

Interface®

Sound acoustics in the workplace

From the floor up



Happy, healthy people make a better business

When people feel comfortable in their workplace, they're more productive. Employee well-being is vital to any organisation, and controlling noise is central to this.

The physical workplace environment plays a major role.

Research has also shown that employees rank it as one of the top three factors contributing to job satisfaction, as well as to their decisions about accepting or leaving a job.

At Interface we know that our physical experiences impact on how we feel. And we understand the importance of having a great place to work.

Designers and architects have a crucial role to play in providing inspirational environments that facilitate flexible working, for the benefit of both employers and employees.



Image: © Sopra Steria Kleber - © Atelier Vitipon -
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Modular flooring for flexible, quieter spaces

Open-plan spaces are increasingly popular, as they support collaboration and creativity – but they can also be noisy. And disruptive sound levels are high on the list of workplace complaints.

Generally, employees feel much happier and more relaxed if they can move around and interact freely with colleagues. But the open-plan design that allows this also poses acoustic challenges.

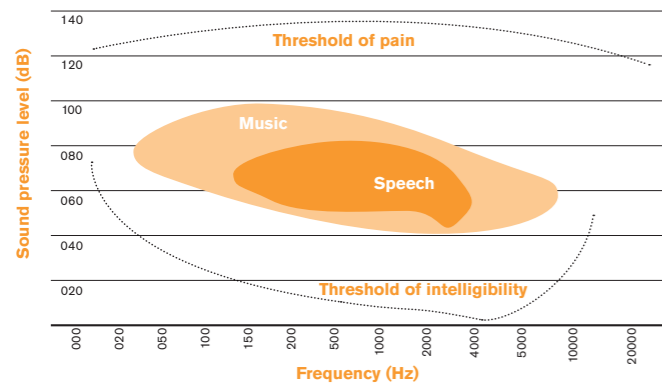
To help solve this problem, we've developed modular flooring specifically for the changing workplace. Our extensive ranges of carpet tiles and LVT offer the variety of design, and versatility in function, you need to support all kinds of activities – from quiet concentration to teamwork and recreation. Modular flooring is also ideal for zoning areas for a range of activities, from collaboration and concentration to relaxation and recreation.

Most importantly, all our products help reduce unwanted noise. Making the workplace quieter, calmer and more productive.

What kind of acoustic environment do you want to create?

Of course, the exact acoustic needs of interior spaces vary, depending on the activities they're used for. Improving the clarity of speech in a classroom or meeting area requires a different approach from enhancing a feeling of privacy in an open-plan office.

Also, the size and shape of a room can create different demands – not just on the flooring, but also on ceiling and wall materials, and furnishings. Many factors affect the acoustic quality of a room, and many features influence it.



Before deciding the best materials to reduce unwanted noise, designers need to understand which sounds people can hear – and which they don't want to hear. Sound frequencies and decibel levels affect comfort and intelligibility of speech differently, depending on the type of workplace. So it's vital to create precisely the right acoustic environment in each setting, and flooring has a major role to play.

If you can hear someone talking while you're reading or writing, your productivity dips by up to 66%



Image: ©focop - ©Coutant Delphine

Impact sound.

Footsteps, the scraping or thumping of chairs, a heavy object being dropped. These are common examples of impact noise – and they all come from the floor.

To minimise this type of noise, carpet is the ideal flooring for reducing impact noise transference between rooms. Our carpet tiles come with a choice of acoustic backings for different levels of impact noise control.

Also, our LVT has a specially designed Sound Choice™ backing built in, making them much more effective in decreasing impact noise than other hard floors.

So whether you want soft or hard surfaces, we can help keep the noise down.

Impact sound transmission, measured in decibels, tells you how much sound is insulated from an adjacent space.

Our carpet tiles reduce impact noise by

16 - 33 dB

Our LVT by

16 dB

Other hard flooring typically reduces it by only

1 - 6 dB



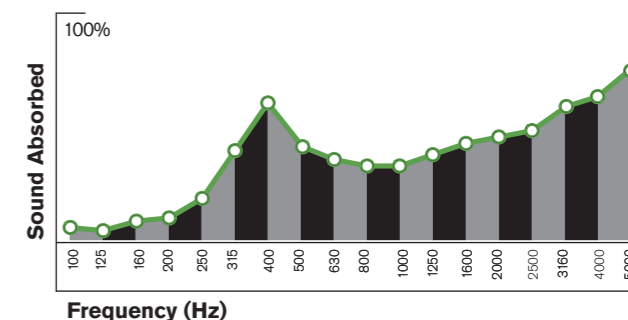
Soft surfaces absorb more sound than hard surfaces, but acoustic quality is a result of all the features in room and not just the flooring.

BASF, Turkey
© GURKAN AKAY 2018

Sound absorption.

Although reducing impact noise is the main acoustic benefit of choosing the right flooring, carpet can also help increase the absorption of other kinds of sounds. It's all about using materials that soak up the types of noise we're particularly sensitive to.

Sound absorption is measured across 18 frequencies, between 100 Hz and 5,000 Hz. For example, this graph shows the results for our Equilibrium carpet tile with CQuest™Bio SONE+ acoustic backing.



0.0
No sound absorbed

0.0 - 0.1
Hard flooring (cork, wood and concrete)

0.15 - 0.2
Interface product with standard backing

0.25 - 0.4
Interface product with acoustic backing

1.0
All sound absorbed

These values are called the alpha s.

α_s α_w

They are then averaged, rounded and weighted into a single value called the alpha w.

To address the specific type of sound you want absorbed, use the alpha s values for the relevant frequencies. Humans are less sensitive to low frequencies, making the absorption of mid to high frequency sounds more important.



Image: ©Neosoft - ©Dimitri Lamour

In most environments, you can achieve the right level of acoustic comfort by specifying Interface carpet tiles with our standard CQuest™Bio backing, or LVT with its built-in Sound Choice™ backing.

So there's no limit to your design choices: we offer a wealth of patterns and textures, and over 1,000 colourways across 80 ranges. Controlling sound levels doesn't have to mean compromising creativity.

And if your space has more complex needs, our enhanced acoustic backing options – CQuest™Bio SONE+, CQuest™Bio SONE and Interlay® CQuest™Bio SONE – are available with many of our designs. So you still have plenty of scope to create interiors that look as good as they feel, whether you use these backings for an entire workspace or smaller zoned areas.

**Minimising noise,
maximising choice.**

Improved acoustics

CQuest™Bio SONE+ and CQuest™Bio SONE.

Designed with the user in mind, they enhance both acoustics and underfoot comfort. For most projects, acoustic and ergonomic comfort is achieved with standard Interface carpet tiles. The integral nature of CQuestBio SONE and CQuestBio SONE+ means that projects can be completed swiftly with as little disruption as possible.



Product Benefits

- **Enhanced softness underfoot**
- **Easy to install with minimum disruption**
- **Economical – especially over large areas**
- **Constructed with 98% recycled polyester felt base, made from recycled PET bottles**
- **Bitumen and PVC free**
- **CQuestBio SONE and CQuestBio SONE+ are available with an extensive range of Interface carpet tiles**

CQuestBio SONE+

Impact sound reduction up to 33dB
Sound absorption from α_w 0.30 – 0.40 depending on product

CQuestBio SONE

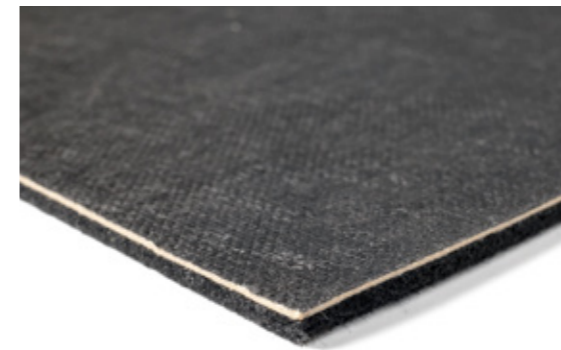
Impact sound reduction up to 29dB
Sound absorption from α_w 0.30 – 0.35 depending on product

Here are the acoustic values for some of our most popular carpet tiles.

Backing	Product	BS EN ISO 10140-3	BS EN ISO 354					BS EN ISO 11654	
		Impact Sound Insulation dB	Measurement of sound absorption in a reverberation room					Rating of sound absorption α_w	
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
CQuestBio SONE+	Composure	33	0.03	0.08	0.43	0.27	0.35	0.54	0.35
	Equilibrium	33	0.03	0.18	0.41	0.29	0.38	0.50	0.40
	Heuga 727	31	0.01	0.07	0.42	0.24	0.34	0.42	0.30
	Polichrome	29	0.00	0.06	0.39	0.25	0.36	0.52	0.30
CQuestBio SONE	Composure	28	0.02	0.05	0.34	0.29	0.35	0.53	0.30
	Equilibrium	29	0.01	0.09	0.38	0.29	0.35	0.52	0.35
	Heuga 727	28	-0.01	0.06	0.39	0.26	0.30	0.39	0.30
	Polichrome	27	0.00	0.06	0.45	0.25	0.31	0.43	0.30



A flexible solution for comfort and acoustics



Interlay® CQuest™Bio SONE is a resilient, loose-lay underfloor system, designed for installation beneath your Interface carpet tiles. We supply it in 50 x 50 cm tiles, so you can use it to enhance acoustic, underfoot and thermal comfort across an entire space or in smaller zoned areas.

Easy to install, Interlay CQuestBio SONE absorbs sound and dampens impact noise – a highly effective way to combat poor acoustics in any interior space.

It also offers long-lasting benefits: when your carpet needs replacing, Interlay CQuestBio SONE will still be going strong. You can re-use it, again and again, enjoying less noise and more comfort well into the future.

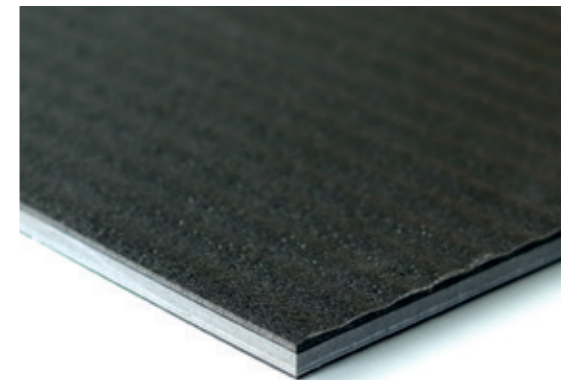
Product Benefits

- **Impact sound reduction up to 28 dB***
- **Sound absorption coefficient of α_w 0.25***
- **Enhanced softness underfoot and thermal comfort**
- **Easy to install**
- **Can be installed with our glue free TacTiles® system**
- **Flexible – allows easy change of carpet tiles**
- **No minimum quantity and short lead times**
- **Economical and flexible – especially for smaller areas**
- **Compatible with the majority of Interface carpet tiles**

*based on testing with a 1/10" Gauge, tufted product with a pile weight of 535g/m² approximately



LVT backing with superior acoustic performance



Designed specifically as the integrated backing for our LVT collection, **Sound Choice™** helps your flooring reduce unwanted sound much more effectively than other hard surfaces.

As a standard component of our LVT tiles, Sound Choice offers acoustic insulation without the expense of fitting underlays.

Product Benefits

- **Impact sound reduction by 16 dB**
- **Standard on all Interface LVT products**
- **Especially useful in multi-storey office buildings, as well as in education, healthcare and hospitality environments**
- **Easy to install with minimum disruption**



Want to know more about how Interface flooring can **improve acoustics in the workplace?**

If you have any questions, need samples or design support, or would like to visit one of our showrooms, we'd love to hear from you.

www.interface.com



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