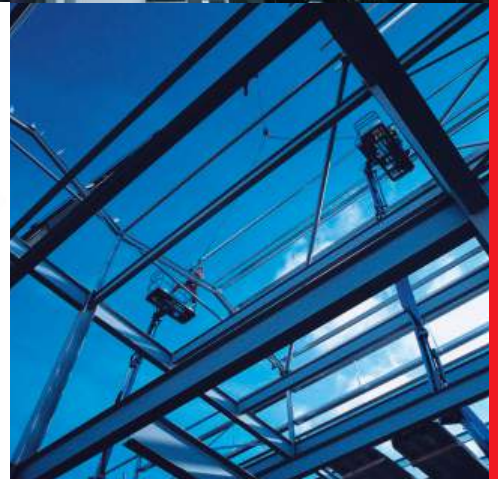




**INS Acoustics**

Acoustic Insulation and Anti-vibration Products



## Noise Control Systems

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INS Acoustics Ltd is a creative innovator providing interior acoustic solutions that combine both superior performance qualities with unparalleled design.

## About Us

INS Acoustics Ltd offers a full range of noise and vibration control products that can be made to specification to give a complete solution for any acoustical project. We also pride ourselves on not only being able to meet but exceed the needs of our clients.

Operating nationwide from our office on the Wirral, we offer a wide range of professional services and expert advice on sound insulation testing, architectural acoustic design, industrial noise reduction, environmental noise and vibration control.

Working with architects, consultants, engineers and contractors, INS Acoustics Ltd creates innovative acoustic solutions for effectively any environment including schools, offices, restaurants, bars, theatres, sports halls and public spaces.

Our services include a full acoustic survey assessment, acoustic calculations, acoustic design service and full supply and installation on a range of acoustic products within our portfolio.

We are proud of our reputation as one of the only soundproofing companies in the UK willing to take on any project no matter how demanding and withing any sector irrespective of the size and shape of your acoustic environment. Our main aim is to provide a cost-effective solution tailored to suit your needs.

## Applications

INS Acoustics Ltd is a specialist provider of high-performance acoustic insulation products within the following disciplines;

**Industrial Acoustics**

**Building Isolation**

**Structural Isolation**

**Anti-Vibration**



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## Structural Isolation

As cities expand, buildings become more valuable and lands that were once undesirable are now being transformed into high-quality office and commercial spaces. A Major challenge for the development of lands near underground or surface railways is overcoming ground-borne vibration, which can transmit up through a structural system, annoying occupants and disturbing high sensitive equipment which may be located inside. Within large constructions there can be multiple sources of noise and vibration which must be addressed on an individual basis. There are various isolation techniques that are required to ascertain the source of the problem.

Equipment generating dynamic forces must also be considered very carefully. For mixed use developments, floors should also be treated for impact noise as this will be transmitted in all directions through the entire structure of the building.

At INS Acoustics we understand that there are many factors to consider when attenuating noise and vibration within a structure and will advise on the most suitable solution going forward.



## Industrial Acoustics

Controlling and mitigating the forces of industrial acoustics is often a key concern for architects and engineers, managers of manufacturing, and other industrial facilities.

Not only do industrial acoustics have an impact on individuals working at these facilities, they also affect the transmission of extreme industrial noise and vibration to the surrounding community

INS Acoustics Ltd offer a complete range of noise control and vibration isolation services for the industrial network such as;

- HVAC
- Industrial Buildings and Machinery Plant
- Civil Engineering Applications



## Anti Vibration

Vibration isolation solutions will not only isolate building occupants from disruptive vibration, they also protect buildings from structural decline.

Sound that is unpleasant to the human ear is known as noise, and ecologically speaking is a form of pollution that is becoming increasingly more widespread due to town and city development.

It could be defined as a vibratory phenomenon propagated in an elastic medium (ceilings, walls, floors and the air itself) causing perturbations in it. To isolate any premises or venue properly, the first step is to identify the composition and the values of the noise (spectrum of frequencies, noise level etc.).

Once we know the magnitude of the noise or the vibrations to be insulated, we must build an unconnected off-the-floor frame which gives us the insulating and dampening values we need.

At INS Acoustics Ltd, we work with acoustic engineers who conduct vibration measurement and assessment studies. We then use those findings to recommend vibration isolation solutions to control and mitigate vibration generated by mechanical systems, equipment and machinery, transportation, industrial plants, and many other sources.



We offer a comprehensive technical advice service to ensure that the most appropriate solution, system or product is selected for your project.

# Acoustic Lagging



## INS Acousti-Lag

A flexible material consisting of a three part laminate, incorporating a spacer or isolating layer, a heavy mass layer and an outer frame / vapour barrier meeting Class

'O' of the UK Building Regulations. Being of a laminated construction it overcomes the need for a separate isolation layer normally required beneath most famous of acoustic lagging.

## INS Acousti-Lag FL Foam Laminates

A Flexible material available in a range of formats to suit consisting of a four part laminate, incorporating two spacer or isolating layers, a heavy mass absorptive layer and an outer flame / vapour barrier meeting Class 'O' of the UK Building Regulations. INS Acousti-lag FL foam laminates are a highly efficient treatment for ductwork, suspended ceilings, infills for partitions and baffles between offices, enclosures and similar outer treatment applications where a considerable reduction in the passage of breakout noise is required.



## iNSpira-Tube

A high-performance acoustic solution primarily for use on paperwork, but can be used to suppress noise break-out on any tubular shape. The product consists of a frigid fire-safe rock wool core with an outer covering of a dense sound-damping polymeric membrane, finished with a Class 'O' rated reinforced aluminium foil. iNSpira-Tube is supplied with an overlap of the polymeric / foil layer along the 1200mm length to facilitate the provision and integrity of a taped longitudinal joint.



## Mineral Fibre Slabs Quietslab Type MF



INS MF mineral fibre slabs are ideal for a wide range of building and industrial applications. A highly versatile material with an extensive listing of applications such as acoustic ceilings, partition panels, walls, floors, roofs, ductwork and industrial enclosures. Also, thermal insulation for boilers, heat exchangers, plant, tanks and pipes. INS MF Mineral bonded slabs can be flat or curved to suit requirements.



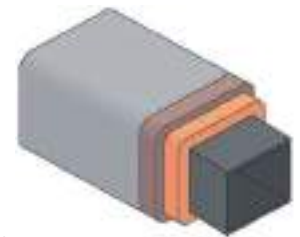
## INS Acousti-Lag Pipe Lag

INS Acousti-lag Pipe Lag is a highly efficient acoustic treatment designed for rain-water pipes, pneumatic and

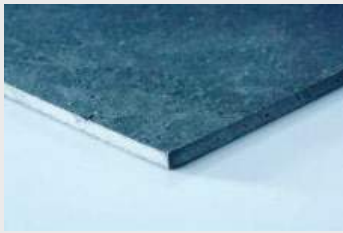
hydraulic pipes, and waste water pipes for industrial, commercial and construction applications. Steam pipes can also be treated with INS Acousti-Lag Pipe Lag providing a suitable thermal insulation is applied as a first layer. Being of a foam laminate construction, it is ideal where fibre erosion is not acceptable and where a significant reduction in break out noise is specified

## iNSpira Acoustic Wrap

Consists of 45kg/m<sup>3</sup> stone wool lamella strips which are bonded to a mass barrier membrane. The mass barrier incorporates reinforced Bright Class 'O' aluminium foil to the exposed side. The mass barrier is available in 5kg/m<sup>2</sup> and 10kg/m<sup>2</sup> weights, and is ideal for rectangular ducts.



# Industrial Noise Control Systems



## Acoustic Barriers

Acoustic Barriers are a high density flexible polymeric material used to contain and reduce sound transmissions through walls, ceilings

and floors. Acoustic Barrier offers a noise reduction service by dampening vibrations in the structure and reducing transmission of airborne and impact noise.

Acoustic Barrier Materials are used for enclosing noise sources, either draped around equipment, suspended between equipment and quiet areas, or lagged to the equipment casing. They can be used effectively to lag piping systems, reducing valves, etc., and are highly effective as crosstalk barriers.

Acoustic Barrier Materials are recommended for use in applications where it is necessary to maintain visual contact with noisy equipment, yet achieve a high degree of noise reduction.

Acoustic Barriers can also be intergrated with many other sound absorbing materials such as mineral wool, acoustic quilt and Class 'O' Foam to offer a complete solution (Please see Acoustic Lagging).

### Application

- Pipe and duct noise lagging
- Machinery covers
- Ceiling noise barriers
- Crosstalk barrier
- Wall and door septums
- Noise curtain panels and enclosures
- Rooftop equipment barriers
- OEM applications



## Class 'O' Acoustic Foam

A general purpose acoustic foam that due to its extended properties is highly adaptable. INS Class 'O' acoustic foam is

a fire retardant modified polyurethane acoustic foam designed to meet the stringent requirements of British Building Regulations. Dark gray/black in colour, it is CFC and HCFC free.

### Application

- Internal and external duct linings
- Thermal & acoustic machine coverings
- Suspended ceiling absorptive panels
- Composite constituent combined with acoustic barrier material for acoustic flooring and external lagging

### Benefits

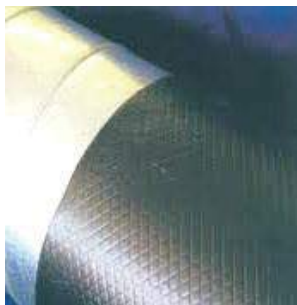
- Available in sheet or roll form
- Flexible and easily cut
- Easy to handle and install
- CFC and HCFC free
- Available with various backings including self-adhesive backing and Class 'O' foil facing
- Non-toxic

## Acoustic Foam Type FR25

INS FR25 acoustic foam is a fire retardant polyether based polyurethane foam designed to provide acoustic and fire resistant properties. It is grey in colour and flexible to use and handle.



INS FR25 acoustic foam is typically used for machinery enclosures, doors, walls, partitions and air conditioning ducts. It is also ideal for insulating cabs of industrial vehicles and enclosures for vehicle and boat engines. For wall and machinery enclosures, the acoustic performance of INS FR25 can be dramatically enhanced when used in combination with DS damping sheet. FR25 is a non-dusting and flexible acoustic foam that provides excellent sound absorption.



## Damping Sheet Type DS

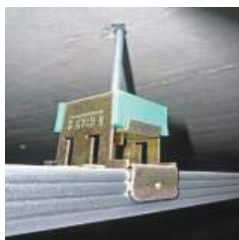
Thin metal parts and structures can transmit noise when impacted or by natural resonance when excited by acoustical energy. Vibrating metal is a common noise problem in industrial and commercial environments and one that companies must often take into consideration.

These types of noise problems are often easily solved by applying damping material to these vibrating metal surfaces. Acoustic Damping materials work by changing the natural vibration frequency of the vibrating surface and thereby lowering radiated noise and increasing the transmission loss of the material.

### Typical Applications:

- Metal office furniture
- Sinks, bathtubs, and shower stalls
- Air Conditioning
- Appliance cabinets
- Rapid transit or railway cars
- Recreational vehicles
- Chutes, bins, & hoppers
- Motor and transformer housings
- Machine housing belt guards
- Sheet metal ducts, mixing boxes, and terminal units

# Anti Vibration Products



These anti-vibration mounts have been conceived for suspension from false ceilings, vibrating pipelines and machinery that has to be suspended.

The excellent properties of the Sylomer microcellular polyurethane achieve elevated isolation values as opposed to other mounts using rubber or cork, or a combination of both. These anti-vibration mounts are manufactured in two special mixes of Sylomer to adapt better to the load of each application.

A great variety of fixing metal armours and elements facilitate installation and adapt better to each type of job, Their rugged metal parts withstand can tensile stresses from 650 kg to 1000 kg. They are supplied with an anti-corrosive treatment that can withstand even the toughest of environments.

Floor mounted spring isolators are used to reduce the transmission of noise, shock and vibration produced by mechanical, industrial or process equipment into or within a structure, such as:



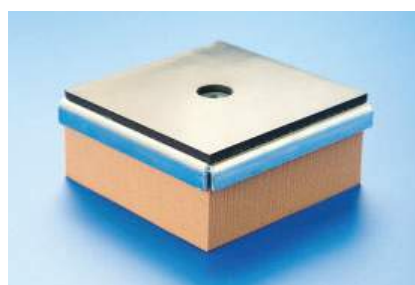
- Pumps
- Fans
- Cooling Towers
- Rooftop Units
- Chillers
- Boilers
- Compressors

Anti-vibration mounts have been conceived for the suspension of suspended ceilings or machines that rotate at low frequency. The excellent properties of the microcellular polyurethane combined with the low stiffness of a steel spring achieve increased isolation values as opposed to other mounts using rubber or cork, or a combination of both.



These anti-vibration mounts are manufactured in 6 different steel spring models to adapt optimal for each application.

Their rugged metal parts withstand can tensile stresses. They are supplied with an anti-corrosive treatment that can resist tensile stresses up to 1000 kg withstand the toughest environments.



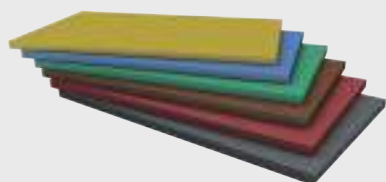
Small Machinery Mounts are specially conceived for vibration isolation. They are used for the attenuation of vibrations, reducing structure-borne noise. These new products are used

for the anti-vibration mount of household appliances like washing machines, loudspeakers, musical instruments and mounting systems of computer equipment.

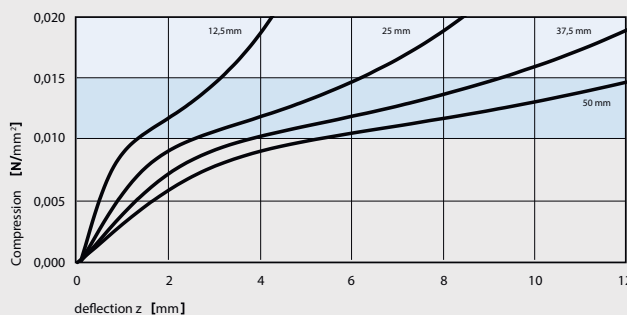
## Damtec Vibrafoam & Vibradyn

DAMTEC vibrafoam is the series of vibration insulation mats made of cell elastomer, which consists of special polyurethane. The basic types presented here fulfil the requirements of most applications. Special type in other densities, thicknesses and geometries are available on request.

At low compression the material has an almost linear characteristic. At higher loads or compressions of the bedding, the spring characteristic takes a degressive course. DAMTEC vibrafoam reacts to additional static and dynamic forces very softly. This enables optimal vibration insulation over a wide load range. At higher compressions the characteristic is progressive. The special properties of the material make it resistant to temporary peak loads. The product is selected based on the expected compressive stress in the material. The choice of different product thicknesses and / or the option of two-layer installation guarantees optimal vibration insulation and structure-borne sound attenuation.



Spring deflection dependent on compression, based on example of DAMTEC® vibrafoam 15



DAMTEC vibrafoam can be processed horizontally and vertically for vibration insulation. If it needs to be cut to size, this can be done with a carpet knife. The insulating mats are butt-jointed during installation and sealed with a suitable adhesive tape. To increase the effectiveness, strip or point load bedding can be inserted. This is desirable if the optimal working range cannot be achieved fullsurface bedding due to the existing low loads (increasing the compressive stress).



**INS Acoustics**

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We address your acoustical needs on an individual basis with attention to detail and unsurpassed customer service. Our aim is to provide a resolution to even the most challenging noise control requirements

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