

## 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.
- Lead sheet mass barrier for high performance.

## Applications

Wilhams WIL-LAG Original is a highly efficient acoustic insulation lagging for ductwork, pipes, machine coverings, partition infill, suspended ceilings and where considerable reduction in the passage of noise is required.

## Description

Wilhams WIL-LAG Original is a flexible material consisting of a five part laminate, incorporating a scrim backed acoustic spacer layer, a heavy lead mass barrier and an outer thermal insulating layer with 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.

## Technical Information

Wilhams WIL-LAG Original conforms to the following specifications:

- Acoustic spacer Glass fibre 25mm thick  
24-32 kg/m<sup>3</sup> nominal density  
White glass tissue backing
- Thermal spacer Glass fibre 25mm thick  
24-32 kg/m<sup>3</sup> nominal density  
Class 'O' foil facing
- Service temperature -30 to 100°C
- Chemical resistance Oils, water, most solvents
- Fire resistance Class O Building Regulations  
B2/3/4 App A, foil faced.
- Thermal Conductivity 0.037 W/m<sup>2</sup>K  
to BS 4745 1990

## Physical Information

### DIMENSIONS

Standard sheet size: 2m x 1.2m

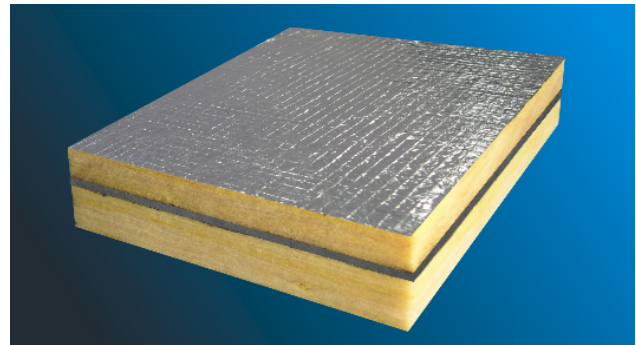
Other sizes are available upon request.

### GRADES

Wilhams WIL-LAG Original is available in two grades to suit different performance requirements:

Grade	Lead Sheet (kg/m <sup>2</sup> )	Thickness (mm)*
Original 5	5	50
Original 10	10	50

\* Nominal thickness



## Acoustic Performance

Wilhams WIL-LAG Original is a high performance material that has been acoustically tested at certified independent test laboratories.

Tested and Rated according to:

ISO 140-3

BS 2750:Part3:1980

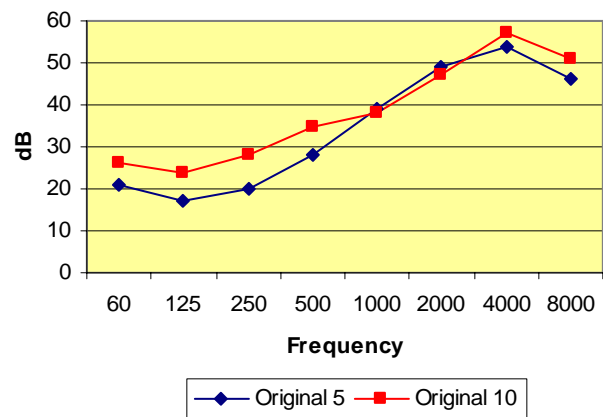
## Sound Reduction Index (tabulated)

WIL-LAG Original only without any supporting materials

Material \ Frequency	63	125	250	500	1k	2k	4k	8k
Original 5	21	17	20	28	39	49	54	46
Original 10	26	24	28	35	38	47	57	51

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 used for WIL-LAG Prime products. Similar tests carried out on ducting will generally produce improved levels of performance.

## Sound Reduction Index



## Wilhams Insulation Group

117 Bohemia Road, St Leonards-On-Sea, East Sussex TN37 6RL United Kingdom

Export Sales:- Tel: +44 (0) 1424 717171 Fax: +44 (0) 1424 20100 Email: sales@wilhams-insulation.co.uk

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### Selection Guidelines

Wilhams 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 WIL-LAG Original 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 WIL-LAG Original, with the noise reduction of the original untreated ductwork being removed from this performance data.

Material \ Frequency	63	125	250	500	1k	2k	4k
Original 5	4	8	12	24	30	35	34
Original10	7	10	19	30	37	42	41

To boost low frequency noise absorption, Wilhams WDS type damping sheet (see data sheet 3/01) should be applied to the ductwork before installing the WIL-LAG Original.

### Installation Guidelines

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

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Export Sales:- Tel: +44 (0) 1424 717171 Fax: +44 (0) 1424 20100 Email: [sales@wilhams-insulation.co.uk](mailto:sales@wilhams-insulation.co.uk)

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