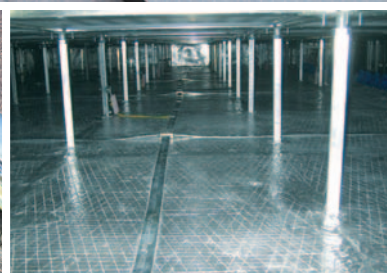
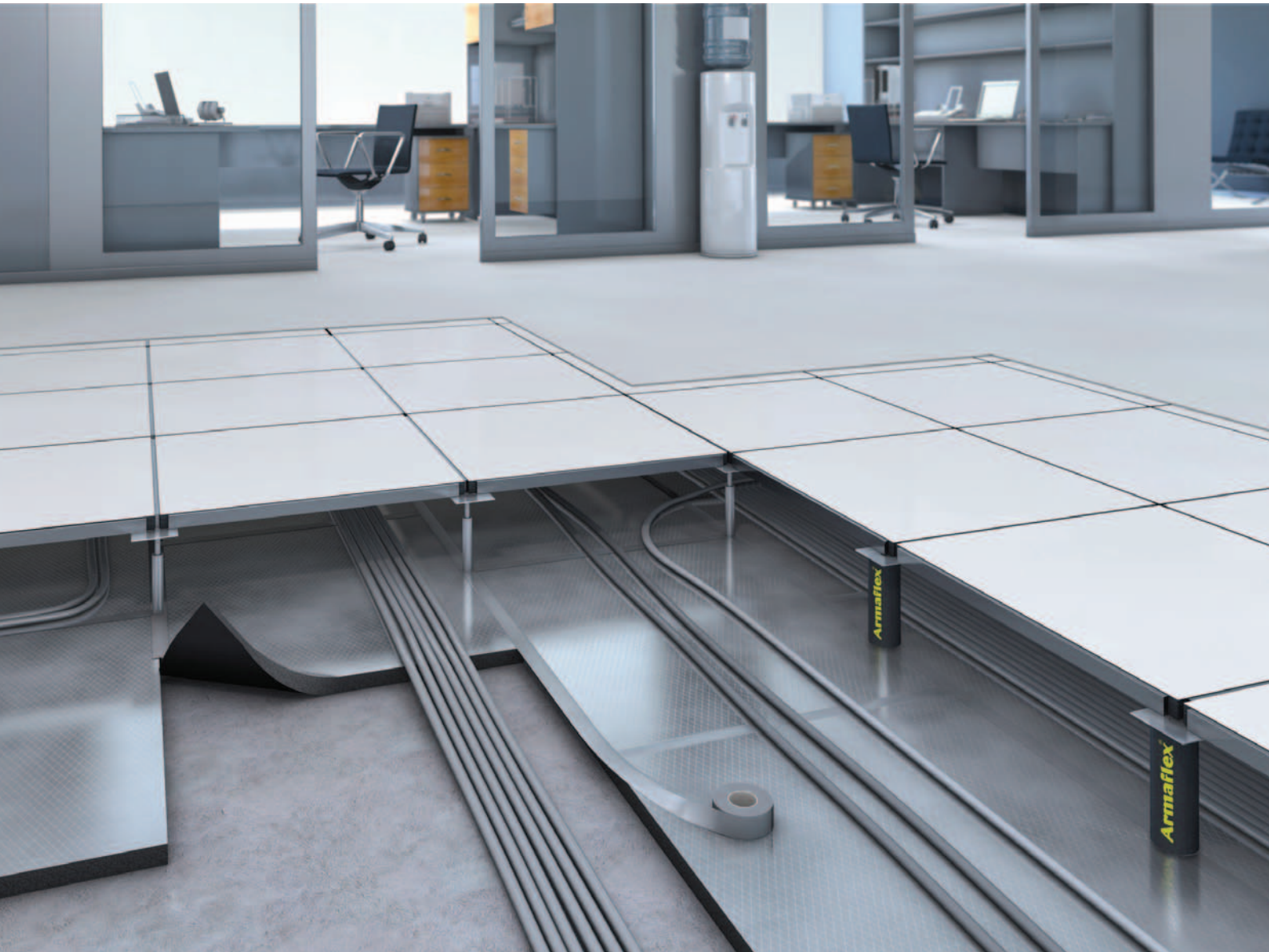


# Armaflex®

Insulation Engineered for **RAISED FLOOR SYSTEMS**



Armaflex has been used extensively in raised floor applications, with project history in banks, data centres, hotels and office buildings. Ease of use, excellent insulation values and reliable performance makes Armaflex an ideal material for under floor plenums.

## ► Air plenums and indoor air quality

Many modern buildings are air-tight and rely on re-circulating filtered but stale air. Almost all gases remain within the envelope, and air distribution systems are an essential part of removing any contaminants and maintaining occupant comfort.

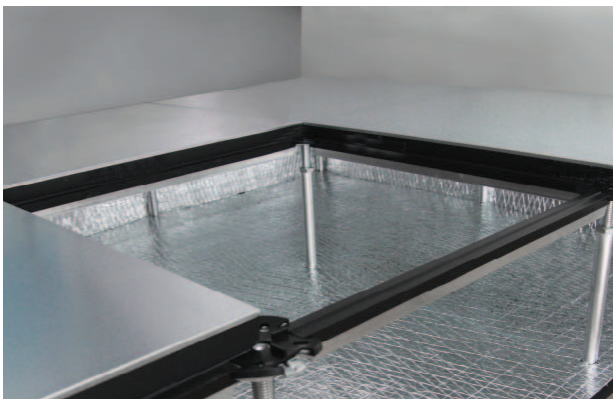
Whilst distribution systems are an essential part of the solution to indoor air pollution, they can also provide an inconvenient means of spreading noise and air pollution throughout the building. Our air is always contaminated with pollutants, and these pollutants include not only naturally-generated gases such as carbon dioxide, but also harmful man-made volatile organic chemicals, industrial fibres, dust particles, microbial spores and bacteria. Whilst breathing these may not result in immediate signs of ill health, they may contribute towards "sick building syndrome".

Carefully selecting the insulation for the air plenums is an important part of minimising the potential contributors to indoor air pollution.

## ► Insulation of under floor plenums

Insulation offers several benefits to underfloor air distribution systems. Insulation of the floor and sidewalls will minimise thermal loss that can affect the temperature of supply air. This is particularly important when diffusers are located far from the distribution fans and where the air flow may be affected by obstructions within the plenum.

Insulation is also an important means of condensation control. Concrete floor slabs present an opportunity for the formation of condensation, particularly when the air temperature is not kept above the dew point temperature. This is important in circumstances where the slab is cool and where systems may introduce large quantities of potentially moist outdoor air.



Condensation control is not only important within the plenum itself, but also for the surface of the adjoining under floor material. Insulation of the plenum provides protection against condensation on the lower floor ceilings.

## ► The benefits of Armaflex insulation

Armaflex Duct is elastomeric foam insulation with a factory-applied foil facing. It is purpose-built for wrapping and lining of air distribution ducting, and for lining of raised floor plenums. Armaflex Duct prevents energy loss and condensation, whilst minimising effects on indoor air quality. This product offers substantial benefits including:

### A closed-cell structure not prone to wicking

Closed-cell insulation materials possess a built-in resistance to the passage of water vapour. As a result, Armaflex does not rely on the external vapour barriers to prevent condensation and mould in air conditioning systems.

### Mould resistance

Bacteria and mould may often grow within open-cell insulation materials and below their vapour barriers when the material has absorbed moisture. Armaflex is resistant to mould growth.

### Dust and fibre-free construction

Fibre-based materials present the possibility of fibre leakage, which has a major impact on indoor air quality. Closed-cell, dust-free and fibre-free materials will eliminate this source of air-stream pollution.

### An in-built water vapour barrier

Closed-cell Armaflex has a high resistance to water vapour, and the insulation itself effectively acts as a vapour barrier.

### Ease of cutting and fitting

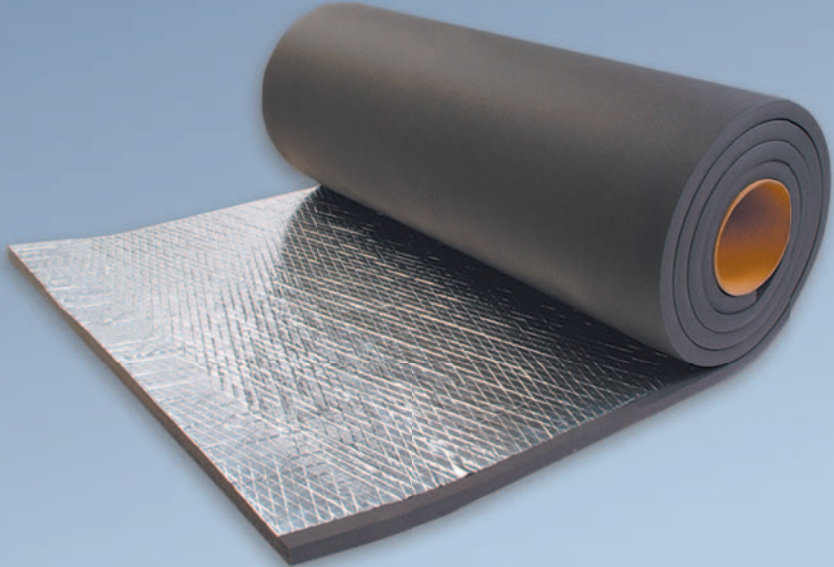
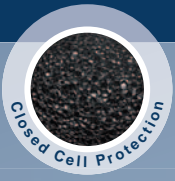
Armaflex is easily cut and shaped, ensuring the best fit within any plenum space. Cutting Armaflex does not release particulate matter that can affect installers and contaminate the building environment.

### Zero ODP and Zero GWP

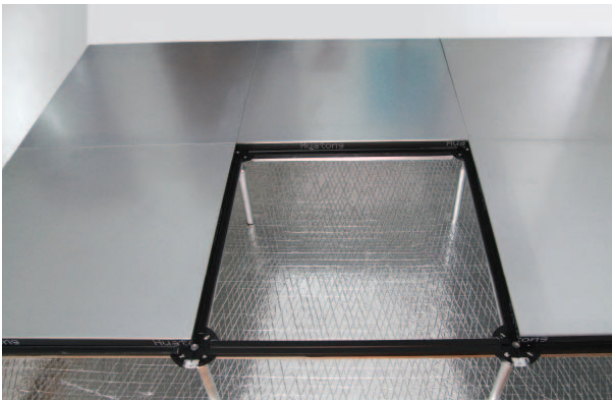
The design of green buildings requires materials that meet high environmental standards. Armaflex foams have Zero Ozone Depleting Potential (ODP) and Zero Global Warming Potential (GWP).

### Long-term energy savings

The combination of a closed-cell structure and low vapour permeability limits the entry of water vapour to prevent changes in thermal conductivity; stable thermal conductivity provides on-going energy savings on low-temperature insulation applications.



## Armaflex Duct Clean and Efficient Insulation designed for RAISED FLOOR SYSTEMS



### ► Durability and maintenance

Many raised floor systems are subject to regular, annual maintenance cycles. Cleaning and vacuuming of the floor cavity may be conducted to remove dust, and changes in cable configurations may be needed to support modification of office design.

Armaflex Duct is covered with a factory-applied foil facing that is tough and durable to support continued cleaning cycles. In the event that major renovations are needed, the removal and replacement of Armaflex is easy, with new pieces simply cut and glued into place without concern for vapour barriers and release of fibres.

The foil-facing of Armaflex Duct is designed to withstand mechanical impact and abrasion, protecting the underlying Armaflex insulation. This durability is of significant benefit during the fitting and configuration of cable systems within the floor cavity.

### ► Ease and speed of installation

Armaflex Duct is supplied in convenient, continuous rolls of 1.22m width. On request, it can be supplied pre-cut into 0.6m-width rolls that fit neatly and easily in the 600mm gap between floor pedestals.

Armaflex accessories are available to provide a professional finish to the installation. Armaflex insulation tape can be used to insulate awkward shapes and fill gaps, and is supplied in rolls of 3mm-thick insulation at a width of 50mm. Armaflex Duct tape is used to join edges and butt joints in Armaflex Duct and is made from the same foil-facing to provide aesthetic consistency.



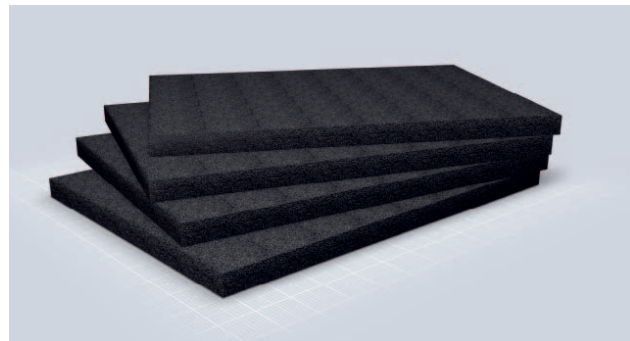
## ► Acoustics and underfloor plenums

Underfloor air distribution can eliminate much of the background noise associated with conventional overhead duct systems. However, these systems can have their own unique acoustic requirements.

The core material for floor panels is an important contributor to acoustic characteristics, particularly with regard to eliminating hollow sounding floors. However, cost pressures on the selection of building systems may result in core material of less acoustic value. Further, the acoustic performance may also be affected by systems that are not finished by carpet, as the carpet would ordinarily reduce noise.

Noise may be generated from several sources, such as fan terminal units. Sound transmission may also occur between adjacent rooms where the floor diffusers are served by the same plenum.

ArmaSound® acoustic insulation is a high-performance acoustic absorber, which also offers barrier (transmission loss), vibration dampening and de-coupling (isolation) properties. ArmaSound® offers optimal performance in



a lower thickness than traditional acoustic materials, and has the advantage of being fibre free. It is a highly flexible material that is easy to cut and fit within plenum spaces, enclosures, cabinets and ducting systems.

ArmaSound® acoustic insulation may be fitted during floor installation or during maintenance operations. ArmaSound® offers a convenient, safe and easily handled material that can be installed to absorb noise and address acoustic problems.

## ► A complete range of installation accessories



### Armaflex Tape

Self-adhesive Armaflex insulation tape for insulating difficult shapes and areas that are not easily accessible. May be applied in multiple layers to build thickness.



### Armaflex Duct Tape

Self-adhesive foil tape for joining and covering of seams in Armaflex Duct insulation material. Made from the same foil as used on Armaflex Duct to provide a matching aesthetic finish.



### Armaflex Adhesive

High-strength adhesive for joining Armaflex and creating a vapour-tight seal. Based on a modified chloroprene rubber, it has low viscosity for ease of application and it dries quickly to speed installation.