

## Masterdenz product information



A range of high strength, robust, load bearing units for use in either internal or external walls in a variety of sizes, strengths and finishes offering total flexibility.

- Available in solid and hollow format for ultimate versatility with a standard strength of 7.3N/mm<sup>2</sup>
- High strength blocks up to 22.5 N/mm<sup>2</sup> are available subject to order to your specification
- Masterdenz blocks are available in standard, paintgrade finishes for various applications
- Quality assured manufacture
- For use internally and externally both above and below dpc

### Applications

Suitable for use above and below dpc, both internally and externally. Masterdenz blocks are also available for beam and block floors (100mm solid) and robust details E-WM-1, 3, 9\*, 16 and 18.

**Standard** - Suitable for locations where the surface will not be seen, ie plastered or rendered.

**Paintgrade** - Suitable for locations where a consistent close textured face is required, suitable for direct decoration (note only one face and one end guaranteed).

**\*RD block** - For use in robust details ltd wall type E-WM-9 (dense block laid flat).

### Performance

#### Dimensional tolerances

Category D1

#### Mean unit strength:

Solid: 7.3, 10.4, 17.5 and 22.5 N/mm<sup>2</sup>  
Cellular/Hollow: 3.6, 7.3 and 10.4 N/mm<sup>2</sup>

#### Net dry density:

All strengths 1960 kg/m<sup>3</sup>

#### Thermal conductivity (W/mK):

All strengths Internal 1.29  
External 1.38

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 <0.6mm/m

#### Reaction to fire:

Classification to EN 13501-1 A1

#### Durability:

Based on tabulated values from BS 5628-3 table 12 (frost resistant)

#### Bond strengths:

Based on tabulated values from BS EN 998-2 Annex C 0.15N/mm<sup>2</sup>

### Masterdenz

Size mm	440x215	440x215	440x215	440x215	440x215	290x215	440x215	440x215	440x215
Thickness (mm)	75	100	100 Cell	140	140 M/Cell	140	190	215	215 Holl
Density	1960	1960	1960	1960	1960	1960	1960	1960	1960
Weight	14.1	18.8	14.9	26.4	19.2	17.4	35.8	40.5	25.1
Units/m <sup>2</sup>	9.88	9.88	9.88	9.88	9.88	14.8	9.88	9.88	9.88
No per pack	88/96	72	72	48	48	72	40	32	32/40
M <sup>2</sup> /pack	8.8/9.6	7.2	7.2	4.8	4.8	4.86	4.0	3.2	3.2/4.0
Pack weight (T)	1.35	1.35	1.07	1.27	0.92	1.25	1.43	1.30	1.00
Colour	Natural	Natural	Natural	Natural	Natural	Natural	Natural	Natural	Natural
Finish	Std and P/G	Std and P/G	Std and P/G	Std and P/G	Std and P/G	Std and P/G	Std and P/G	Std and P/G	Std and P/G

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**Table 1 - Thermal resistance**

Width (mm)	Density	Thermal resistance (m <sup>2</sup> K/W)	
		3%	5%
75	Solid	0.058	0.054
100	Solid	0.078	0.072
100	Cellular	0.113	0.107
140	Solid	0.109	0.101
140	Multi cellular	0.164	0.156
Midi	Solid	0.109	0.101
190	Solid	0.147	0.138
215	Solid	0.167	0.156
215	Hollow	0.204	0.164

**Table 2 - Unit weights**

Width (mm)	Form	Unit weight* (kg)	Built weight (kg/m <sup>2</sup> )	
			3%	5%
75	Solid	14.11	148	
100	Solid	18.83	198	
100	Cellular	14.87	154	
140	Solid	26.35	277	
140	Multi cellular	19.20	206	
Midi	Solid	17.37	277	
190	Solid	35.77	376	
215	Solid	40.47	425	
215	Hollow	25.09	273	

Based upon 3% moisture content by volume.

**Table 3 - Fire resistance (hours)**

Width	Form	Fire resistance (hours)	
		Load bearing	Non load bearing
75	Solid	N/A	1
100	Solid	2	2
100	Cellular	N/A	0.5
140	Solid	2	3
140	Multi cellular	N/A	3
Midi	Solid	2	3
190	Solid	2	4
215	Solid	2	6
215	Hollow	N/A	6

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

**Table 4 - Sound insulation\***

Width	Form	Rw dB
75	Solid	41
100	Solid	43
100	Cellular	42
140	Solid	45
140	Multi cellular	44
Midi	Solid	45
190	Solid	47
215	Solid	48
215	Hollow	45

\*Based upon mass law calculation assuming plastered or painted both sides.

**Table 5 - Characteristic strength  $f_k$  factors (N/mm<sup>2</sup>)**

Width	Form	Compressive strength of units			
		7.30	10.50	17.50	22.50
75	Solid	6.40	8.20	10.10	12.00
100	Solid	6.40	8.20	10.10	12.00
100	Cellular	6.10	7.10	N/A	N/A
140	Solid	5.34	6.84	8.44	10.01
140	Multi cellular	5.14	6.10	N/A	N/A
Midi	Solid	5.34	6.84	8.44	10.01
190	Solid	4.41	5.66	7.00	8.28
215	Solid	4.11	5.27	6.53	7.71
215	Hollow	4.03	4.96	N/A	N/A

Values based upon BS5628 - 1, assuming M4/type III mortar.

# Masterdenz product information

## Manufacturing standards

The Masterdenz range is manufactured using a semi-dry process and is compliant to European Standard BS 771-3 and complies with Category 1 masonry units.

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

## Sustainability and local sourcing

**Energy use:** Aggregate Industries is at the forefront of sustainability and has committed to reduce carbon emissions by 20% by 2012 based on a 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 practise
- biodiversity
- community engagement.

## Generic Green Guide rating

Outer leaf	Inner leaf	Finish and relevant green guide rating	
		Plaster and paint	Plasterboard and paint
Brick	Masterdenz dense	A+	A+
Render on Masterdenz dense block	Medium dense EnviroBlock	A+	A+
Render on medium dense EnviroBlock	Masterdenz dense	A+	A+

Ratings based upon generic green guide values (2009) supplied by BRE Global Ltd, [www.thegreenguide.co.uk](http://www.thegreenguide.co.uk)

## Key aggregates and recycled content

Locally sourced aggregates.

## 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](http://www.aggregate.com)

## Installation standard

**Plastering/Rendering:** Masterdenz blocks 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 recommend units below 20kg should be considered. Masterblock produces a 140mm thick midi unit (290mm long), which are below 20kg.

## Maintenance and cleaning

Masterblock can supply on request advice on general maintenance.

## COSHH data

Full COSHH data on Masterblock 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 Masterblock products is available through the sales office. A free technical design service is also available.

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

Carnforth, Lancashire Tel: 01524 736636 Fax: 01524 736635  
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[www.masterblock.co.uk](http://www.masterblock.co.uk)

  
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