

Advantages

- Highly competitive pricing with high performance.
- 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.

Applications

Wilhams WIL-LAG Prime-M is a highly efficient 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.

Description

Wilhams WIL-LAG Prime-M is a highly flexible material consisting of a four 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. The material has an advanced backing of Rox-skin to contain the mineral fibres. 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 Prime-M conforms to the following specifications:

- Mineral wool spacer density – 100 kg/m³ nominal
- Operating temperature – -30 to 100°C
- Chemical resistance – Oils, water, most solvents
- Fire resistance – Class 'O' Building Regulations B2/3/4 Appendix A
- Thermal Conductivity to BS 4745 1990

WIL-LAG Prime-M Grade	5/25	5/50	10/25	10/50
W/m ² K	0.034	0.033	0.034	0.033

Physical Information

DIMENSIONS

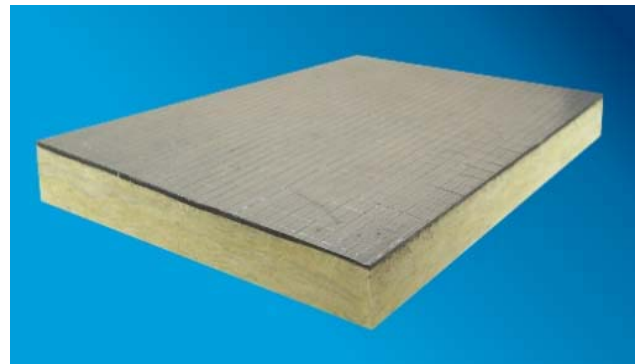
Standard sheet size: 2m x 1.2m

Other sizes are available upon request.

GRADES

Wilhams WIL-LAG Prime-M is available in four grades to suit different performance requirements:

Grade	Barrier Mass (kg/m ²)	Thickness (mm)
5/25	5	29
5/50	5	50
10/25	10	32
10/50	10	52



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

Material \ Frequency	63	125	250	500	1k	2k	4k
Prime-M 5/25	3	8	11	22	28	34	33
Prime-M 5/50	5	10	12	23	31	36	39
Prime-M 10/25	6	10	18	29	36	41	41
Prime-M 10/50	7	12	19	31	40	42	45

The acoustic performance of Wilhams WIL-LAG Prime-M can be enhanced by applying on top of a layer of glass fibre slab up to 300mm thick.

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

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Acoustic Performance

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

Tested and Rated according to:

BS EN ISO 717-1:1997

BS EN ISO 140-3:1995

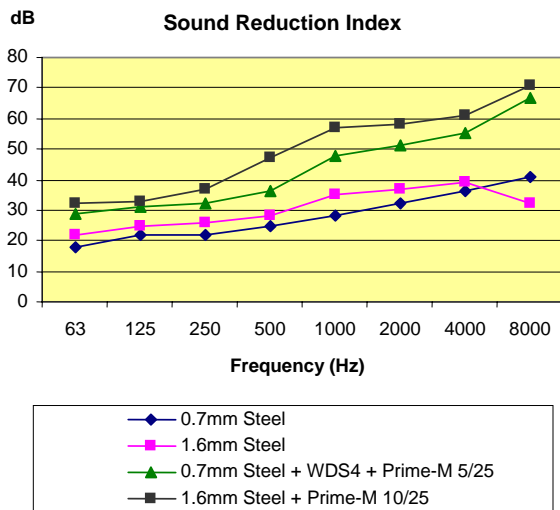
BS EN ISO 2750:Part3:1995

Sound Reduction Index (tabulated)

WIL-LAG Prime-M only without any supporting materials

Material \ Frequency	63	125	250	500	1k	2k	4k	8k
Prime-M 5/25	21	22	23	23	33	46	49	44
Prime-M 5/50	22	24	24	28	36	47	52	47
Prime-M 10/25	24	24	29	33	39	47	58	51
Prime-M 10/50	25	25	31	37	41	50	58	56

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



Installation Guidelines

The method required in the fitting of WIL-LAG Prime-M 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 Prime-M 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 Prime-M 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 Prime-M in the form of contact adhesive and/or proprietary hangers, particularly on

the underside where the WIL-LAG Prime-M 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 Prime-M will be compressed at the corners, thus affecting performance.

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