

Masterblock Masterlite® Pro Acoustic



A cost effective concrete building block, close textured Paintgrade unit developed specifically for use in schools to meet the acoustic requirement of BB93.

- Excellent sound reduction block to meet the acoustic requirements of BB93
- Masterlite Pro Acoustic has low air permeability ensuring good sound reduction values, as well as thermal performance
- Reaction to fire is best in class (A1) complying with BB100 for a minimum 2 hours fire resistance
- Complying with BB98 for robust and heavy duty
- Fully documented and technical service for complete peace of mind
- Consistent close textured face makes Masterlite Pro Acoustic ideal for direct decoration (note only one face and one end guaranteed)
- Good background for heavy duty fixings
- Masterlite Pro Acoustic is moisture tolerant
- Available in solid format in both 100mm and 140mm width with a standard strength 7.3 N/mm² and 10.4 N/mm².

Performance

Dimensional tolerances

Category D1

Mean unit strength:

Solid 7.3 and 10.4 N/mm²

Net dry density:

All strengths 1450 kg/m³

Thermal conductivity (W/mK):

All strengths Internal 0.57
External 0.61

Based on tabulated values from BS EN 1745

Water vapour diffusion coefficient:

All strengths 5/15

Based on tabulated values from BS EN 1745

Moisture movement:

All strengths <0.8mm/m

Reaction to Fire:

Classification to EN 13501-1 A1

Durability:

Based on tabulated values in accordance with Table 15, PD 6697:2010 Frost resistant

Bond strengths:

Based on tabulated values from BS EN 998-2 Annex C 0.15 N/mm²

Masterlite Pro Acoustic

Size (mm)

Thickness (mm)	100	140
Density (kg/m ³)	1450	1450
Weight (kg)	14.1	19.8
Units/m ² (approx)	9.88	9.88
Colour available	Natural	Natural
Finish	Paintgrade	Paintgrade

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Table 1 - Thermal resistance

Width (mm)	Density	Thermal resistance (m ² K/W)	
		3%	5%
100	Solid	0.175	0.164
140	Solid	0.246	0.230

Table 2 - Unit weights

Width (mm)	Form	Unit weight* (kg)	Built weight (kg/m ²)
100	Solid	14.1	151
140	Solid	19.8	212

*based upon 3% moisture content by weight

Table 3 - Fire resistance (hours)

Width	Form	Load bearing	
		Load bearing	Non load bearing
100	Solid	2	2
140	Solid	2	3

*Above values assume worst case, class 2 aggregate, single leaf, no finishes (based upon BS5628 – 3).

Table 4 - Sound insulation*

Width	Form	Rw dB	
		Fairfaced	Painted
100	Solid	39	45
140	Solid	41	50

Table 5 - Air permeability

Width	Form	M ³ /h/m ² @ 50Pa	
		Fairfaced	Painted
100	Solid	1.47	< 0.36
140	Solid	6.58	1.42

Table 5 - Characteristic strength f_k factors (N/mm²)

Width	Form	Compressive strength of units (N/mm ²)	
		7.30	10.50
100	Solid	6.40	8.20
140	Solid	5.34	6.84

Based upon BS 5628 pt 1, M4/Type III mortar

Applications

Designed specifically for use in schools the Masterlite Pro Acoustic is also suitable for use in retail, commercial, hospitals and student accommodation.

Suitable for use above and below dpc both internally and externally.

- **100mm Masterlite Pro Acoustic** suitable for corridor and partition walls between class rooms requiring a Rw 45dB rating and also for the inner leaf of a external cavity wall.
- **140mm Masterlite Pro Acoustic** suitable for corridor and partition walls between class rooms requiring a Rw 50 dB rating.

Manufacturing standards

The Masterlite Pro Acoustic range is manufactured using a semi-dry process and is compliant to European Standard BS 771-3 and complies with Assessment and Verification of Constancy of Performance (AVCP) level 4, Category II masonry unit.

All Aggregate Industries' products are manufactured in accordance with ISO 9001 with factory compliance to ISO 14001.

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Sustainability and local sourcing

Energy use: Aggregate Industries is at the forefront of sustainability and has committed to reduce carbon emissions by 20% by 2016 based on a 2012 base line.

Recyclable: 100% of the product can be recycled thus reducing the amount of material that is sent to landfill.

Manufacturing location: produced in the UK, with locally sourced materials under strict environmental and social legislation, for local supply.

Responsible sourcing: Aggregate Industries is the first company in the world to achieve a BES 6001:2008 Responsible Sourcing Certificate from BRE Global. Products are assessed on:

- quality management
- environmental management
- health and safety management
- greenhouse gas emissions
- minimising raw material usage
- labour practice
- biodiversity
- community engagement.

Key aggregate and recycled content

Locally sourced aggregates.

Generic green guide rating*

140mm partition wall constructed with Masterlite Pro Acoustic, painted both sides, specifically for school use A+.

100mm partition wall painted A.

Policies

Aggregate Industries' policies on the environment and community, health and safety and sustainable solutions for different product applications can be viewed on our website www.aggregate.com

Installation standard

Plastering/rendering: Masterlite Pro Acoustic blocks are primarily intended for painting, however where they are to be plastered / rendered, they provide a moderate to low suction background and require the joints to be raked back and a spatter dash coat applied prior to rendering. When plastering, either carlite bonding or hardwall plaster or similar should be used.

Health and safety: Manual handling legislation and guidance given in construction sheet number 37, for repetitive manual handling, recommends units below 20kg should be considered. Masterlite Pro Acoustic blocks are all below the 20kg weight limit for repetitive laying.

Maintenance and cleaning

Aggregate Industries can supply on request advice on general maintenance.

COSHH data

Full COSHH data on the Masterblock range of products is available on request. Please call the technical helpline on 01285 646800.

Technical support

Detailed guidance and assistance with the preparation of specification and use of the Masterblock range of products is available through the sales office. A free technical design service is also available.

For further information, please refer to our technical services on 01285 646800.

* Ratings based upon the generic green guide values (2009) for school partitions, supplied by BRE Global Ltd. www.thegreenguide.co.uk

Carnforth, Lancashire Tel: 01524 736636 Fax: 01524 736635
North End, Wiltshire Tel: 01285 646900 Fax: 01285 646949
Melbur, Cornwall Tel: 01726 862222 Fax: 01726 862229

www.aggregate.com



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