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# Ronez Concrete Products



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# Introducing Ronez



## Ronez Concrete Products

**Ronez is the leading supplier of concrete blocks to Guernsey's construction industry. From our quarry on the Island's North-West coast, drystone aggregate is processed and distributed to additional facilities at Monmains Yard near St Sampsons Harbour.**

**From these two locations our knowledgeable and friendly staff co-ordinate the production and delivery of materials throughout the Islands of Guernsey, Herm, Sark and Alderney. These services are complemented by our contracting department, which provides a range of road maintenance and high quality paving options to the public and private sectors.**

The Ronez Concrete Block range is manufactured in a wide choice of sizes, strengths and finishes offering total

flexibility. A range of thermal blocks completes the product types, which are available.

Ronez Concrete Blocks are extremely cost-effective – a major saving is achieved compared with brickwork, and top quality aggregates from our own quarries ensure that full specification requirements are met. The combination of committed local staff and extensive resources offered by our parent group, Aggregate Industries plc, ensures Ronez provides an unrivalled service focused on the evolving requirements of our customers.

### Dense Block Range

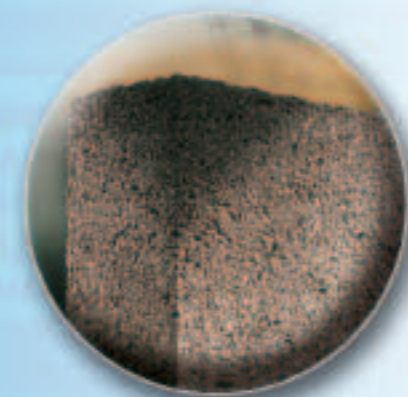
Dense blocks are high density general purpose, loadbearing blocks, widely used for a variety of applications in the public and private sectors and civil engineering markets.

### Lightweight Block Range

The Lightweight range covers most build applications whether it is party wall, cavity wall, block and beam or dpc construction.

### Paint Grade Finish

Paint Grade concrete blocks are available in Dense and Lightweight format and are suitable for direct decoration. The face texture is closer than our general-purpose dense blocks and is manufactured to give a consistent quality finish requiring minimal maintenance.



Dense Aggregate



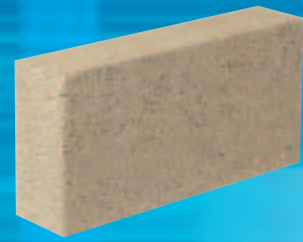
Lightweight



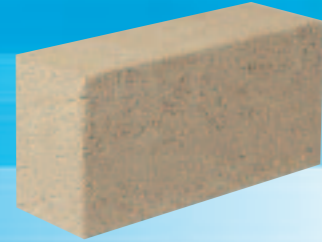
Paint Grade

# Dense Range

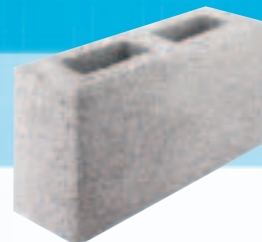
## Ronez Standard Dense Block



Solid Block (100mm)



Solid Block (140mm)



Cellular Block (140mm)

### Description

Ronez dense blocks are a high-density general purpose, loadbearing block widely used for a variety of applications in the public and private sector and civil engineering products.

### Format, Strength & Sizes

Ronez are available in solid and cellular format with a standard strength of 7.0 N/mm.

Face work size 440 x 215mm  
Widths available 75, 100, 140mm

### Composition & Manufacture

All Ronez building blocks are manufactured from high quality aggregate and cement on modern automated plants. The high level of quality control exercised at all stages of production ensures compliance with BS 6073 Part 1.

### Physical Characteristics Dense Standard Blocks

Co-ordinating size (mm)	440mm x 215mm
Number per square metre as laid	9.88
Average Drying Shrinkage	0.03%
Average Block Dry Density kg/m <sup>3</sup>	1970
Thermal Conductivity @ 3% moisture content W/m°C	1.074
@ 5% moisture content W/m°C	1.180

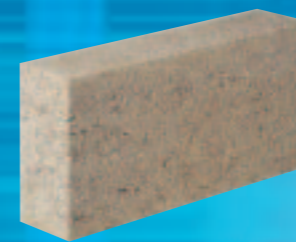
Work Size (mm)	Thickness (mm)	Form	Strengths (N/mm <sup>2</sup> )	Thermal Resistance (m <sup>2</sup> K/W)		Dry Block Weight (kg)	Weight Laid (kg/m <sup>2</sup> )	Sound Reduction (dB)
				3% int	5% ext			
440 x 215	75	Solid	7	0.069	0.063	13.90	150	41
	100	Solid	7,10,21	0.093	0.084	18.50	200	45
	140	Solid	7,10,21	0.130	0.118	25.90	280	46
215 x 100	65	Course Adjuster	7			2.57		
440 x 140	100	Solid	7	^	^	12.20		
	140	Solid	7	^	^	17.00		
250 x 140	300	Trench	7	^	^	21.00		
440 x 215	100	Reveal		^	^			
220 x 215	100	Reveal		^	^			

Work Size (mm)	Thickness (mm)	Form	Strengths (N/mm <sup>2</sup> )	Thermal Resistance (m <sup>2</sup> K/W)		Dry Block Weight (kg)	Weight Laid (kg/m <sup>2</sup> )	Sound Reduction (dB)
				3% int	5% ext			
440 x 215	140	Cellular	7	0.210	0.190	18.80	200	45

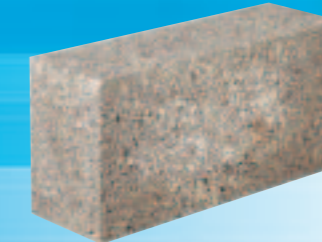
\* Note Ronez high crush Identification 10.5 N/m? Colour Codes Brown 21.0 N/m? Colour Codes Pink

# Lightweight Range

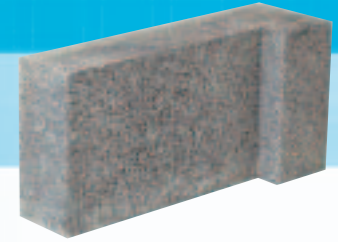
## Lightweight (Medium Dense) 1450 Kg/m<sup>3</sup>



Solid Block (100mm)



Solid Block (140mm)



Reveal Block

This medium dense block is suitable for most build applications whether it be party wall construction, thermal requirement block and beam or use below DPC.

### Format, Strength & Sizes

Lightweight are available in solid format with standard strengths of 3.5 N/mm<sup>2</sup> and 7.0 N/mm<sup>2</sup>.

Face work size 440 x 215mm  
Widths available 100, 140mm

### Composition & Manufacture

The block range is manufactured from lightweight aggregates and expanded clay to provide a low cost economic product. The high level of quality control exercised at all stages of production ensures compliance with BS 6073 Part 1.

### Physical Characteristics Lightweight Blocks

Co-ordinating size (mm)	440mm x 215mm
Average Drying Shrinkage	0.03 - 0.05%
Number per square metre as laid	9.88
Average Block Dry Density kg/m <sup>3</sup>	1450
Thermal Conductivity @ 3% moisture content W/m°C	0.490
@ 5% moisture content W/m°C	0.510

Work Size (mm)	Thickness (mm)	Form	Strengths (N/mm <sup>2</sup> )	Thermal Resistance (m <sup>2</sup> K/W)		Dry Block Weight (kg)	Weight Laid (kg/m <sup>2</sup> )	Sound Reduction (dB)
				3% int	5% ext			
440x215	75	Solid	7	0.127	0.115	9.45	115	41
	100	Solid	7,10	0.200	0.196	13.65	153	42
	140	Solid	7,10	0.288	0.274	19.15	215	45
440x140	100	Solid	7,10					
	140	Solid	7,10					
215x100	65	Course adjuster	7,10	^	^	1.90	^	

\* Note only available at selected sites. Please contact your nearest sales office for more information. Unit weights are approximate figures. Average dry material density 1970 kg/m<sup>3</sup>.

### Authority

Ronez concrete blocks achieved approval to BS EN ISO 4001 Environmental Management System with Lloyd's Register Quality Assurance during 2004.

All Ronez products will be manufactured under the quality procedures of BS EN ISO 9001 2000 within the year 2006.

### Applications

- External walls
- Outer and liner leaves of cavity walls
- Separating walls
- Walls below ground level/dpc
- Use in beam/block flooring

### External Rendering

The use of cement/lime/sand mixes is recommended.

### Internal Plastering

Most dense aggregate blocks provide a moderate to low suction background, therefore Carlite Bonding undercoat plaster or similar should be used.

Sand/cement undercoats may also be used.

### Ordering

Blocks may be ordered by contacting your local sales office.

### Technical Services

Advice on the use of all Ronez products is available from the local sales office No 01481 246941. Further technical information can be obtained via Masterblock technical hotline on 01285 646800.

### Authority

Ronez concrete blocks achieved approval to BS EN ISO 4001 Environmental Management System with Lloyd's Register Quality Assurance during 2004.

All Ronez products will be manufactured under the quality procedures of BS EN ISO 9001 2000 within the year 2006.

### Applications

- External leaf construction, with rendered finish
- Internal leaf
- Internal partition walls
- Walls below ground level/dpc (only 7.0N/mm<sup>2</sup> can be employed)
- Use in beam/block flooring.

### Plastering/Rendering

Lightweight has an open texture finish and is ideal for plastering/rendering. No bonding coat is required. Lightweight is also available in Paint Grade finish.

### Ordering

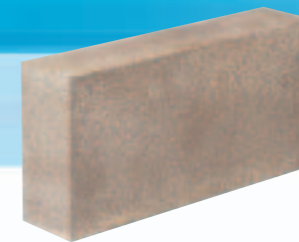
Blocks may be ordered by contacting your local sales office.

### Technical Services

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# Paint Grade Blocks

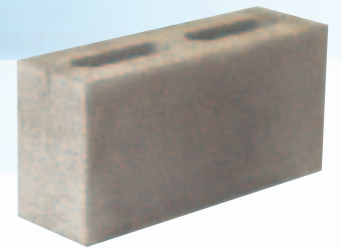
Standard Dense Paint Grade 1970kg/m<sup>3</sup>  
Standard Lightweight Paint Grade 1450kg/m<sup>3</sup>



Solid Block (100mm)



Solid Block (140mm)



Cellular Block (140mm)

## Description

Paint Grade concrete blocks are available in Dense and Lightweight format and suitable for direct decoration. Face texture is closer than our general-purpose dense blocks and manufactured to give a consistent quality finish requiring minimal maintenance.

Paint Grade are widely used in large commercial and industrial applications including:

- Universities and Schools
- Hospitals
- Leisure Centres.

The use of Lightweight blocks should always be a consideration where compliance with manual handling regulations is of importance.

## Format, Strength & Sizes

Paint Grade is available in solid, and cellular format with a standard strength of 7.0 N/mm<sup>2</sup>. Higher strength blocks to 21.0 N/mm<sup>2</sup> are manufactured subject to availability.

Face work size 440 x 215mm  
290 x 215mm

Widths available 100, 140mm

## Composition & Manufacture

Paint Grade building blocks are manufactured from high quality aggregate and cement on modern automated plants.

The high level of quality control exercised at all stages of production ensures compliance with BS 6073.

## Authority

Ronez concrete blocks achieved approval to BS EN ISO 4001 Environmental Management System with Lloyd's Register Quality Assurance during 2004.

All Ronez products will be manufactured under the quality procedures of BS EN ISO 9001 within the year 2006.

## Applications

- External leaf construction, with rendered finish
- Internal leaf
- Internal partition walls
- Walls below ground level/dpc (Dense only).

## Plastering/Rendering

Paint Grade has a finer finish than standard concrete blocks and is ideally suited for direct decoration by paints or tiling. External rendering – the use of cement/lime/sand mixes are recommended. Scratch coats are sometimes required. Internal plastering – Carlite Browning is recommended.

## Ordering

Blocks may be ordered by contacting your local Sales Office.

## Technical Services

**Advice on the use of all Ronez products is available from the local sales office No 01481 246941. Further technical information can be obtained via Masterblock technical hotline on 01285 646800.**

## Physical Characteristics Paint Grade

	Dense	Lightweight
Co-ordinating size (mm)	440mm x 215mm	
Number per square metre as laid	9.88	
Average Drying Shrinkage	0.03%	0.05%
Average Block Dry Density kg/m <sup>3</sup>	1970 kg/m <sup>3</sup>	1450 kg/m <sup>3</sup>
Thermal Conductivity @ 3% moisture content W/m°C	1.06	0.59
@ 5% moisture content W/m°C	1.16	0.61

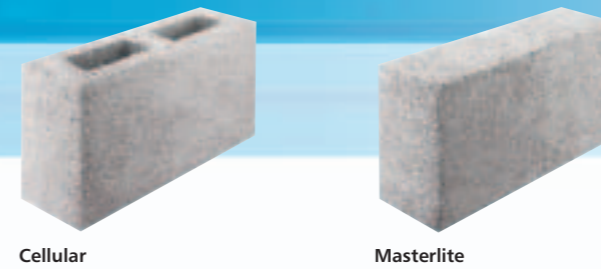
Work Size (mm)	Thickness (mm)	Form	Strengths (N/mm <sup>2</sup> )	Thermal Resistance (m <sup>2</sup> K/W)		Dry Block Weight (kg)	Weight Laid (kg/m <sup>2</sup> )
				3% int	5% ext		
<b>Dense Paint Grade</b>							
440 x 215	* 75	Solid	7	0.076	0.069	13.70	146
	100	Solid	7,10	0.101	0.092	18.40	197
	140	Solid	3.5,7,10	0.141	0.128	25.90	276
290 x 215	140*	Solid	7,10	0.130	0.118	17.20	276
	140*	Cellular	3.5,7	0.210	0.190	19.90	219

Work Size (mm)	Thickness (mm)	Form	Strengths (N/mm <sup>2</sup> )	Thermal Resistance (m <sup>2</sup> K/W)		Dry Block Weight (kg)	Weight Laid (kg/m <sup>2</sup> )
				3% int	5% ext		
<b>Lightweight Paint Grade</b>							
440 x 215	100*	Solid	3.5, 7	0.200	0.196	13.90	153
	140*	Solid	3.5, 7	0.274	0.245	19.50	215

\* Note only available at selected sites. Please contact your nearest sales office for more information.  
Unit weights are approximate figures. Average dry material density: Dense 1960 kg/m<sup>3</sup>, Lightweight 1450 kg/m<sup>3</sup>



# Solutions to Manual Handling



Risk assessments have been an important consideration in construction planning for several years. Two regulations in particular have resulted in the need for every designer and contractor to utilise products that satisfy specific requirements. The Manual Handling Operations Regulations (1992) places duties on employers to conduct a risk assessment on all manual handling tasks, whilst The Construction (Design and Management) Regulations (1994) places mandatory Health & Safety duties upon clients, designers and contractors. The Health & Safety Executive (HSE) has produced Construction Sheet No. 37 to provide the industry with relevant guidelines to comply with these regulations. The Masterblock range of building blocks offers a wide variety of solutions to fully satisfy these Manual Handling requirements.

The Ronez range is available in both Standard and Paint Grade finishes and is manufactured to standard compressive strength of 7.0N/mm<sup>2</sup> with 10.0N/mm<sup>2</sup> available to order.

## Cellular

Cellular is a dense masonry product with a face size of 440 x 215 x 140mm. It provides the user.

With comparable performance to solid blocks, and gives significant lower weight advantages.

The Cellular product comprises of two large voids, and can be laid on a full bed of mortar. It can be used for the majority of walling applications including partitions in framed structures, partition and separating walls.

Cellular is an easy to lay product, providing an economical alternative to a heavier block in excess of 20kg.

## Lightweight

Lightweight is a Solid Medium Density product, produced with lightweight aggregates and a face size of 440 x 215 x

140mm designed to give greater thermal properties.

Traditionally considered for compliance with Manual Handling Regulations, lightweight is suitable for most walling applications above and below DPC\*. It is an ideal choice for internal walls – and provides a suitable surface for receiving plaster and render.

Lightweight is particularly effective when used as a flooring product.

## Thermal Solutions

Part L of the building regulations – conservation of fuel and power was amended in April 2002.

The following data gives an introduction to these changes as well as calculation criteria and methods of compliance using Masterblock products.

The method used in BS EN ISO 6946 for calculating U values should be adopted for walls and the thermal bridging effect of timber joists. Framing as well as normal mortar should be taken into account, however thermal bridging can be ignored where the difference in thermal resistance between the bridging material and the bridged material is less than 0.1 m<sup>2</sup>/K/W.

BS EN ISO 6946 utilises the 'Combined Method' of determining U values of walls and takes into account the effect of wall ties and air gaps around insulation.

Contact the Masterblock technical hotline on 01285 646800 for tailored 'U' value calculations.

## Terminology

Part L - This is the part of the Building Regulations concerned with the conservation of fuel and power in buildings for England & Wales.

Part L1 - This is concerned with buildings used as dwellings.

Part L2 - This is concerned with buildings other than dwellings.

Part J - This is the part of the Building

Regulations concerned with the conservation of fuel and power in buildings for Scotland – this was implemented 1st March 2002.

U-value - The measurement of thermal transmittance of a building element (eg. Roof, wall, floor, etc.) ie. How much heat will pass through one square metre of a structure when the air temperatures on either side differ by one degree.

Lambda - The measurement for thermal conductivity of a material. It measures the rate at which a material will pass heat, it is expressed in W/mk.

Unit of Measure of U-value – W/m<sup>2</sup>/k (watts per square metre Kelvin)

Kelvin - unit of temperature

SEDBUK - Seasonal Efficiency of Domestic Boilers in the UK.

Circuit-watts - The power consumed in lighting circuits by lamps and their associated control gear and power factor correction equipment.

SAP - Standard Assessment Procedure

FENSA - Fenestration Self Assessment Scheme

## Calculation Methods for L1 Compliance - Dwelling Elemental Method

This is the most straightforward way of complying with the regulations. In order to comply, construction elements should have U-values no greater than those shown in Tables 1 & 2 and Diagram 1.

Table 1 - Summary of U-values for Elemental Method for Dwellings – Part L (England & Wales)

Element	Part L1* England & Wales U-value (Effective 1st April 02)	Part L2 England & Wales U-value (Effective 1st April 02)
Walls	0.35	0.35
Floors	0.25	0.25
Pitched Roof with integral insulation	0.25	0.25
Pitched Roof insulation between joists	0.16	0.16
Pitched Roof insulation between rafters†	0.20	0.20
Flat Roof	0.25	0.25
Windows	2.2 (metal frames) 2.2 (wood/pvc frames)	2.2 (metal frames) 2.2 (wood/pvc frames)
Roof lights	N/A	N/A
Vehicle access and similar large doors	N/A	0.7

† When refurbishing from a standard pitched roof to room in the roof U-value requirement is 0.30.

\* L1 Elemental Method for Dwellings can only be used with gas or oil central heating with the following:

Table 2 SEDBUK Rating (Seasonal Efficiency of Domestic Boilers in the United Kingdom)

Heating System	SEDBUK Efficiency (Min)
Mains Natural Gas	78%
LPG	80%
Oil	85%

The building solutions that are detailed within this Guide meet the required U-values for each element. Windows, doors and roof lights have their combined values averaged out and this figure should not

exceed the limits given. The total areas of these should not exceed 25% of the total floor area. If the elemental method is adopted the minimum SEDBUK value for a boiler must also be achieved.

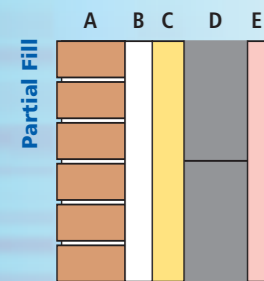


# Solutions to meet U-value-0.35W/m<sup>2</sup>K

## Part L England and Wales

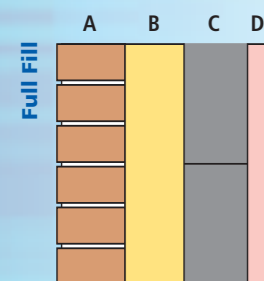


### Ronez 100mm Dense Aggregate Block (Dry Density 1960kg/m<sup>3</sup>)



Finish	Kingspan	
	Width	U W/m <sup>2</sup> K
Dense Plaster	45	0.35
Lt. Wt. Plaster	45	0.35
Dry Lining 9.5mm	45	0.34

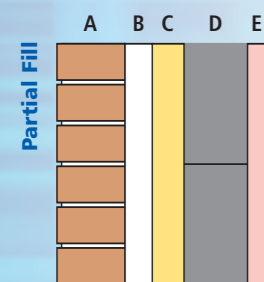
A 103mm Brickwork  
B Cavity  
C Foil Board  
D 100mm Dense  
E Internal Finish



Finish	Rockwool	
	Width	U W/m <sup>2</sup> K
Dense Plaster	90	0.34
Lt. Wt. Plaster	90	0.34
Dry Lining 9.5mm	90	0.33

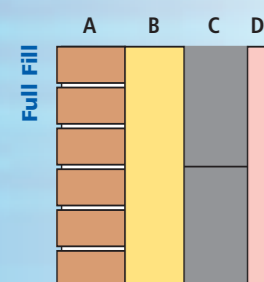
A 103mm Brickwork  
B Mineralwool Batts  
C 100mm Dense  
D Internal Finish

### Ronez 100mm Lightweight Block (Dry Density 1450kg/m<sup>3</sup>)



Finish	Kingspan	
	Width	U W/m <sup>2</sup> K
Dense Plaster	45	0.34
Lt. Wt. Plaster	45	0.34
Dry Lining 9.5mm	40	0.35

A 103mm Brickwork  
B Cavity  
C Foil Board  
D 100mm Lightweight  
E Internal Finish



Finish	Rockwool	
	Width	U W/m <sup>2</sup> K
Dense Plaster	90	0.33
Lt. Wt. Plaster	90	0.33
Dry Lining 9.5mm	90	0.34

A 103mm Brickwork  
B Mineralwool Batts  
C 100mm Lightweight  
D Internal Finish

