

Advantages

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

Applications

Wilhams WIL-LAG Hygienic is a highly efficient acoustic treatment designed for areas where hygiene and cleanliness are of paramount importance such as pharmaceutical industries and clean room applications i.e. food and drinks processing and electronics industries.

Description

Wilhams WIL-LAG Hygienic is a modern product consisting of three layers in the form of a single laminate. The acoustic isolating layer or spacer is a melamine foam. This isolating spacer supports a layer of heavy mass polymeric barrier and an outer Class 'O' flame / vapour barrier.

Technical Information

Wilhams WIL-LAG Prime conforms to the following specifications:

- Melamine foam density – 11 kg/m³ nominal
- Operating temperature – -30 to 120°C
- Chemical resistance – Oils, water, most solvents
- Fire resistance – Class 'O' Building Regulations B2/3/4 Appendix A
- Thermal Conductivity – 0.037 W/mK

Physical Information

DIMENSIONS

Standard sheet size: 2m x 1.2m

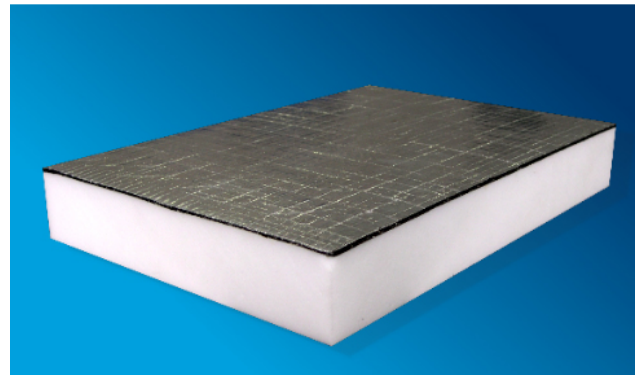
Other sizes are available upon request.

GRADES

Wilhams WIL-LAG Hygienic is available in six grades to suit different performance requirements:

Grade	Barrier Mass (kg/m ²)	Thickness* (mm)
5/12	5	14
5/25	5	27
5/50	5	52
10/12	10	16
10/25	10	29
10/50	10	54

* Nominal overall thickness



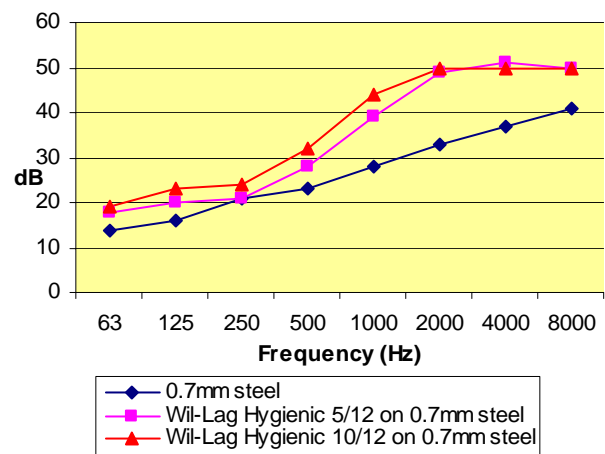
Acoustic Performance

Wilhams WIL-LAG Hygienic has the following acoustic performance.

Sound Reduction Index (tabulated)

Material \ Frequency	63	125	250	500	1k	2k	4k	8k
0.7mm steel	14	16	21	23	28	33	37	41
Hygienic 5/12 on 0.7mm steel	18	20	22	28	39	49	51	50
Hygienic 10/12 on 0.7mm steel	19	23	24	32	44	50	50	50

The data shown above and below is based on flat panel tests for WIL-LAG Hygienic products. Similar tests carried out on ducting will generally produce improved levels of performance.



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 Hygienic 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 Hygienic, with the noise reduction of the original untreated ductwork being removed from this performance data.

Material \ Hz	63	125	250	500	1k	2k	4k	8k
0.7mm steel	14	16	21	23	28	33	37	41
Hygienic 5/12 on 0.7mm steel	16	18	22	26	35	46	50	48
Hygienic 10/12 on 0.7mm steel	18	20	22	29	39	50	50	49

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 Hygienic.

Installation Guidelines

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

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