

Advantages

- Excellent thermal and acoustic insulation
- Fire and temperature resistant
- Chemically inert
- Cost effective and easy to install
- Vermin and rot proof
- CFC and HFC free
- Environmentally friendly

Applications

Wilhams MF mineral bonded slabs are ideal for a wide range of building and industrial applications. A highly versatile material with an extensive listing of applications such as acoustic ceilings, partition panels, walls, floors, roofs, ductwork and industrial enclosures. Also, thermal insulation for boilers, heat exchangers, plant, tanks and pipes. Wilhams MF mineral bonded slabs can be flat or curved to suit requirements.

Description

Wilhams MF mineral bonded slabs are manufactured from long stranded mineral fibres that are thermo-set with resin into slabs.

Facing and Coverings

Wilhams MF mineral bonded slabs are available in a wide range of coverings and facings; a brief selection of coverings and facings available include:

- Class 'O' foil facing.
- Glass tissue scrim 60 gms/m² (black and white).
- Glass cloth 200 gms/m² (black and white).
- Melinex polyester film.
- Ceramic paper.

Laminates

Wilhams MF mineral bonded slabs are also available laminated with mass barrier materials for acoustic insulation applications. Laminates include:

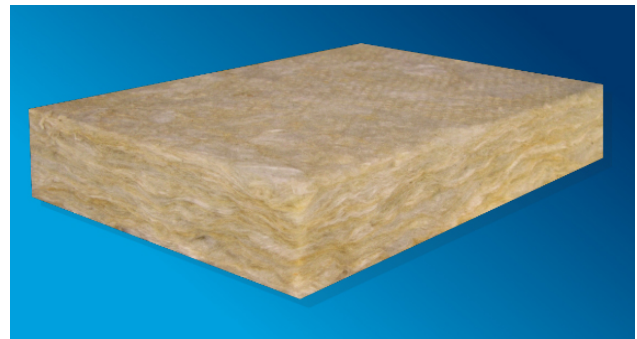
Polymeric mass barrier – 5, 7.5 and 10 kg/m²
Lead sheeting – 5, 10 and 15kg/m²

Physical Information

Dimensions

Standard slab sizes are: 1200 x 600mm.
Standard slab thicknesses are: 25, 30, 40, 50, 60, 75 and 100mm.
Standard slab densities are: 33, 45, 60, 80, 100, 128, 140, 160 and 200 kg/m³.

Notes: Minimum density for 25mm thick is 45kg/m³.
Maximum thickness for 160kg/m³ is 50mm.
Maximum thickness for 200kg/m³ is 60mm.
Non standard slab sizes and thickness are available upon request.



Technical Information

Wilhams MF mineral bonded slabs conform to the following specifications:

- BS 476 Part 4 – Non combustible (plain)
- BS 476 Parts 6 & 7 – Class 'O' (faced)

Resistance to compression (BS EN 826:1996)

	Density kg/m ³					
	33	60	80	100	140	200
Stress to give 10% compression (kN/m ²)	2.0	6.7	12.9	16.4	28.2	68.2
Stress to reach elastic limit (kN/m ²)	2.3	6.1	9.2	11.3	26.1	49.9
Displacement at 5kN/m ² stress (%)	38.6	7.8	3.4	2.7	1.7	0.7

Thermal Conductivity (W/mK)

(BS 874:1973 Cold face 40°C)

Mean Temp. °C	Density kg/m ³					
	33	60	80	100	140	200
10*	0.035	0.033	0.033	0.033	0.033	0.034
50	0.043	0.039	0.038	0.037	0.037	0.034
100	0.055	0.047	0.045	0.044	0.044	0.043
150	0.070	0.058	0.055	0.054	0.051	0.050
200		0.070	0.066	0.064	0.060	0.059
250			0.079	0.075	0.070	0.068
300				0.088	0.081	0.079
350				0.104	0.093	0.089
400				0.122	0.106	0.100

* measured with a cold face temperature of 0°C

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Maximum Service Temperatures

Wilhams MF mineral bonded slabs can be used up to a maximum temperature of 850°C, but this can vary depending on the composition of the slab / product. The phenolic resin used to bond the slabs is resistant to temperatures up to 230°C, and above this some resin will be lost to the hot surface causing discolouration.

Density kg/m ³	Service Temp. °C	Slab
33	175	Flexible
60	425	Semi rigid
100	525	Rigid
140	675	Rigid

Acoustic Performance

Wilhams MF mineral bonded slabs provide excellent sound reduction characteristics by both impeding the transmission of sound and by absorption of the sound at the surface.

Noise absorption is expressed as a factor between 0 and 1.0, the more sound that a surface absorbs the higher the coefficient. The composition of the MF mineral bonded fibres makes them ideal for use as sound absorbers due to the high coefficients over a wide range of frequencies.

Absorption coefficients

Slab Density (kg/m ³)	Thickness (mm)	Frequency (Hz)					
		125	250	500	1000	2000	4000
33	40	0.10	0.45	0.82	1.00	1.00	0.82
33	50	0.10	0.60	0.90	1.00	1.00	0.88
33	60	0.22	0.75	1.00	1.00	1.00	0.94
33	75	0.24	0.53	0.89	0.94	0.96	0.83
33	100	0.39	1.00	1.00	1.00	1.00	1.00
45	25	0.05	0.25	0.55	0.75	0.90	0.81
45	40	0.14	0.40	0.87	1.00	1.00	0.82
45	50	0.25	0.65	1.05	1.10	1.05	0.96
45	75	0.50	1.05	1.20	1.15	1.10	1.13
45	100	0.80	1.15	1.20	1.15	1.15	1.16
60	25	0.10	0.20	0.65	0.85	1.00	0.68
60	40	0.13	0.49	0.95	1.00	1.00	0.86
60	50	0.25	0.65	1.05	1.10	1.10	0.98
60	75	0.55	1.10	1.20	1.15	1.15	1.15
80	25	0.06	0.25	0.55	0.88	1.00	0.67
80	40	0.11	0.61	1.00	1.00	1.00	0.90
80	50	0.16	0.72	1.00	1.00	1.00	0.93
80	60	0.25	0.90	1.00	1.00	1.00	0.98
80	75	0.39	1.00	1.00	1.00	1.00	1.00
80	100	0.89	1.00	1.00	1.00	1.00	1.00
100	25	0.05	0.30	0.76	0.95	1.05	0.75
100	40	0.12	0.44	0.88	1.00	1.00	0.95
100	50	0.35	0.85	1.10	1.10	1.15	1.05
100	75	0.44	1.00	1.00	1.00	1.00	1.00
128	50	0.40	0.90	1.00	1.00	1.00	1.00
140	50	0.40	0.90	1.15	1.05	1.10	1.05
200	50	0.40	0.50	0.70	0.70	0.70	0.65

Typical installations

Wilhams MF mineral bonded slab is a particularly versatile product that has a wide range of applications. For individual fixing instructions please contact our technical department.

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