



Wil-Lag Original

Acoustic duct lagging

Wil-Lag Original is a five part laminate incorporating an E-glass faced acoustic spacer layer, a heavy 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 form 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
- High mass barrier for good performance

Applications

Wil-Lag Original is a highly efficient acoustic insulation lagging for ductwork, machines coverings, partition infill, suspended ceilings and where considerable reduction in the passage of noise is required.

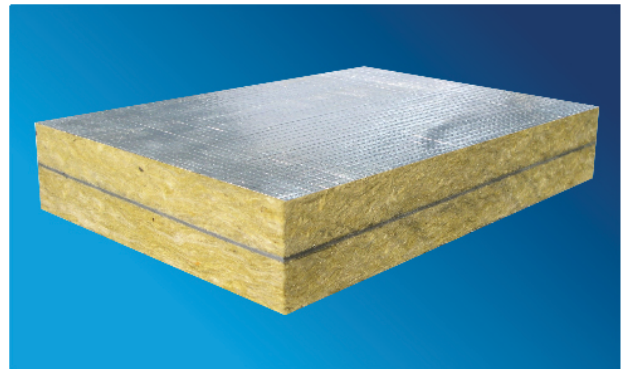
Acoustic Performance

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

Sound Reduction Index (tabulated)

Wil-Lag Original only without any supporting materials

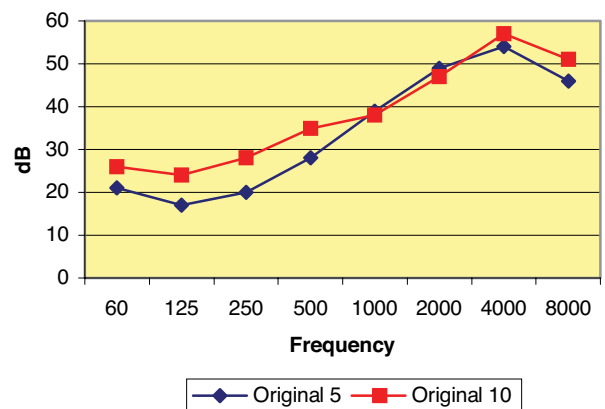
Material \ Frequency	63	125	250	500	1k	2k	4k	8k
Original 5	21	17	20	28	39	49	54	46
Original 10	26	24	28	35	38	47	57	51



Tested and rated according to ISO 140-3 and BS 2750 Part 3 : 1980.

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. Similar tests carried out on ducting will generally produce improved levels of performance.

Sound Reduction Index



Technical Information

Wil-Lag Original conforms to the following specifications:

- Acoustic spacer: Wil-Kool® Plus insulation
25mm thick
White glass tissue backing
- Thermal spacer: Wil-Kool® Plus insulation
25mm thick
Class 'O' foil facing
- Service temperature: -30 to 100°C
- Chemical resistance: Oils, water and most solvents
- Fire resistance: Class O building Regulations B2/3/4 App A, foil faced.
- Thermal conductivity to BS 4745 1990: 0.037 W/m²K

Physical Information

Dimensions

Standard sheet sizes: 1050mm x 600mm
1050mm x 1200mm

Other sizes are available upon request

Grades

Wil-Lag Original is available in two grades to suit different performance requirements:

Grade	Lead Sheet (kg/m ²)	Thickness (mm)
Original 5	5	52
Original 10	10	54

* Nominal thickness

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 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
Original 10	7	10	19	30	37	42	41

To improve the low frequency noise reduction, Wilhams WDS Damping Sheet should be applied to the ductwork before installing 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 the building

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.

Wil-Lag Original 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 Wil-Lag Original in the form of contact adhesive and proprietary hangers particularly on the underside where Wil-Lag Original will tend to sag 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 Wil-Lag Original will be compressed at the corners which will affect the transmission loss performance.

SoundPro® is the registered trademark of Wilhams Insulation Far East Sdn Bhd

WILHAMS

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