

# ACOUSTI-LAG FLEX

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
- Highly flexible

## PHYSICAL INFORMATION

### Dimensions

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

### Grades

INS Acoustic-Lag is available in the following grades:

Grade	Barrier Mass (kg/m <sup>2</sup> )	Thickness (mm)
Acousti-Lag 5/25	5	27
Acousti-Lag 5/50 & D-Layer *	5	52
Acousti-Lag 10/25	10	30
Acousti-Lag 10/50 & D-Layer *	10	55

\* Double layer options are two layers of insulation 25+25

## TECHNICAL INFORMATION

Acousti-Lag conforms to the following specifications:

Glass fibre spacer density	16-24 kg/m <sup>3</sup> nominal			
Operating temperature	-30 to 100°C			
Chemical resistance	Oils, water, most solvents			
Fire resistance	Class 'O' Building Regs B2/3/4 Appendix A - BS476 P 6-7			
Thermal Conductivity	To BS 4745 1990			
Acousti-Lag Grade	5/25	5/50	10/25	10/50
W/m <sup>2</sup> K	0.046	0.050	0.052	0.054

## APPLICATIONS

Acousti-Lag Flex 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

Acousti-Lag Flex 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

*Acousti-Lag Flex only - no supporting materials*

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

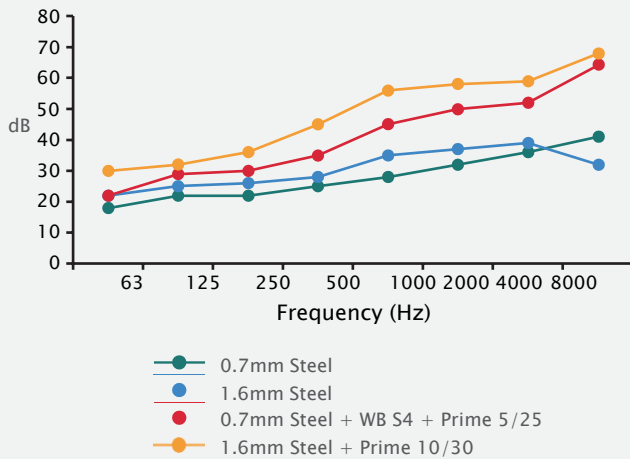
\* Double Layers also available

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 Flex. Similar tests carried out on ducting will generally produce similar or slightly lower levels of performance.



## Sound Reduction Index



INS 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 Flex 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 Flex 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 Flex 5/25	3	7	10	20	27	32	33
INS Acousti-Lag Flex 5/50	4	9	12	22	30	35	37
INS Acousti-Lag Flex 10/25	5	10	17	28	35	39	40
INS Acousti-Lag Flex 10/50	5	11	19	30	38	42	44

The acoustic performance of Acousti-Lag Flex 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, DS type damping sheet should be applied to the ductwork before installing the Acousti-Lag Flex.

## INSTALLATION GUIDELINES

The method required in the fitting of 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 Acousti-Lag Flex 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 Acousti-Lag Flex 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 Acousti-Lag Flex in the form of contact adhesive and/or proprietary hangers, particularly on the underside where the Acousti-Lag Flex 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 Acousti-Lag Flex will be compressed at the corners, thus affecting performance.

## Installation Service

In addition to supply of this product K&G 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 546 6466

