

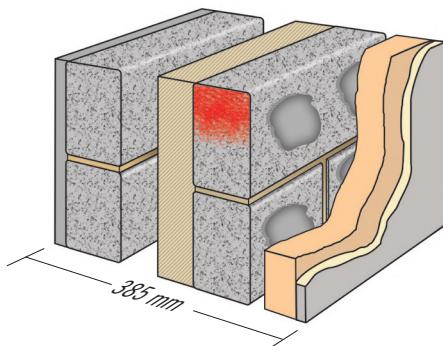
# Dense concrete blocks/bricks 10.4N/mm<sup>2</sup> to BS EN 771-3

1.2

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.

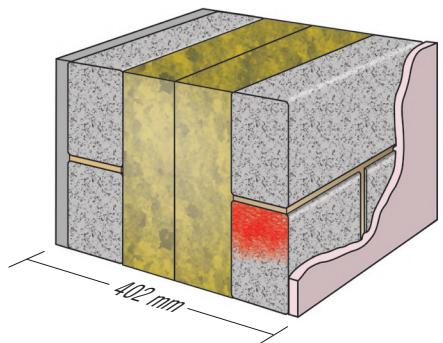
The blocks are available in a standard face size of 440×215mm and in thicknesses of 100mm, 140mm and 190mm in a standard finish (suitable for rendering).

## U-Value 0.18



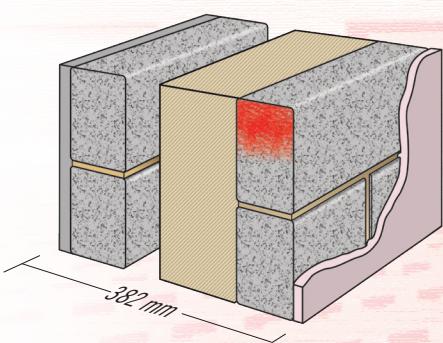
Outside resistance	0.040
19mm sand/cement render ( $\lambda$ 1.00)	0.019
100mm dense 7.3N/mm <sup>2</sup> ( $\lambda$ 1.43)	0.070
50mm low emissivity cavity	0.640
50mm foil-faced partial fill	
PIR/PU board ( $\lambda$ 0.022)	2.273
100mm dense 10.4N/mm <sup>2</sup> ( $\lambda$ 1.39)	0.072
15mm dabs	0.170
37.5mm phenolic insulation ( $\lambda$ 0.018) bonded to...	2.083
13mm plasterboard ( $\lambda$ 0.21)	0.062
Inside resistance	0.130
<b>Sum of resistances</b>	<b>5.559 m<sup>2</sup>K/W</b>
Uncorrected U-value	0.180 W/m <sup>2</sup> K
Mortar correction	0.000
Air gap correction	0.002
Wall tie correction	
– Staifix HRT4-225	0.000
<b>U-VALUE</b>	<b>0.182 W/m<sup>2</sup>K</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 10.4N/mm <sup>2</sup> ( $\lambda$ 1.39)	0.072
13mm dense plaster ( $\lambda$ 0.57)	0.023
Inside resistance	0.130
<b>Sum of resistances</b>	<b>5.667 m<sup>2</sup>K/W</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	0.004
<b>U-VALUE</b>	<b>0.180 W/m<sup>2</sup>K</b>

## U-Value 0.17



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
100mm foil-faced partial fill	
PIR/PU board ( $\lambda$ 0.018)	5.556
100mm dense 10.4N/mm <sup>2</sup> ( $\lambda$ 1.39)	0.072
13mm dense plaster ( $\lambda$ 0.57)	0.023
Inside resistance	0.130
<b>Sum of resistances</b>	<b>6.550 m<sup>2</sup>K/W</b>
Uncorrected U-value	0.153 W/m <sup>2</sup> K
Mortar correction	0.000
Air gap correction	0.007
Wall tie correction	
– Ancon ST1-300	0.005
<b>U-VALUE</b>	<b>0.165 W/m<sup>2</sup>K</b>

10.4N/mm<sup>2</sup> (OVEN-DRY DENSITY approx 2050 kg/m<sup>3</sup>)

Size mm nominal (L x W x H)	approx weight kg	no. per tonne	multiples of	no. per pack
440×100×215†	20	50	44	88
440×140×215†	28•	36	32	64
440×190×215†	38•	26	24	48
<b>Coursing bricks</b>				
215×100×65	2.9	340		512
215×140×65	4.2	240		296

† Also manufactured in close texture.

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

## THERMAL CONDUCTIVITY: $\lambda^*$

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

1.49 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:
100mm	3% m/c 0.072	5% m/c 0.067
140mm	3% m/c 0.101	5% m/c 0.094
190mm	3% m/c 0.137	5% m/c 0.128

(m/c = moisture content)

## WEIGHTED SOUND INSULATION Rw: \*\*

45 dB (100mm single skin, 249kg/m<sup>2</sup>)

47 dB (140mm single skin, 331kg/m<sup>2</sup>)

49 dB (190mm single skin, 439kg/m<sup>2</sup>)

## FIRE RESISTANCE: \*\*\*

100mm	2 hrs
140mm	3 hrs
190mm	6 hrs

\* 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 NA 3.2 BS EN 1996-1-2 : 2005 (unplastered separating load bearing single leaf walls)

**STOWELL**  
CONCRETE LIMITED

Tel: 01934 834000 Fax: 01934 835474

[www.stowellconcrete.co.uk](http://www.stowellconcrete.co.uk)

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