



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 flame / 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 forms of acoustic lagging.

ADVANTAGES

- Easy and quick to apply
- Excellent acoustic performance
- Applied as a single layer treatment
- Excellent fire resistance & temperature stability
- Highly durable
- Low thermal conductivity
- Low toxicity

PHYSICAL INFORMATION

Dimensions

Standard sheet size: 2m x 1.2m. Other sizes are available upon request.

Grades

INS Acoustic-Lag is available in four grades:

| Grade | Barrier Mass (kg/m ²) | Thickness (mm) |
|-----------------------|-----------------------------------|----------------|
| INS Acousti-Lag 5/25 | 5 | 27 |
| INS Acousti-Lag 5/50 | 5 | 52 |
| INS Acousti-Lag 10/25 | 10 | 30 |
| INS Acousti-Lag 10/50 | 10 | 55 |

TECHNICAL INFORMATION

INS Acousti-Lag conforms to the following specifications:

| | | | | |
|----------------------------|---|-------|-------|-------|
| Glass fibre spacer density | 16–24 kg/m ³ nominal | | | |
| Operating temperature | –30 to 100°C | | | |
| Chemical resistance | Oils, water, most solvents | | | |
| Fire resistance | Class 'O' Building Regs B2/3/4 Appendix A | | | |
| Thermal Conductivity | To BS 4745 1990 | | | |
| Acousti-Lag Grade | 5/25 | 5/50 | 10/25 | 10/50 |
| W/m ² K | 0.046 | 0.050 | 0.052 | 0.054 |

APPLICATIONS

INS Acousti-Lag is a highly effective Acoustic insulation lagging for ductwork, pipes, enclosures and similar applications where a considerable reduction in the passage of noise is required, combined with ease of application.

ACOUSTIC PERFORMANCE

INS Acousti-Lag is a high performance material that has been acoustically tested at certified independent test laboratories.

Tested and rated to:

- BS EN ISO 717–1:1997
- BS EN ISO 140–3:1995
- BS EN ISO 2750:Part3:1995

Sound Reduction Index

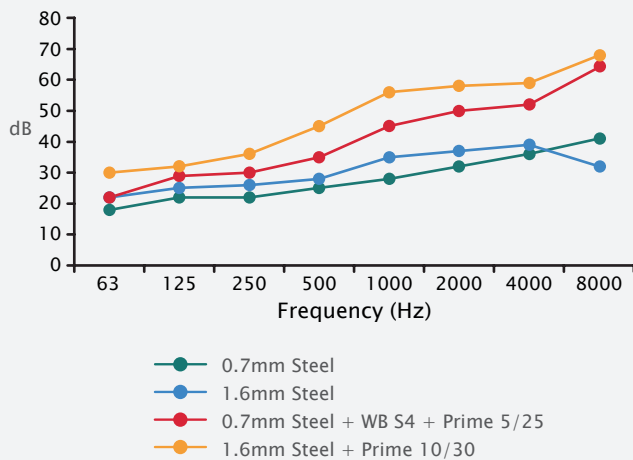
INS Acousti-Lag only – no supporting materials

| Material / Frequency | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|-----------------------|----|-----|-----|-----|----|----|----|----|
| INS Acousti-Lag 5/25 | 21 | 21 | 22 | 21 | 32 | 45 | 48 | 44 |
| INS Acousti-Lag 5/50 | 22 | 23 | 24 | 27 | 34 | 46 | 51 | 46 |
| INS Acousti-Lag 10/25 | 24 | 23 | 28 | 32 | 38 | 45 | 57 | 50 |
| INS Acousti-Lag 10/50 | 25 | 24 | 30 | 35 | 40 | 49 | 50 | 54 |

Acoustic duct lagging is a complex subject with the size, shape, thickness and configuration of the ductwork all having a significant effect on the system performance.

The data shown above and below is based on flat panel tests for INS Acousti-Lag. Similar tests carried out on ducting will generally produce similar or slightly lower levels of performance.

Sound Reduction Index



INS Acoustics have recognised the complex problems associated with noise breakout from ductwork and have developed performance data from laboratory test results.

This performance data predicts, as closely as possible, the minimum likely improvement achievable by lagging a duct with INS Acousti-Lag Pro insulating materials.

The data below is based on ductwork of 6m length and 1000 x 600mm cross section, and indicates the actual improvement of the INS Acousti-Lag Pro, with the noise reduction of the original untreated ductwork being removed from this performance data.

| Material / Frequency | 63 | 125 | 250 | 500 | 1k | 2k | 4k |
|-----------------------|----|-----|-----|-----|----|----|----|
| INS Acousti-Lag 5/25 | 3 | 7 | 10 | 20 | 27 | 32 | 33 |
| INS Acousti-Lag 5/50 | 4 | 9 | 12 | 22 | 30 | 35 | 37 |
| INS Acousti-Lag 10/25 | 5 | 10 | 17 | 28 | 35 | 39 | 40 |
| INS Acousti-Lag 10/50 | 5 | 11 | 19 | 30 | 38 | 42 | 44 |

The acoustic performance of INS Acousti-Lag can be enhanced by applying on top of a layer of glass fibre slab up to 300mm thick. To boost the performance and reduce low frequency noise breakout, INS DS type damping sheet should be applied to the ductwork before installing the INS Acousti-Lag.

INSTALLATION GUIDELINES

The method required in the fitting of INS Acousti-Lag insulation is dependent on several factors.

1. The size and circumference of the duct
2. The shape of the duct –rectangular or round
3. The ambient temperature and temperature within the duct normal and maximum
4. The location of the duct inside or outside

Circular ductwork

Round ducts where one sheet of INS Acousti-Lag will completely lap the circumference can be insulated without the need for adhesives or extra mechanical fixings. Mating edges are sealed with a foil faced adhesive tape to match the finish required.

The INS Acousti-Lag insulation can be secured to large round ducts using proprietary banding systems, in conjunction with edge tape.

Rectangular ductwork

Rectangular ducts normally require additional support for the INS Acousti-Lag in the form of contact adhesive and/or proprietary hangers, particularly on the underside where the INS Acousti-Lag will tend to hang away from the duct surface.

It is recommended that large intricate ducts be further supported and reinforced with 25mm wire mesh (i.e. chicken wire) and wire ties.

Banding rectangular ductwork is not recommended as insufficient support is given across the sides of the duct and the INS Acousti-Lag will be compressed at the corners, thus affecting performance.

Installation Service

In addition to supply of this product INS Acoustics offers a competitively-priced installation service anywhere in the UK. Use of our service ensures that installation is performed to the highest standards by tradesmen fully experienced in the specialist skills of fitting acoustic materials correctly.

For further details contact our technical team on 0151 677 8650.