

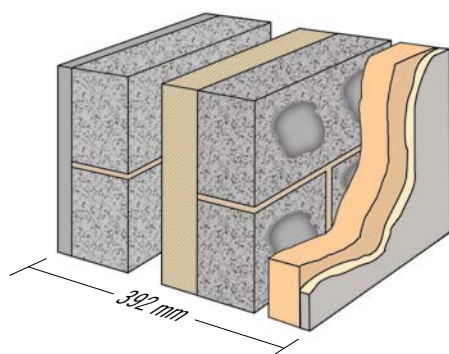
# Dense concrete blocks

## 7.3N/mm<sup>2</sup> to BS EN 771-3

Stowell dense concrete blocks offer the builder a full range of solid concrete blocks with a well-established durability, low drying shrinkage and proven acoustic properties that will fulfil most applications. They are manufactured to BS EN 771-3 using Class 1 limestone aggregates and recycled aggregates.

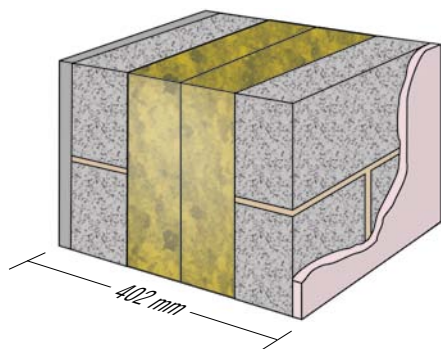
The blocks are available in a standard face size of 440×215mm and in thicknesses of 75mm, 90mm, 100mm, 140mm and 190mm in a standard finish (suitable for rendering). 100mm, 140mm and 190mm wide blocks are available in close texture finish – please see page 1m for photos and further information.

### U-Value 0.18



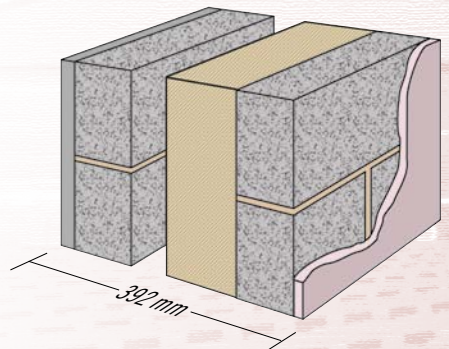
Outside resistance	0.040
19mm sand/cement render ( $\lambda$ 1.00)	0.019
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.43)	0.070
50mm low emissivity cavity	0.640
50mm foil-faced partial fill PIR/PU board ( $\lambda$ 0.022)	2.273
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.33)	0.075
15mm dabs	0.170
45mm phenolic insulation ( $\lambda$ 0.020)	2.250
<i>bonded to...</i>	
13mm plasterboard ( $\lambda$ 0.21)	0.062
Inside resistance	<u>0.130</u>
<b>Sum of resistances</b>	<b><u>5.729 m<sup>2</sup>K/W</u></b>
Uncorrected U-value	0.175 W/m <sup>2</sup> K
Mortar correction	0.000
Air gap correction	0.002
Wall tie correction – Staifix HRT4-225	<u>0.000</u>
<b>U-VALUE</b>	<b><u>0.177 W/m<sup>2</sup>K</u></b>

### U-Value 0.18



Outside resistance	0.040
19mm sand/cement render ( $\lambda$ 1.00)	0.019
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.43)	0.070
170mm high performance mineral wool ( $\lambda$ 0.032)	5.313
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.33)	0.075
13mm dense plaster ( $\lambda$ 0.57)	0.023
Inside resistance	<u>0.130</u>
<b>Sum of resistances</b>	<b><u>5.670 m<sup>2</sup>K/W</u></b>
Uncorrected U-value	0.176 W/m <sup>2</sup> K
Mortar correction	0.000
Air gap correction	0.000
Wall tie correction – Ancon ST1-300	<u>0.004</u>
<b>U-VALUE</b>	<b><u>0.180 W/m<sup>2</sup>K</u></b>

### U-Value 0.18



Outside resistance	0.040
19mm sand/cement render ( $\lambda$ 1.00)	0.019
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.43)	0.070
50mm low emissivity cavity	0.640
110mm foil-faced partial fill PIR/PU board ( $\lambda$ 0.022)	5.000
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.33)	0.075
13mm dense plaster ( $\lambda$ 0.57)	0.023
Inside resistance	<u>0.130</u>
<b>Sum of resistances</b>	<b><u>5.997 m<sup>2</sup>K/W</u></b>
Uncorrected U-value	0.167 W/m <sup>2</sup> K
Mortar correction	0.000
Air gap correction	0.007
Wall tie correction – Ancon ST1-300	<u>0.005</u>
<b>U-VALUE</b>	<b><u>0.179 W/m<sup>2</sup>K</u></b>

7.3N/mm<sup>2</sup> (OVEN-DRY DENSITY approx 2000 kg/m<sup>3</sup>)

Size mm nominal	approx weight kg	no. per tonne	multiples of	no. per pack
440×75×215	14.0	72	60	120
440×90×215	16.5	60	48	96
440×100×215 <sup>†</sup>	18.5	54	44	88
440×140×215 <sup>†</sup>	26•	38	32	64
440×190×215 <sup>†</sup>	35•	28	24	48

<sup>†</sup> Also manufactured in close texture. Please see page 1m for photos and further information.

- Blocks in excess of 20kg – please use with caution after assessing the risks.

THERMAL CONDUCTIVITY:  $\lambda^*$

1.33 W/mK @ 3% m/c (Inside skin)

1.43 W/mK @ 5% m/c (Outside skin)

THERMAL RESISTANCE:

SIZE mm	m <sup>2</sup> K/W at:	m <sup>2</sup> K/W at:
75mm	3% m/c 0.056	5% m/c 0.052
90mm	3% m/c 0.068	5% m/c 0.063
100mm	3% m/c 0.075	5% m/c 0.070
140mm	3% m/c 0.105	5% m/c 0.098
190mm	3% m/c 0.143	5% m/c 0.133

(m/c = moisture content)

WEIGHTED SOUND INSULATION  $R_w$ : \*\*

44 dB (75mm single skin, 202kg/m<sup>2</sup>)

45 dB (90mm single skin, 230kg/m<sup>2</sup>)

45 dB (100mm single skin, 244kg/m<sup>2</sup>)

47 dB (140mm single skin, 325kg/m<sup>2</sup>)

49 dB (190mm single skin, 431kg/m<sup>2</sup>)

FIRE RESISTANCE: \*\*\*

75mm (single skin unplastered)

½ hr @ 60% loading

90mm (single skin unplastered) 1 hr

100mm (single skin unplastered) 2 hrs

140mm (single skin unplastered) 3 hrs

190mm (single skin unplastered) 6 hrs

TRANSVERSE TESTING: 100mm minimum 3.5kN

\* Calculated from oven dry density

\*\* Calculated using mass law curve - BS8233 (with 2 skins of dense plaster each 25kg/m<sup>2</sup>)

\*\*\* Calculated using table 14 BS5628-3 2005 and BSEN 1996-1-2

**STOWELL**  
CONCRETE LIMITED

02/16

www.stowellconcrete.co.uk