FLOOR ISOLATION

Isolation Solutions for a quieter world.

WHY CHOOSE TICO?

TICO have been designing anti-vibration and structural isolation solutions for over 75 years. We are a proud British manufacturer using raw materials from around the world to create engineered, high-performance elastomer isolation solutions.

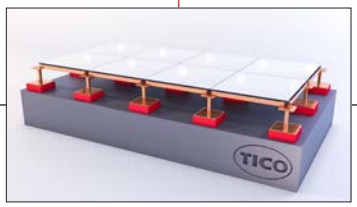
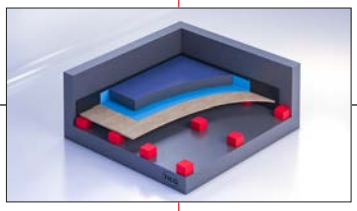
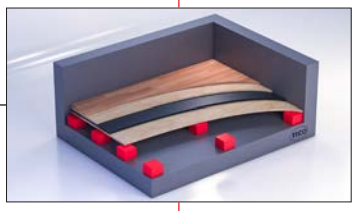
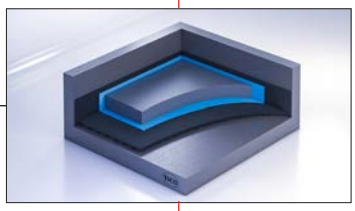
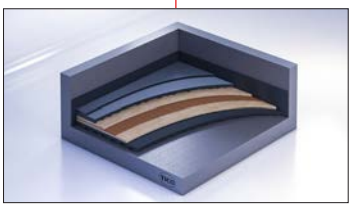
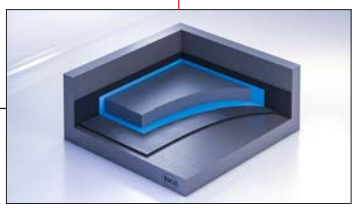
With vast experience and an extensive range of elastomers at our disposal, TICO are able to design and manufacture solutions to suit all project types.

Good acoustics has never been more important. Mixed-use development is becoming more commonplace, combining places of work, fitness, entertainment and rest.

Without suitable noise and vibration control, these contrasting uses have the potential to cause conflict. TICO has a long history of providing noise and vibration isolation solutions to suit exactly these types of adjacencies.

CONTENTS

TICO have solutions for a large array of floor constructions, from lightweight and raised access flooring to high mass concrete based systems. These systems can be isolated with individual point loaded bearings or incorporate full area coverage of specialised high-performance matting in a variety of configurations. The table below shows how the different isolation strategies can be combined with different floor constructions for maximum benefit

Floor Type / Isolation Type	Raised Access Flooring	High Performance (Concrete)	Low Profile (Timber)
Point Loaded Bearings	 Page 6	 Page 8	 Page 14
Whole Floor Coverage (Wave)		 Page 10	 Page 16
Whole Floor Coverage (Matting)		 Page 12	

PRODUCT INTRODUCTION

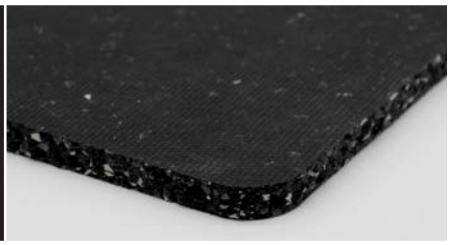
TICO CV/CF/B

These Anti-vibration pads are composed of a microcellular rubber sponge to absorb surface irregularities whilst designed specifically to provide enhanced absorption of vibration energy.

TICO CV/D

Low stress mounting material that utilises cork (a fully sustainable and environmentally friendly resource) to enhance its vibration and impact dampening properties.

TICO Gym Mat



100% recycled rubber moulded into dense sheeting designed to withstand the loads applied by free-standing or machine based weights, whilst providing a firm, yet comfortable footing.

TICO Perimeter Strip

Designed to minimise noise transfer from an isolated to a non-isolated building component such as a floating floor. It has to line the perimeter of a room that is using rigid materials that would otherwise come into contact with the walls.

TICO Wave

92% recycled rubber moulded into a low profile continuous roll to provide enhanced vibration isolation and excellent acoustic performance.

TICO Isolfon Mat

Manufactured from end-of-life tyre rubber, this roll-out floor combines heavy surface mass, excellent elasticity and viscoelastic reaction of the compressed elastic particles to provide enhanced vibration and impact absorbing properties.

TICO FLOOR - ACCESS

View 3D Component Video

Raised Access Flooring is commonly found in offices, hospitals and educational environments due to it's fast and efficient installation and flexibility in design. However, impact sound transmission in Raised Access Floating Floor systems can be troublesome, resulting in direct transfer through the floor to rooms below, or flanking transmission into walls and adjacent parts of the building structure. The sources of impact can be numerous – examples being footfall impacts on the floor and sound sources from within the room such as music/office equipment.

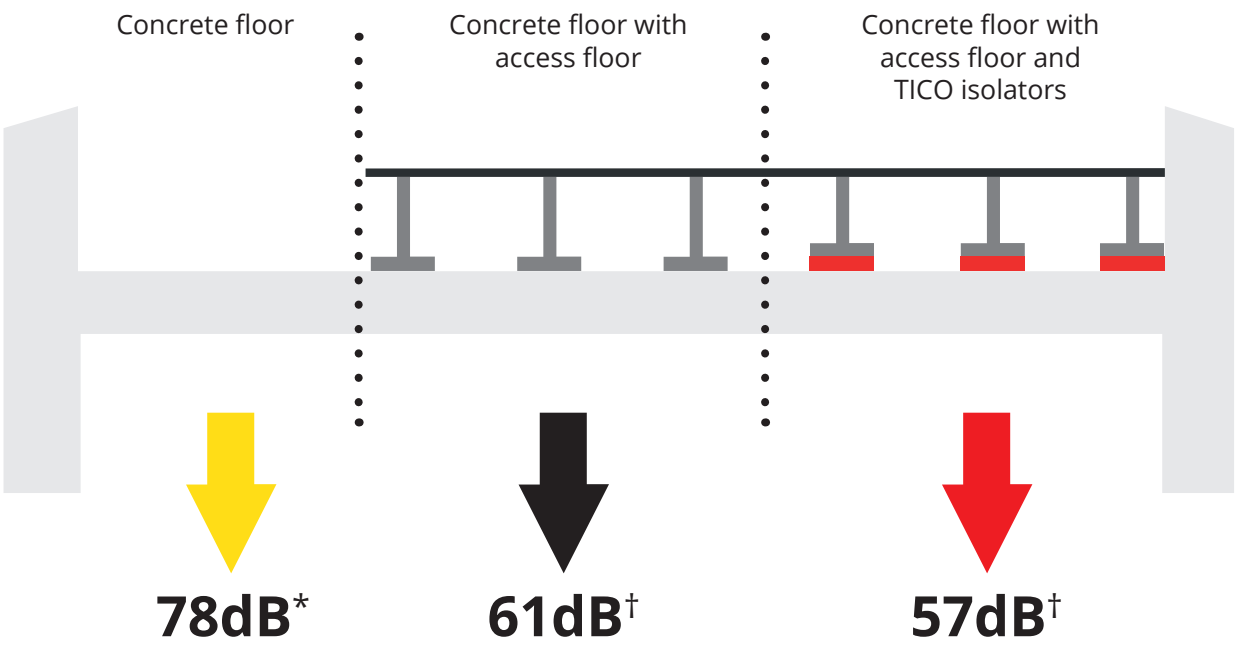
One method of reducing these impact sounds is to incorporate a TICO resilient material between the access floor and sub-floor – typically beneath the pedestal. TICO has been lab-tested to show how it can help reduce the transmission of impact sound from the floor into adjacent parts of the structure.

Key features:

- **Improved Impact Sound Insulation**
- **Maintenance Free**
- **Stability For Easy Fitting**
- **Low Creep For Longevity Of Performance**
- **Low Profile**

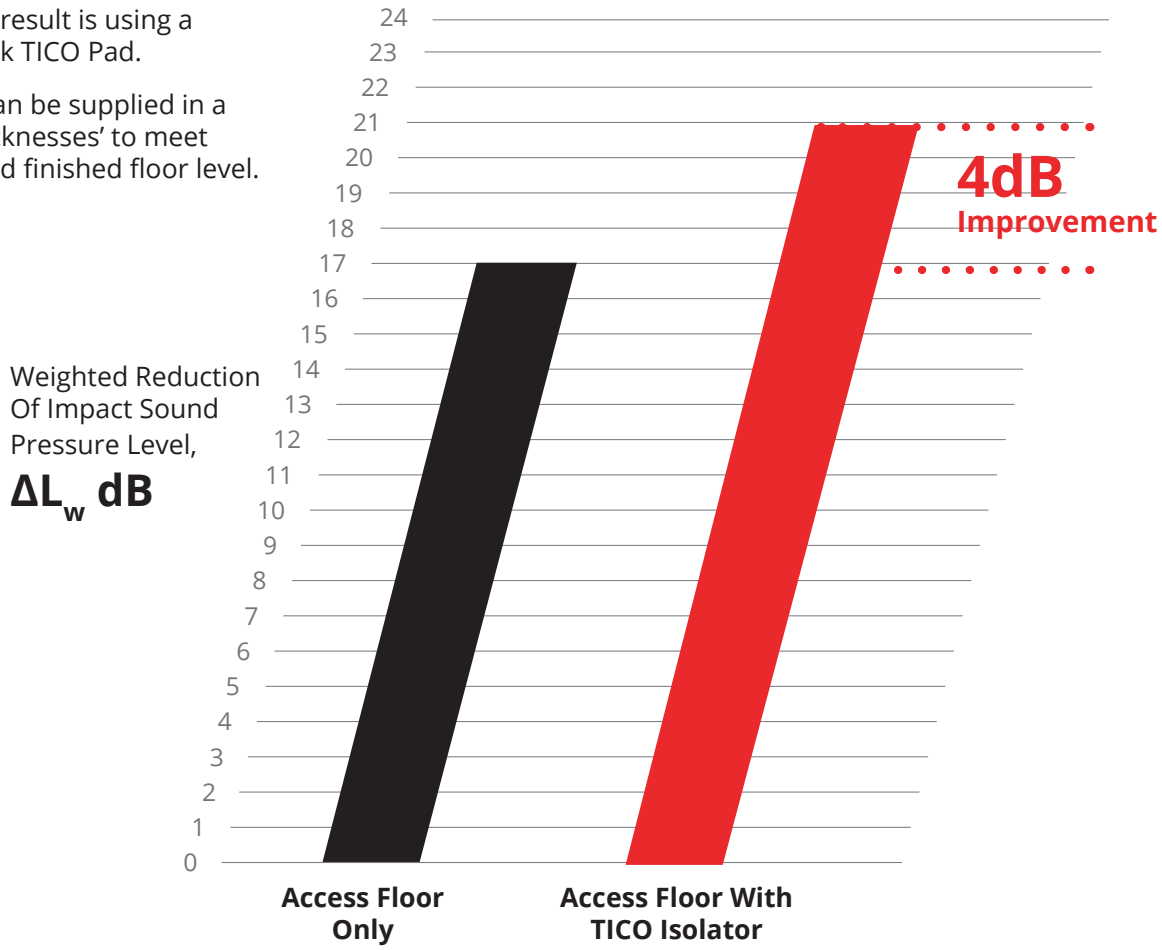
Acoustic Test Performance

Tested in a UKAS-accredited laboratory in accordance with BS EN ISO 10140-3 and rated in accordance with ISO 717-2.



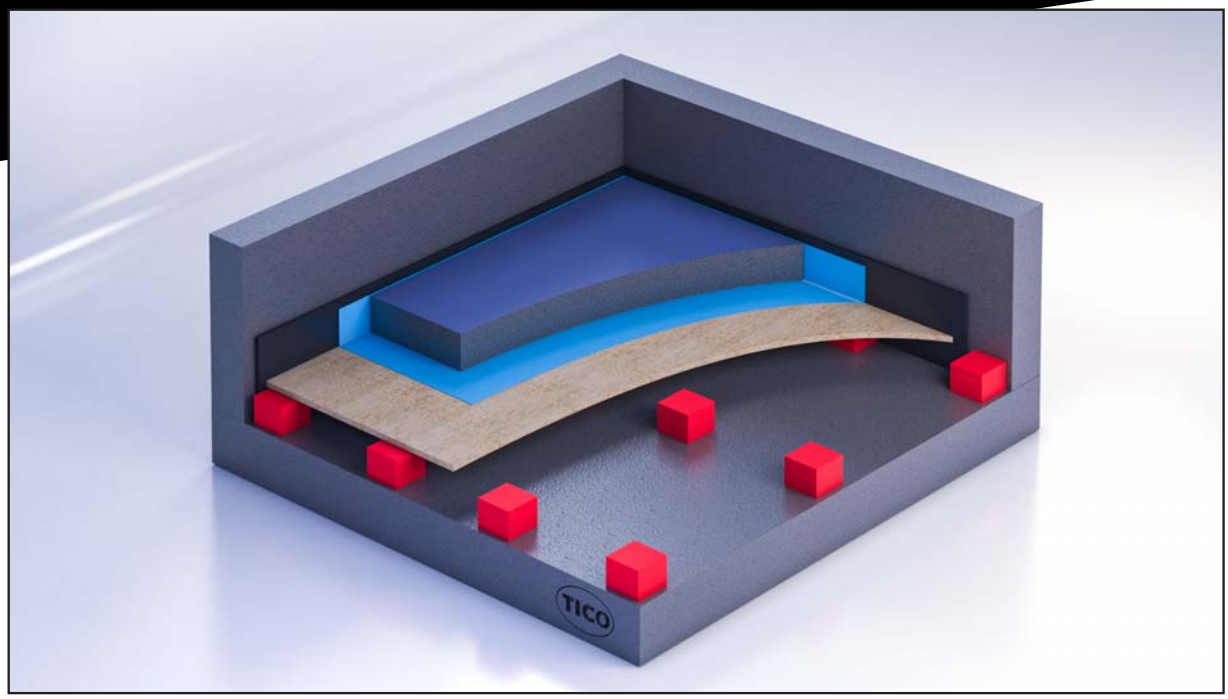
Isolator test result is using a 12.5mm thick TICO Pad.

TICO pads can be supplied in a range of thicknesses' to meet your required finished floor level.



* Weighted normalized impact sound pressure level $L_{n,r,0,w}$
† Weighted normalized impact sound pressure level $L_{n,r,w}$

TICO FLOOR - HEAVY B



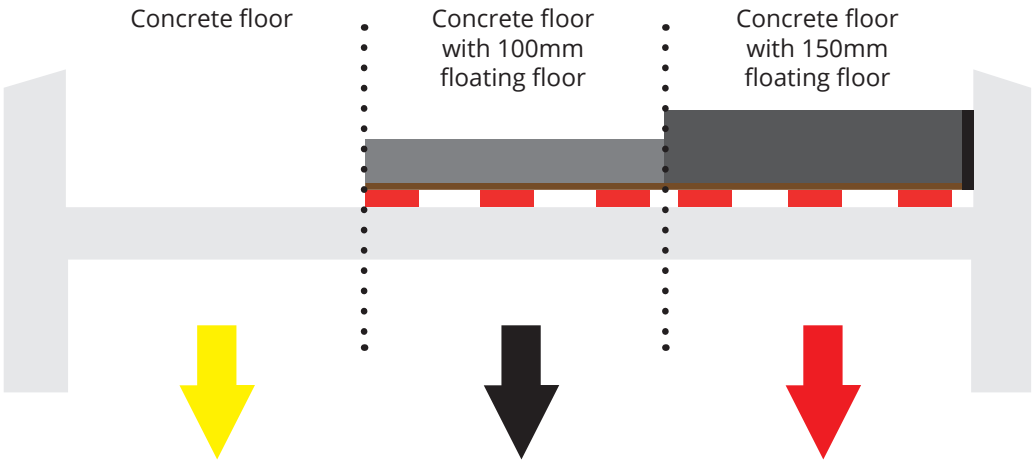
An isolated heavyweight concrete floor slab provides one of the best way to reduce structure-borne noise and vibration in critical acoustic environments such as cinemas, gyms, bowling alleys and music studios.

The high mass of concrete, combined with TICO bearings, provide excellent airborne and impact sound isolation performance. TICO bearings are designed to attenuate noise and vibration passing between the floating slab and the structural floor, and can provide natural frequencies as low as 6 Hz.

Key Features:

- **Low Frequency Isolation**
- **Tailored Design To Meet Project Performance Requirements**
- **Maintenance Free**
- **Low Creep For Longevity Of Performance**

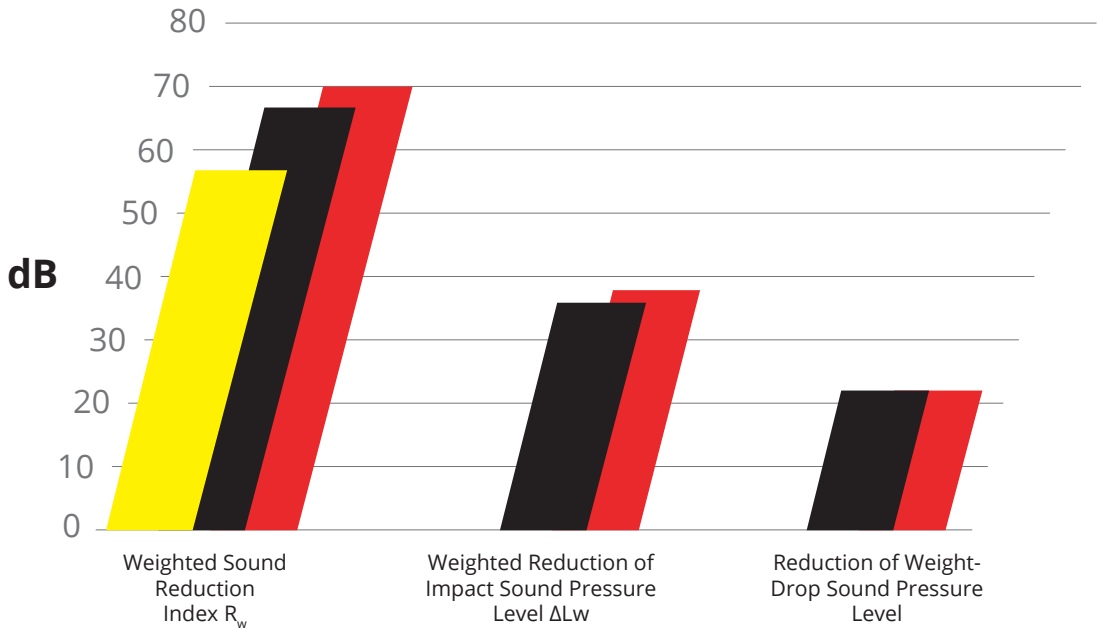
Acoustic Test Performance



Weighted Sound Reduction Index R_w, dB	**57**	**67**	**70**
Weighted Reduction of Impact Sound Pressure Level ΔL_w, dB	**n/a**	**36**	**38**
Reduction of Weight-Drop Sound Pressure Level $L_{iAmax,F}$, dB*	**n/a**	**22**	**22**

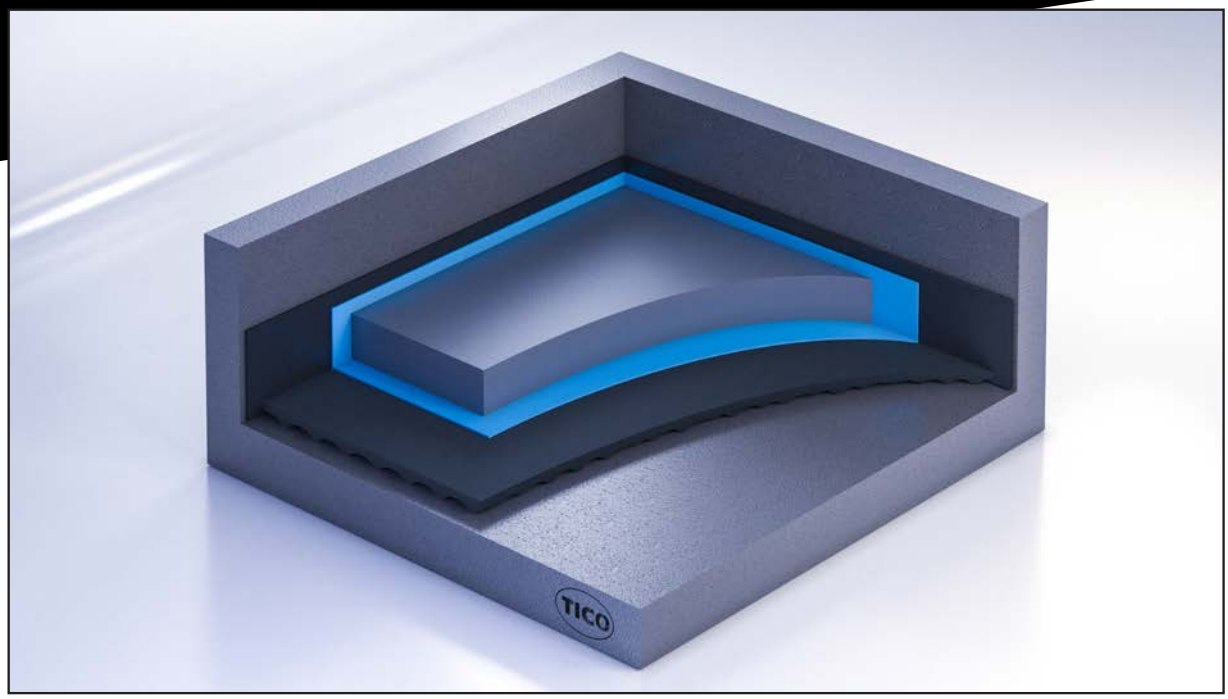
*Measurements undertaken with additional 15mm ply and 10mm TICO gym mat used to protect concrete surface from damage during weight drop.

These results were achieved using TICO CV/CF/B isolators at 600 and 650 mm centres with a 50 mm air gap (under deflection). Bearing dimensions and spacings can be varied as required to achieve the desired loadings and natural frequencies. Full laboratory reports are available upon request.



Tested in a UKAS-accredited laboratory in accordance with BS EN ISO 10140-3 and rated in accordance with ISO 717-2.

TICO FLOOR - HEAVY W



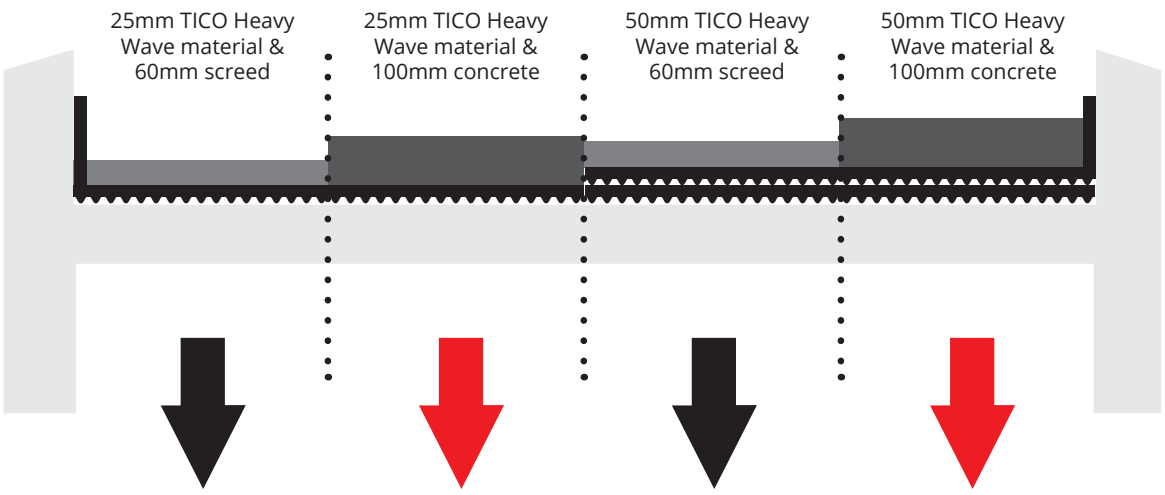
Utilising our TICO Wave flooring isolation material to provide a low-profile solution to floating screed and concrete slab floor isolation, this continuous roll out material allows for simple installation which your floor can be directly cast or laid on top of without the need for ply or formwork.

Engineered to dissipate structure-borne noise and minimise impact vibrations, TICO Wave, which is composed of 92% recycled rubber, provides a low natural frequency solution for effectively decoupling a floor construction. Whether it's cinemas, music studios, gyms, or other acoustic-sensitive environments, TICO Wave offers exceptional acoustic performance.

Key Features:

- **Low Frequency Isolation**
- **Ease Of Installation**
- **Maintenance Free**
- **Low Creep For Longevity Of Performance**
- **Low Profile**

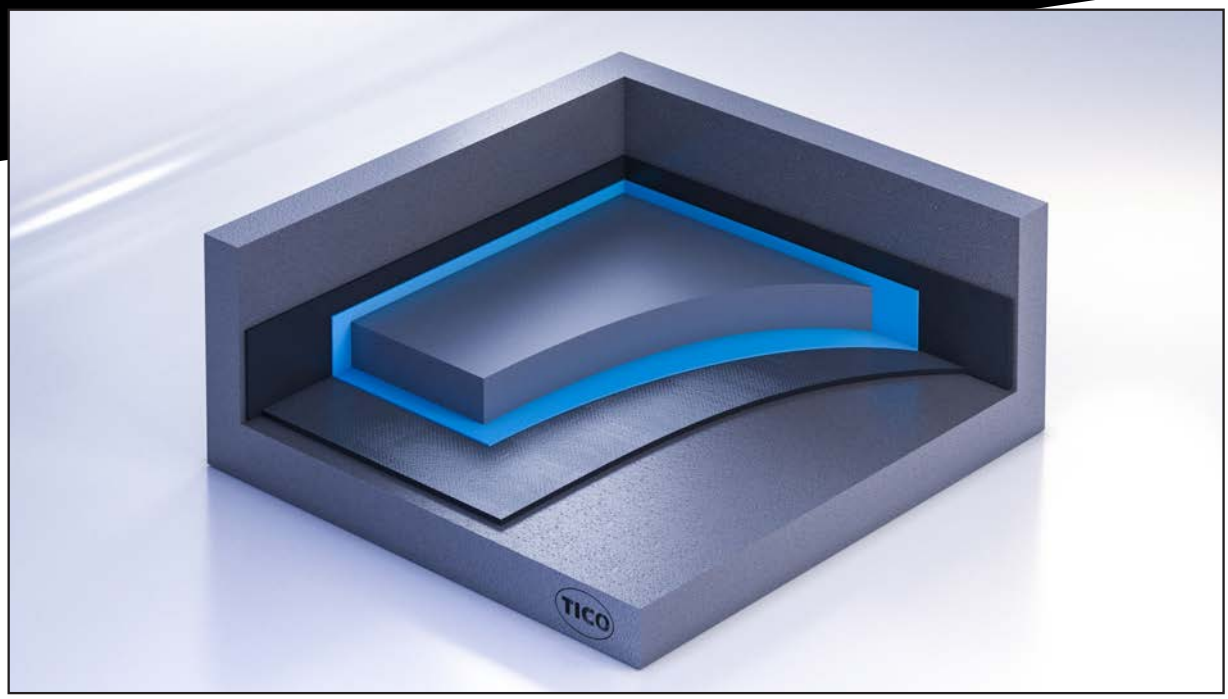
Acoustic Test Performance



Weighted Sound Reduction Index R_w, dB	**61**	**70**	**63**	**73**
Normalised Impact Sound Pressure Level $L_{n,w,}$ dB	**47**	**45**	**43**	**41**

TICO Wave is available in a range of thicknesses and can be applied in numerous configurations to achieve the desired result. For more information on the thicknesses available, or for additional laboratory test results, please contact sales.

TICO FLOOR - HEAVY M



Similar to our TICO-FLOOR HEAVY W solution but this system utilises a high-density flat mat sheeting to provide a cost-efficient solution to isolate floating screed and concrete floors.

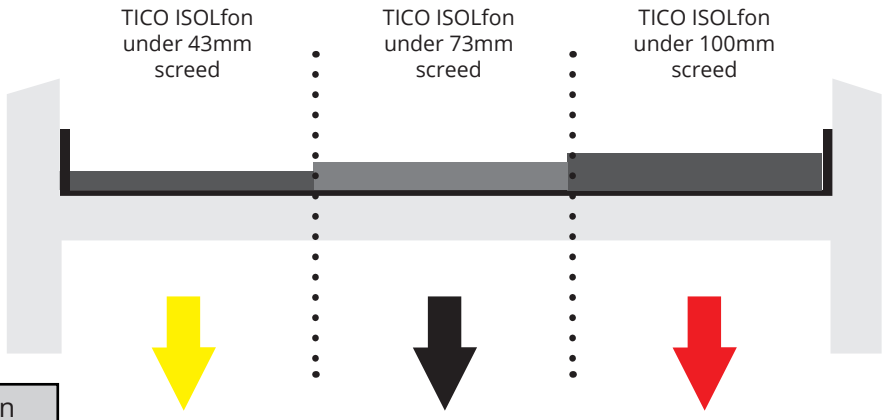
The system can be supplied in rolls or sheets that provide a full area coverage between the sub floor and floating concrete slab to provide a reduction in impact sound transmission. No ply or formwork is needed.

TICO matting contributes to sustainable practices as it is in part manufactured with recycled end-of-life tyres bounded with mass-polymerized polyurethanes

Key Features:

- **Low Frequency Isolation**
- **Ease Of Installation**
- **Maintenance Free**
- **Low Creep For Longevity Of Performance**
- **Made Using Recycled Materials**
- **Low Profile**

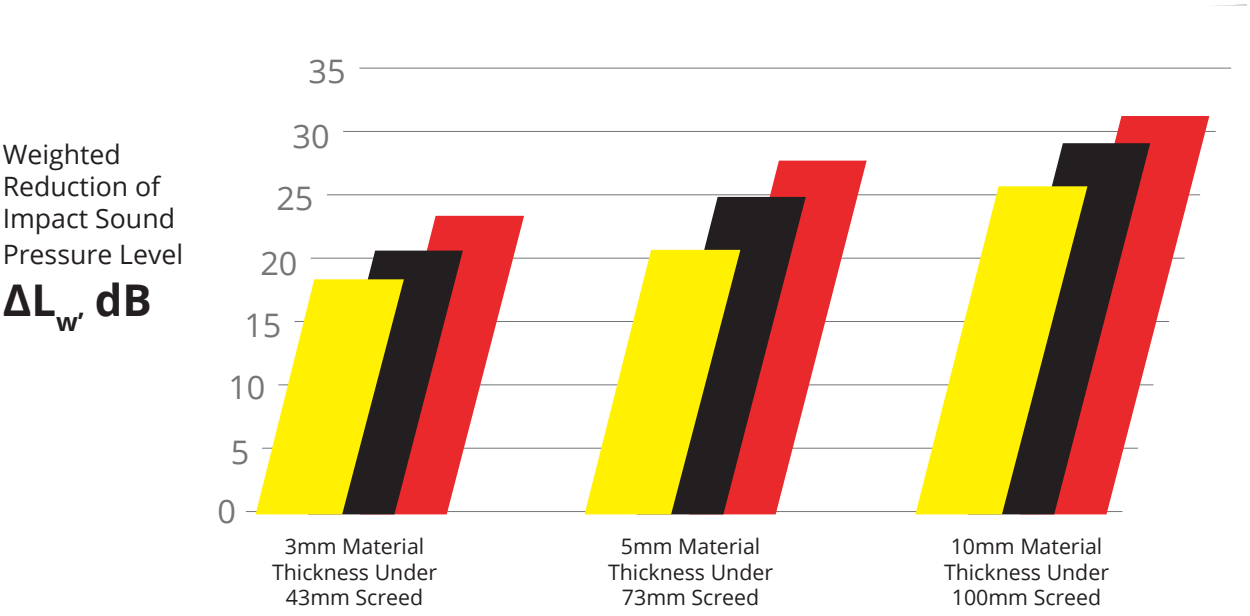
Acoustic Test Performance



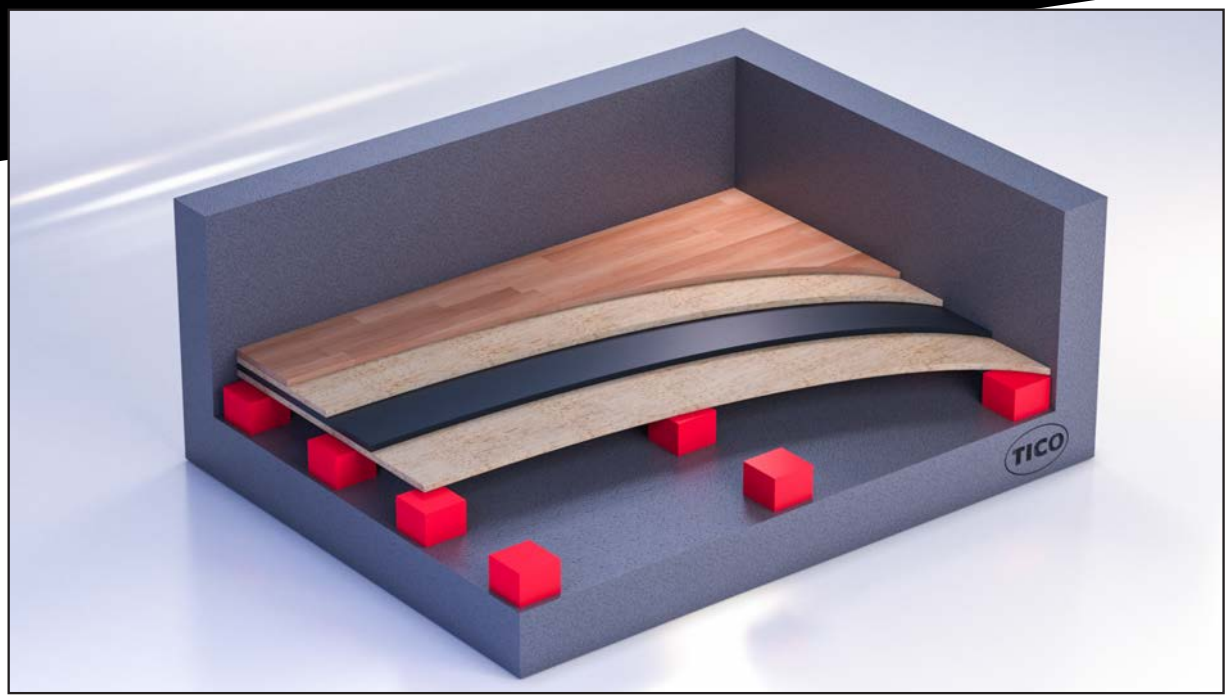
	TICO ISOLfon Thickness (mm)			
Weighted Reduction of Impact Sound Pressure Level ΔL_w, dB	**3**	**18**	**21**	**23**
	5	**21**	**25**	**27**
	10	**26**	**29**	**32**

These results have been estimated according to ISO 12354-2, assuming a screed density of 2000 kg/m^3 and mass per unit areas of 85, 145 and 200 kg/m^2.

More estimated performance data for screeds of varying thicknesses is available upon request. Acoustic laboratory test data will be available in the near future.



TICO FLOOR - LIGHT B



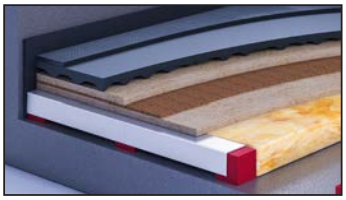
Lightweight floating floors are increasingly popular as a cost-efficient alternative to concrete. Commonly found in renovation projects, elevated or upper floors of structures, recording studios, theatres and music rooms.

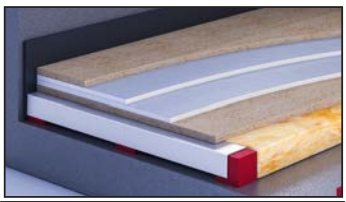
TICO bearings can also be utilised below a lightweight/dry floor solution where loading prohibits the use of a concrete floor. The bearings can be tailored to provide a low natural frequency of around 6Hz.

Key Features:

- **Low Frequency Isolation**
- **Tailored Design To Meet Project Performance Requirements**
- **Maintenance Free**
- **Low Creep For Longevity Of Performance**
- **Low Profile**

Acoustic Test Performance

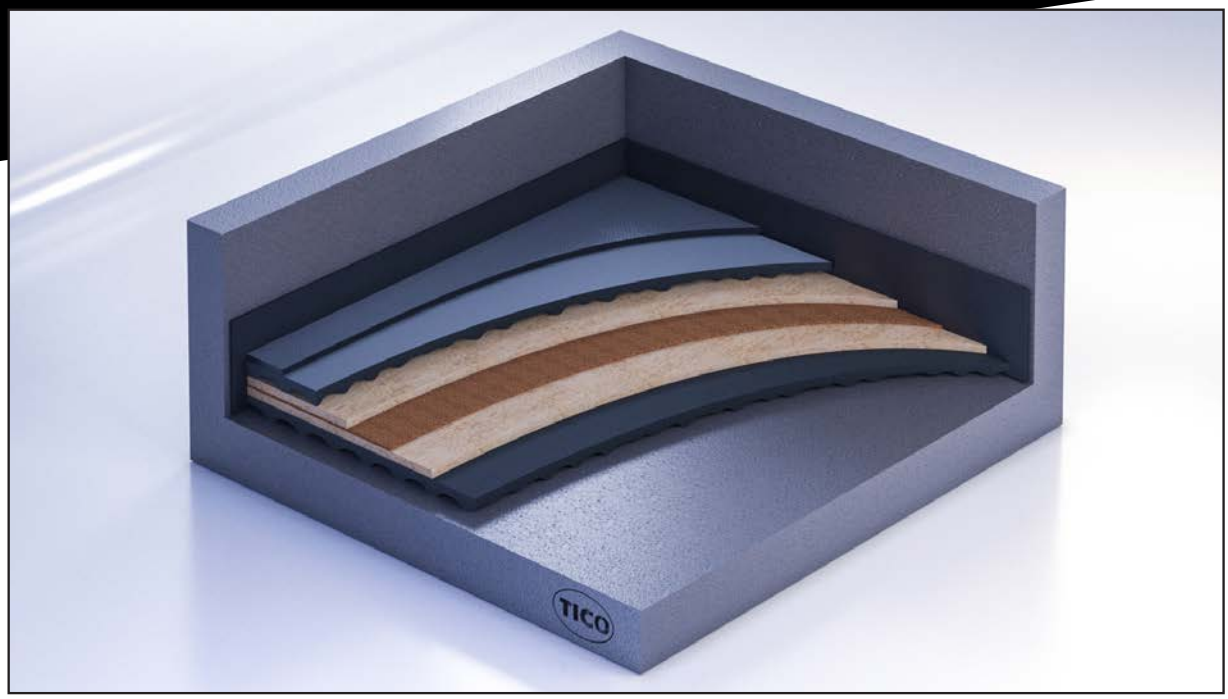
	Floor Ref: 1 2 x 15mm ply, on oversized 5mm aluminium channel on TICO CV/CF/B (50x50x60mm) 50mm mineral fibre in cavity on a 140mm concrete bare floor	**Floor Ref: 2** 15mm ply, 5mm TICO CV/D/RS, 15mm ply, on 5mm aluminium channel on TICO CV/CF/B (50x50x60mm) 50mm mineral fibre in cavity on a 140mm concrete bare floor	**Floor Ref: 3** 10mm TICO Gym Mat, 25mm TICO Wave, 15mm ply, 5mm TICO CV/D/RS, 15mm ply, on oversized 5mm aluminium channel on TICO CV/CF/B (50x50x60mm) 50mm mineral fibre in cavity on a 140mm concrete bare floor
			
Weighted Sound Reduction Index R_w, dB	**69**	**71**	**73**
Weighted Reduction of Impact Sound Pressure Level ΔL_w, dB	**35**	**37**	**55**
Reduction of Weight-Drop Sound Pressure Level $L_{iAmax,F}$, dB*	**30**	**31**	**38**

	Floor Ref: 3b 10mm TICO Gym Mat, 25mm TICO Wave, 15mm ply, 5mm TICO CV/D/RS, 15mm ply, 5mm TICO CV/D/RS, 15mm ply, on oversized 5mm aluminium channel on TICO CV/CF/B (50x50x60mm) 50mm mineral fibre in cavity on a 140mm concrete bare floor	**Floor Ref: 4** 15mm ply, 2x15mm Gyproc Soundbloc, 15mm ply, on 5mm aluminium channel on TICO CV/CF/B (50x50x60mm) 50mm mineral fibre in cavity on a 140mm concrete bare floor
		
Weighted Sound Reduction Index R_w, dB	**73**	**73**
Weighted Reduction of Impact Sound Pressure Level ΔL_w, dB	**56**	**43**
Reduction of Weight-Drop Sound Pressure Level $L_{iAmax,F}$, dB*	**41**	**38**

*Initial test reference measurements were undertaken with 15mm ply and 10mm TICO gym mat used to protect concrete surface from damage during weight drop.

These results were achieved using TICO CV/CF/B isolators at 600 and 650 mm centres with a 50 mm air gap (under deflection). Full laboratory reports are available upon request.

TICO FLOOR - LIGHT W



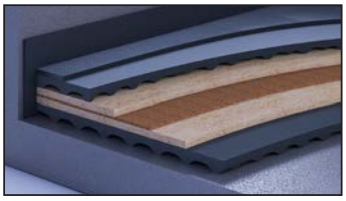
Similar to our TICO-FLOOR LIGHT B set-up but utilising TICO Wave under the ply/timber floor. TICO-FLOOR LIGHT W allows for a low profile, lightweight isolated floating floor commonly found in music rooms and studios.

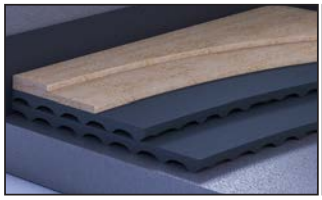
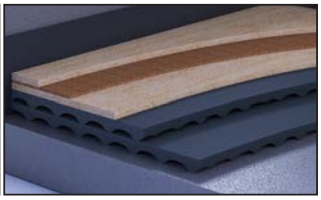
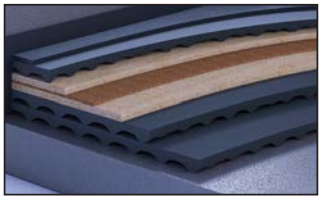
TICO Wave provides a continuous, roll out solution for ease of installation and is composed of 92% recycled rubber. Its design reduces surface area contact to maintain great performance in reducing low-impact sound and vibration transmission.

Key Features:

- **Low Profile**
- **Ease Of Installation**
- **Maintenance Free**
- **Low Creep For Longevity Of Performance**
- **Made Using Recycled Materials**

Acoustic Test Performance

	Floor Ref: 5 2 x 15mm ply, 25mm TICO Wave on a 140mm concrete bare floor.	**Floor Ref: 6** 15mm ply, 5mm TICO CV/D/RS, 15mm ply on a 140mm concrete bare floor.	**Floor Ref: 7** 10mm Gym Mat, 25mm TICO Wave, 15mm ply, 5mm TICO CV/D/RS, 15mm ply, 25mm TICO Wave, on a 140mm concrete bare floor.
			
Weighted Sound Reduction Index R_w, dB	**60**	**59**	**63**
Weighted Reduction of Impact Sound Pressure Level ΔL_w, dB	**21**	**22**	**43**
Reduction of Weight-Drop Sound Pressure Level $L_{iAmax,F}$, dB*	**21**	**19**	**30**

Floor Ref: 8 2 x 15mm ply, 2 x 25mm TICO Wave on a 140mm concrete bare floor.	**Floor Ref: 8b** 10mm TICO Gym Mat, 25mm TICO Wave, 2x 15mm ply on 2 x 25mm TICO Wave on a 140mm concrete bare floor.	**Floor Ref: 9** 15mm ply, 5mm TICO CV/D/RS, 15mm ply on 2 x 25mm TICO Wave on a 140mm concrete bare floor.	**Floor Ref: 9b** 10mm TICO Gym Mat, 25mm TICO Wave, 15mm ply, 5mm TICO CV/D/RS, 15mm ply on 2 x 25mm TICO Wave on a 14mm concrete bare floor.
			
61	**60**	**59**	**63**
26	**21**	**22**	**43**
28	**21**	**19**	**30**

*Initial test reference measurements were undertaken with 15mm ply and 10mm TICO gym mat used to protect concrete surface from damage during weight drop.

CASE STUDY

Project:

Broadway Studios
London

In the world of music and audio production, recording studios stand as sacred spaces where every note, every sound, and every silence matter. Achieving the perfect harmony of sound quality demands meticulous attention to acoustic detail. From soundproofing to fine-tuned acoustics, recording studios are designed to elevate sound to its purest form.

This journey into the world of recording studios begins with a unique challenge faced by TICO. Nestled near the bustling energy of London's Broadway Market, TICO took on the task of crafting the perfect sound sanctuaries. These were not just any studios; they were an ode to the art of sound. The key to their success? Isolated floors that formed the very foundation of sonic excellence.

PRODUCT USED

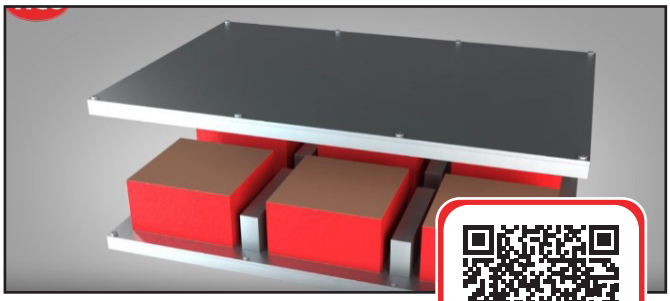
TICO CV/CF/B MATERIAL

TICO CV/CF bearings are natural rubber based mirco-cellular materials with high tensile geotextile upper and lower surfaces which protect the bearing surface, facilitate bonding and accommodate small surface irregularities.

Key Features:

- **Load bearing capacity 0.25 MN/m² (~25 tons per square metre)**
- **Temperature range of -40°C (-40°F) to +70°C (+158°F)**
- **Two versions of TICO CF/PA**

RESOURCE LINKS



CV/CF webpage
Useful information such as datasheet, related products and more.

View Product Webpage

TICO

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James Walker Group

TREADMASTER

treadmaster flooring

TRACKELAST

A division of Tiflex