

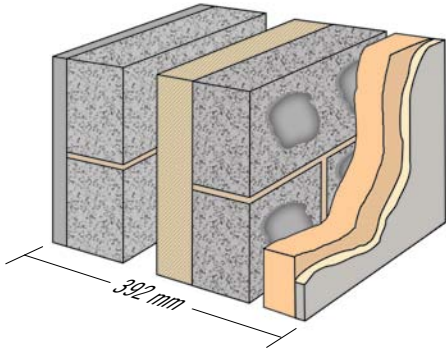
Dense concrete blocks/bricks

10.4N/mm² 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.

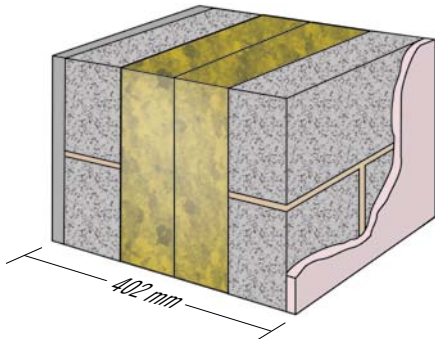
The blocks are available in a standard face size of 440×215mm and in thicknesses of 100mm, 140mm and 190mm in a standard finish (suitable for rendering).

U-Value 0.18



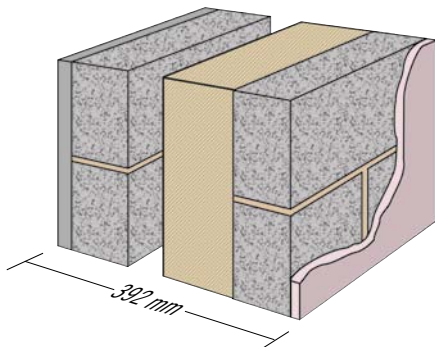
Outside resistance	0.040
19mm sand/cement render (λ 1.00)	0.019
100mm dense 7.3N/mm ² (λ 1.43)	0.070
50mm low emissivity cavity	0.640
50mm foil-faced partial fill PIR/PU board (λ 0.022)	2.273
100mm dense 10.4N/mm ² (λ 1.39)	0.072
15mm dabs	0.170
45mm phenolic insulation (λ 0.020)	2.250
<i>bonded to...</i>	
13mm plasterboard (λ 0.21)	0.062
Inside resistance	<u>0.130</u>
Sum of resistances	5.726 m²K/W
Uncorrected U-value	0.175 W/m ² K
Mortar correction	0.000
Air gap correction	0.002
Wall tie correction – Staifix HRT4-225	<u>0.000</u>
U-VALUE	<u>0.177</u> W/m²K

U-Value 0.18



Outside resistance	0.040
19mm sand/cement render (λ 1.00)	0.019
100mm dense 7.3N/mm ² (λ 1.43)	0.070
170mm high performance mineral wool (λ 0.032)	5.313
100mm dense 10.4N/mm ² (λ 1.39)	0.072
13mm dense plaster (λ 0.57)	0.023
Inside resistance	<u>0.130</u>
Sum of resistances	5.667 m²K/W
Uncorrected U-value	0.176 W/m ² K
Mortar correction	0.000
Air gap correction	0.000
Wall tie correction – Ancon ST1-300	<u>0.004</u>
U-VALUE	<u>0.180</u> W/m²K

U-Value 0.18



Outside resistance	0.040
19mm sand/cement render (λ 1.00)	0.019
100mm dense 7.3N/mm ² (λ 1.43)	0.070
50mm low emissivity cavity	0.640
110mm foil-faced partial fill PIR/PU board (λ 0.022)	5.000
100mm dense 10.4N/mm ² (λ 1.39)	0.072
13mm dense plaster (λ 0.57)	0.023
Inside resistance	<u>0.130</u>
Sum of resistances	5.994 m²K/W
Uncorrected U-value	0.167 W/m ² K
Mortar correction	0.000
Air gap correction	0.007
Wall tie correction – Ancon ST1-300	<u>0.005</u>
U-VALUE	<u>0.179</u> W/m²K

10.4N/mm ² (OVEN-DRY DENSITY approx 2050 kg/m ³)				
Size mm nominal	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
Coursing bricks				
215×100×65	2.9	340	128	512
215×140×65	4.2	240	96	384

[†] Also manufactured in close texture.

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

THERMAL CONDUCTIVITY: λ^*

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

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

THERMAL RESISTANCE:

SIZE mm	m ² K/W at:	m ² 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 R_w: **

45 dB (100mm single skin, 249kg/m²)

47 dB (140mm single skin, 331kg/m²)

49 dB (190mm single skin, 439kg/m²)

FIRE RESISTANCE: ***

100mm (single skin unplastered) 2 hrs

140mm (single skin unplastered) 3 hrs

190mm (single skin unplastered) 6 hrs

* Calculated from oven dry density

** Calculated using mass law curve - BS8233 (with 2 skins of dense plaster each 25kg/m²)

*** Calculated using table 14 BS5628-3 2005

STOWELL

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