

Dense concrete blocks

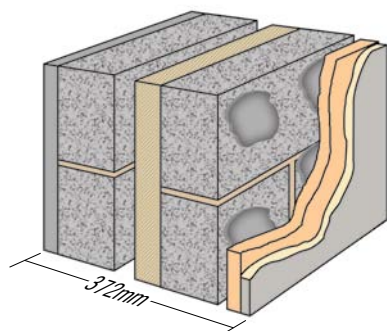
7.3N/mm² → 17.5N/mm² to BS EN 771-3

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 75mm, 90mm, 100mm, 140mm and 190mm in a standard finish (suitable for rendering).

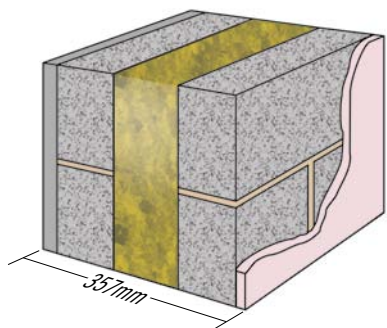
100mm, 140mm and 190mm wide blocks are available in close texture finish - please see our website for photos and further details.

U-Value 0.23



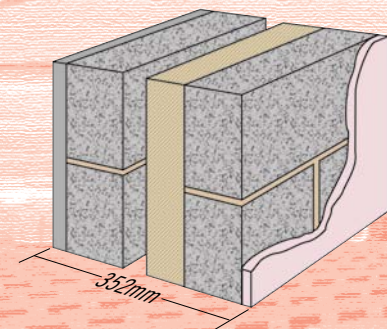
Outside resistance	0.040
19mm sand/cement render (λ 1.00)	0.019
100mm dense 7.3N/mm ² (λ 1.31)	0.076
50mm low emissivity cavity	0.640
50mm foil-faced partial fill PIR/PU board (λ 0.022)	2.273
100mm dense 7.3N/mm ² (λ 1.22)	0.082
15mm dabs	0.170
25mm phenolic insulation (λ 0.022)	1.136
<i>bonded to...</i>	
13mm plasterboard (λ 0.21)	0.062
Inside resistance	0.130
Sum of resistances	4.628m²K/W
Uncorrected U-value	0.216W/m ² K
Mortar correction	0.000
Air gap correction	0.010
Wall tie correction – Staifix HRT4-225	0.001
U-VALUE	0.227 W/m²K

U-Value 0.24



Outside resistance	0.040
19mm sand/cement render (λ 1.00)	0.019
100mm dense 7.3N/mm ² (λ 1.31)	0.076
125mm high performance mineral wool (λ 0.032)	3.906
100mm dense 7.3N/mm ² (λ 1.22)	0.082
13mm dense plaster (λ 0.57)	0.023
Inside resistance	0.130
Sum of resistances	4.276m²K/W
Uncorrected U-value	0.234W/m ² K
Mortar correction	0.000
Air gap correction	0.000
Wall tie correction – Staifix HRT4-250	0.002
U-VALUE	0.236 W/m²K

U-Value 0.25



Outside resistance	0.040
19mm sand/cement render (λ 1.00)	0.019
100mm dense 7.3N/mm ² (λ 1.31)	0.076
50mm low emissivity cavity	0.640
70mm foil-faced partial fill PIR/PU board (λ 0.022)	3.182
100mm dense 7.3N/mm ² (λ 1.22)	0.082
13mm dense plaster (λ 0.57)	0.023
Inside resistance	0.130
Sum of resistances	4.192m²K/W
Uncorrected U-value	0.239W/m ² K
Mortar correction	0.000
Air gap correction	0.010
Wall tie correction – Staifix HRT4-250	0.002
U-VALUE	0.251 W/m²K

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

7.3N/mm² (OVEN-DRY DENSITY approx 1900 kg/m³)

Size mm nominal	approx weight kg	no. per tonne	multiples of	no. per pack
440×215×75	14.0	72	56	112
440×215×90	16.5	60	48	96
440×215×100†	18.5	54	44	88
440×215×140†	26•	38	32	64
440×215×190†	35•	28	20	40

10.4N/mm² (OVEN-DRY DENSITY approx 1950 kg/m³)

Size mm nominal	approx weight kg	no. per tonne	multiples of	no. per pack
440×215×100†	20	50	44	88
440×215×140†	28•	36	32	64
440×215×190†	38•	26	20	40
Coursing bricks				
65×215×100	2.9	340	128	512
65×215×140	4.2	240	96	384

17.5N/mm² (OVEN-DRY DENSITY approx 2000 kg/m³)

Size mm nominal	approx weight kg	no. per tonne	multiples of	no. per pack
440×215×100	21•	48	44	88
440×215×140	29•	34	32	64

†Also available in close texture.

THERMAL CONDUCTIVITY: λ* (7.3N/mm²)

1.22 W/mK @ 3% m/c (Inside skin)
1.31 W/mK @ 5% m/c (Outside skin)

THERMAL RESISTANCE:

SIZE mm	m ² K/W at:	m ² K/W at:
75mm	3% m/c 0.061	5% m/c 0.057
90mm	3% m/c 0.074	5% m/c 0.069
100mm	3% m/c 0.082	5% m/c 0.076
140mm	3% m/c 0.115	5% m/c 0.106
190mm	3% m/c 0.156	5% m/c 0.145

(m/c = moisture content)

SOUND INSULATION: **

43 dB (A) (75mm single skin, 175kg/m ²)
44 dB (A) (90mm single skin, 205kg/m ²)
45 dB (A) (100mm single skin, 225kg/m ²)
47 dB (A) (140mm single skin, 300kg/m ²)
48 dB (A) (190mm single skin, 395kg/m ²)

FIRE RESISTANCE: ***

75mm (single skin unplastered) –
90mm (single skin unplastered) 1 hr
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 17kg/m²)

*** Calculated using table 14 BS5628-3 2005

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