10 m <sup>2</sup>	15 m <sup>2</sup>	15 m <sup>2</sup>
 Reduction of impact sound (IS)	19 dB	20 dB	until 22 dB
 Reduction of reflected walking sound (RWS)	44%	27%	32%
 Compressive strength (CS)	> 1,000 kPa	99.3 kPa	129 kPa
 Punctual conformability (PC)	0.2 mm	1.4 mm	0.87 mm
 Water vapour diffusion resistance (SD)	> 75 m	-	-
 Thermal resistance (R)	0.003 m <sup>2</sup> K/W	0.0358 m <sup>2</sup> K/W	0.016 m <sup>2</sup> K/W



# Premium insulation underlays

These extremely high quality premium insulation underlays can be applied with floor covers of any type. They fulfill the highest expectations for room acoustics, quality and comfort.



**PAPSILENT  
2400 premium**

**515P004**

**Premium product for underfloor heating**

- with fleece for additional noise insulation
- high energy efficiency due to extremely low thermal resistance hence, optimal for underfloor heating
- very high noise reduction



**PAPSILENT  
2400 premium alu**

**515P005**

**Best choice for floors sensitive to moisture with underfloor heating**

- with aluminised film as vapour barrier
- the best choice for underfloor heating
- with extremely high compression strength, excellent protection of connective system of floor covering









**PAPSILENT  
visco premium alu**

**515P006**

**The ideal product by unevenness with protection against residual moisture**

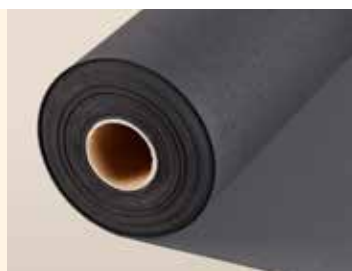
- prevents flooring damage due to residual moisture in mineral subflooring
- perfectly evens out the unevenness of your floor
- extremely high noise reduction

Thickness	1.2 mm	1.2 mm	2.0 mm
Format	0.75 x 6.7 m	0.75 x 6.7 m	0.98 x 15.3 m
Area	5 m <sup>2</sup>	5 m <sup>2</sup>	15 m <sup>2</sup>
 Reduction of impact sound (IS)	21 dB	21 dB	22 dB
 Reduction of reflected walking sound (RWS)	31%	31%	32%
 Compressive strength (CS)	> 1,000 kPa	> 1,000 kPa	95.6 kPa
 Punctual conformability (PC)	0.17 mm	0.17 mm	1.4 mm
 Water vapour diffusion resistance (SD)	> 100 m	> 200 m	> 100 m
 Thermal resistance (R)	0.006 m <sup>2</sup> K/W	0.003 m <sup>2</sup> K/W	0.041 m <sup>2</sup> K/W



# Special insulation underlays

These insulation underlays were especially developed for specific applications. All these underlays meet the highest standards of quality as for room acoustics.

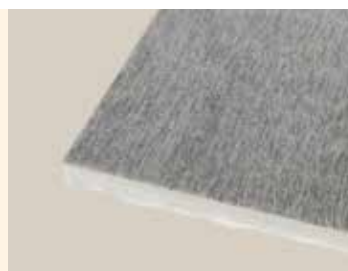


**PAPSILENT  
vinyl tile edition**

**515P007**

### Special underlay for vinyl and design floors

- excellent for rooms with underfloor heating
- superior protection of upper flooring due to the optimum compensation of unevenness in subflooring
- particularly high walking comfort with a quiet sense of well-being



**PAPSILENT  
tile edition**

**515P008**

### Special insulation underlay for tiles and ceramic floors

- excellent decoupling and thus capable of bridging cracks (up to 0.45 mm width) in the subflooring
- impact sound reduction, no hollow sound
- low construction height of only 3.5 mm
- extreme compressive strength and highly resilient









**PAPSILENT  
professional edition**

**515P009**

### Special underlay for parquet and laminate

- perfectly for unevenness in subflooring
- with aluminised film as vapour barrier
- very good walking sound reduction and impact sound insulation
- ideal for underfloor heating

Thickness	1.5 mm	3.5 mm	2.9 mm
Format	0.75 x 6.7 m	0.75 x 0.55 m	0.75 x 6.7 m
Area	5 m <sup>2</sup>	2.06 m <sup>2</sup>	5 m <sup>2</sup>
 Reduction of impact sound (IS)	22 dB	14 dB	~ 21 dB
 Reduction of reflected walking sound (RWS)	38%	-	39%
 Compressive strength (CS)	337 kPa	> 1,000 kPa	~ 200 kPa
 Punctual conformability (PC)	0.95 mm	-	2.1 mm
 Water vapour diffusion resistance (SD)	> 75 m	> 250 m	> 150 m
 Thermal resistance (R)	0.022 m <sup>2</sup> K/W	0.007 m <sup>2</sup> K/W	0.07 m <sup>2</sup> K/W





# PAPSILENT- accessories

for easy laying









**PAPSILENT  
glue professional**

**515P010**

**Special insulation for any kind of floor-covering without click connection, especially suitable for the object zone**

- extreme thin but with high pressure stability
- with optimum acoustic insulation
- very suitable for rooms with underfloor heating
- capable of bridging cracks
- one-sided adhesive coating for floating installation

Thickness	0.7 mm
Format	1 x 10 m
Area	10 m <sup>2</sup>
 Reduction of impact sound (IS)	19 dB
 Reduction of reflected walking sound (RWS)	34%
 Compressive strength (CS)	> 1,000 kPa
 Punctual conformability (PC)	0.26 mm
 Water vapour diffusion resistance (SD)	> 75 m
 Thermal resistance (R)	0.002 m <sup>2</sup> K/W



**PAPSILENT  
alu tape**

**515P011**

**For a perfect gapless installation and for protection against residual moisture**



**PAPSILENT  
PE-foil**

**515P012**

**For perfect protection against residual moisture (if not already integrated in the product)**

# Product Overview

	STANDARD INSULATION UNDERLAYS			PREMIUM INSULATION UNDERLAYS			SPECIAL INSULATION UNDERLAYS			
	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT	PAPSILENT
	1200 basic slim	visco basic	visco basic slim	2400 premium	2400 premium alu	visco premium alu	vinyl tile edition	tile edition	professional edition	glue professional
	515P001	515P002	515P003	515P004	515P005	515P006	515P007	515P008	515P009	515P010
Underlay suitable for	All Floorings	All Floorings	All Floorings	All Floorings	All Floorings	All Floorings	Vinyl- and Design Floorings	Tiles and Ceramic Floorings	Parquet and Laminate	All Floorings
Thickness	0.62 mm	2.0 mm	1.0 mm	1.2 mm	1.2 mm	2.0 mm	1.5 mm	3.5 mm	2.9 mm	0.7 mm
Format	0.75 x 13.4 m	0.98 x 15.3 m	1 x 15 m	0.75 x 6.7 m	0.75 x 6.7 m	0.98 x 15.3 m	0.75 x 6.7 m	0.75 x 0.55 m	0.75 x 6.7 m	1 x 10 m
Area	10 m <sup>2</sup>	15 m <sup>2</sup>	15 m <sup>2</sup>	5 m <sup>2</sup>	5 m <sup>2</sup>	15 m <sup>2</sup>	5 m <sup>2</sup>	2.06 m <sup>2</sup>	5 m <sup>2</sup>	10 m <sup>2</sup>
Reduction of impact sound (IS)	19 dB	20 dB	bis 22 dB	21 dB	21 dB	22 dB	22 dB	14 dB	~ 21 dB	19 dB
Reduction of reflected walking sound (RWS)	44%	27%	32%	31%	31%	32%	38%	-	39%	34%
Compressive strength (CS)	> 1,000 kPa	99.3 kPa	129 kPa	> 1,000 kPa	> 1,000 kPa	95.6 kPa	337 kPa	> 1,000 kPa	~ 200 kPa	> 1,000 kPa
Punctual conformability (PC)	0.2 mm	1.4 mm	0.87 mm	0.17 mm	0.17 mm	1.4 mm	0.95 mm	-	2.1 mm	0.26 mm
Water vapour diffusion resistance (SD)	> 75 m	-	-	> 100 m	> 200 m	> 100 m	> 75 m	> 250 m	> 150 m	> 75 m
Thermal resistance (R)	0.003 m <sup>2</sup> K/W	0.0358 m <sup>2</sup> K/W	0.016 m <sup>2</sup> K/W	0.006 m <sup>2</sup> K/W	0.003 m <sup>2</sup> K/W	0.041 m <sup>2</sup> K/W	0.022 m <sup>2</sup> K/W	0.007 m <sup>2</sup> K/W	0.07 m <sup>2</sup> K/W	0.002 m <sup>2</sup> K/W

# Requirements for underlay materials

The associations EPLF and MMFA define many requirements for underlays of laminate, vinyl and design flooring. The essentials are summarized here.

## Noise reduction



### Impact sound reduction (IS)

The noise of footsteps transmitted to the room below is known as impact sound. In combination with the subflooring, underlays with a high IS value (impact sound reduction) can significantly reduce impact sound.

#### Minimum requirement / Elevated requirements

	EPLF	MMFA
IS	≥ 14 dB / ≥ 18 dB	≥ 10 dB / ≥ 18 dB

(Note: A noise level reduction of 10 dB corresponds to a 50 % reduction of the loudness perceived by the human ear)



### Reflected walking sound reduction (RWS)

Walking noise heard in the same room is known as reflected walking sound. Suitable underlays can noticeably reduce reflected walking sound. The test standard for determining so-called RWS values is still in

development, so no generally accepted test method is available yet. Once the new test standard is issued, specific recommendations for minimum requirements can be given. Nevertheless, today it can be said that the higher the RWS value (reflected walking sound reduction), the better.

## Usage requirements



### Protection against loading (CS)

Everyday use places stress on floor systems. Underlays must be able to withstand certain levels of stress throughout the entire service life:

CS: Temporary stress caused by heavy loads

#### Minimum requirement / Elevated requirements

	EPLF	MMFA
CS	≥ 10 kPa / ≥ 60 kPa	≥ 200 kPa / ≥ 400 kPa



### Conformability (PC)

Hollow spots due to unevenness must be avoided to protect the floor from stress and to provide better acoustics. The underlay should be able to level out small localized irregularities such as screed granules on the substrate. The higher the PC value (localized conformability), the better the levelling capacity.

#### Minimum requirement

	EPLF	MMFA
PC	≥ 0.5 mm	≥ 0.5 mm

## Permeability to water and heat



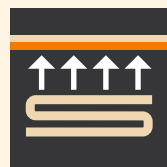
### Protection against moisture (SD)

On mineral surfaces, moisture protection is mandatory to prevent damage to the flooring. Protection against rising damp can be provided with an additional vapour control layer or with an appropriately equipped underlay. The higher the SD value (water vapour diffusion resistance), the lower the vapour permeability.

vapour diffusion resistance), the lower the vapour permeability.

#### Minimum requirement

	EPLF	MMFA
SD	≥ 75 m	≥ 75 m



### Heated floors / Cooled floors (Rλ,B)

Laminate flooring is generally suitable for use on heated and cooled floors. To ensure efficient performance of the underfloor heating system, the underlay should provide the least possible thermal insulation, so that the combined thermal resistance of the

underlay and the laminate flooring (Rλ,B) remains as low as possible.

#### Maximum allowed R value of the total floor system

	EPLF	MMFA
Heated floors R	≤ 0.15 m² K/W	≤ 0.15 m² K/W
Cooled floors R	≤ 0.10 m² K/W	≤ 0.10 m² K/W

