

From November 2004  
the specification of Celcon's  
'Standard' product has changed.  
Please see [www.celcon.co.uk/standard](http://www.celcon.co.uk/standard)  
for further information.

November 2004

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## H+H Celcon Datasheet

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# Celcon Plus Range

Produced using the very latest aircrete manufacturing technology at our plant in Pollington, Yorkshire, H+H Celcon's Plus and Jumbo Plus range provide consistently high quality materials for use in all common masonry applications, and in particular our Thin-Joint System.



Solar Plus

Solar Jumbo Plus

Standard Plus

Standard Jumbo Plus

Hi-Seven Plus

Hi-Seven Plus  
140mm course height

Plus blocks have a face size of 610mm long x 215mm high (rather than the usual 440mm x 215mm) with Jumbo Plus being 610mm x 270mm. They are identified by inkjet markings printed on the ends of blocks at intervals throughout the pack, as well as by a bar code label on the outer packaging.

Plus blocks are produced in the same grades as other Celcon blocks: Solar, Standard and Hi-Strength, in a range of thicknesses to meet design requirements.

140mm course height blocks are available in thicknesses where the weight of a 215mm course height block would exceed the CONIAC limit of 20kg for repetitive lifting.

Each block has a plain face, sharp arises and tight dimensional tolerances which makes them ideal for thin layer blockwork (and where a conventional 10mm mortar joint is used).





# H+H Celcon Datasheet - Celcon Plus Range

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Being aircrete, the Plus range provides simple solutions to Part L (thermal) and Part E (sound) of the Building Regulations. The Plus range is ideal for both domestic and non-housing construction, suitable for the construction of cavity walls, both inner and outer leaves, solid walls, partition walls, separating walls and foundations.

With the dimensional accuracy and consistency of these products, their high quality finish instills pride in the job for the builder.

When laid using traditional 10mm mortar the Plus block face size of 610mm x 215mm means that only 7\* blocks per square metre are required, and the Jumbo Plus face size of 610mm x 270mm means under 6\*\* blocks per square metre are required rather than the usual 10, offering cost savings from the reduction of both the mortar used and in man hours, furthermore assisting in ever tightening build schedules.

The Plus range is also ideal for use with Celcon's Thin-Joint System, further enhancing its benefits providing higher productivity and improved thermal performance with minimal cold bridging of the mortar. Celcon's Thin-Joint System allows the structure of a building to be constructed faster and to a better quality, allowing follow-on trades to start work sooner in a weatherproof environment, whilst retaining the flexibility of

on-site construction.

The Plus blocks range is available nationwide with any order for thin-joint products. For block only orders please contact your Area Sales Manager or our Sales Office for availability on 01732 886444.

## Celcon Plus Range Benefits

- Cost savings on mortar and labour
- 7\* blocks per square metre rather than 10
- Quicker to build with
- Excellent dimensional accuracy
- Simple solutions to Building Regulations
- Instills pride in the job with high quality finish

## Benefits of the Thin-Joint System

- Reduced construction times
- Increased productivity
- Improved thermal performance
- More airtight construction
- Waste reduction of mortar and blocks
- Stability achieved earlier during construction
- Accuracy allows thin-coat plasters
- Potentially better quality of construction
- Increased bond strength
- Speed and ease of secondary fixing

## Aircrete Benefits

- Thermally efficient
- Strong
- Lightweight
- Good acoustic performance
- Highly resistant to the passage of water
- Fire resistant
- Easy to work with
- Durable
- Design flexibility
- Productivity
- Ease of fixing
- Variety of finishes
- Environmentally friendly

\*Actual value 7.17 blocks per square metre laid (10mm)  
 \*Actual value 7.53 blocks per square metre laid (2mm)  
 \*\*Actual value 5.76 blocks per square metre laid (10mm)  
 \*\*Actual value 6.01 blocks per square metre laid (2mm)  
 (10mm) = traditional mortar joint  
 (2mm) = Thin-Joint

## Technical Data

Walling blocks	Solar	Standard	Hi-Seven
Average density (kg/m <sup>3</sup> )	460	600	750
Compressive strength (N/mm <sup>2</sup> )	2.8 (2.9 <sup>†</sup> )	3.5 (3.6 <sup>†</sup> )	7.0 (7.3 <sup>†</sup> )
Thermal conductivity (W/mK)	0.11	0.15	0.19
Vapour resistivity	60MN s/gm	60MN s/gm	60MN s/gm
Vapour diffusion resistance factor	12	12	12
BBA Certificate No.	01/3816	01/3816	01/3816

<sup>†</sup>When referencing the European Standard BS EN 771-4: 2003 the compressive strength values in brackets should be used. Please see [www.celcon.co.uk/en771-4](http://www.celcon.co.uk/en771-4) for further information.

Typical block handling weights (kg) <sup>†</sup>												
Block thickness (mm)	75	100	115	125	140	150	200	215	255	265	275	300
<b>Plus blocks 610 x 215mm</b>												
Solar	-	7.6	8.8	9.5	10.7	11.4	15.2	16.4	19.4	20.2	21.0	22.9
Standard	7.5	10.0	11.5	12.5	14.0	15.0	20.0	21.5	25.5	26.4	27.4	29.9
Hi-Seven	-	11.6	13.3	14.5	16.2	17.4	23.2	25.0	29.6	30.8	31.9	34.8
<b>Pack weights</b>												
Solar (excl. pallet)	-	457	438	429	427	457	457	410	389	404	419	457
Standard (excl. pallet)	599	599	574	561	559	599	599	536	509	529	549	599
Hi-Seven (excl. pallet)	-	696	667	653	650	696	696	624	592	615	638	696
<b>Plus blocks 610 x 140mm</b>												
Solar							9.9	10.7	12.7	13.1	13.6	14.9
Standard							13.0	14.0	16.6	17.2	17.9	19.5
Hi-Seven							15.1	16.2	19.3	20.0	20.8	22.7
<b>Pack weights</b>												
Solar (excl. pallet)							417	373	354	368	382	417
Standard (excl. pallet)							546	489	464	482	500	546
Hi-Seven (excl. pallet)							635	569	540	561	582	635
<b>Jumbo Plus blocks 610 x 270mm</b>												
Solar	-	9.6	11.0	12.0	13.4	14.4						
Standard	-	12.5	14.4	15.7	17.5	18.8						
Hi-Seven	-	14.6	16.8	18.2	20.4	21.9						
<b>Pack weights</b>												
Solar (excl. pallet)	-	459	440	431	429	459						
Standard (excl. pallet)	-	602	577	564	562	602						
Hi-Seven (excl. pallet)	-	700	670	656	653	700						

blocks over 20kg CONIAC recommendation

<sup>†</sup>These weights are at typical block moisture content when laid. Some manufacturers may quote weights which have not allowed for this. Note: CONIAC recommendation for repetitive manual handling of blocks – 20kg or more should be two-person or mechanically handled.

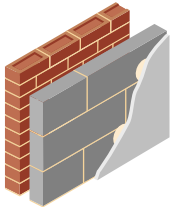
## Some simple Part L solutions

### England & Wales

Clear cavity	
External leaf	103mm Brick
Cavity	50mm Clear
Celcon block	100mm Standard Plus
Internal finish	50mm Thermaline Super
<b>U-value (W/m²K)</b>	<b>0.34 (10mm*) 0.33 (2mm*)</b>

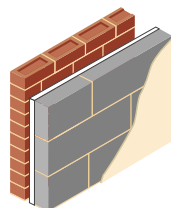
### Scotland

Clear cavity	
External leaf	103mm Brick
Cavity	50mm Clear
Celcon block	100mm Standard Plus
Internal finish	60mm Thermaline Super
<b>U-value (W/m²K)</b>	<b>0.29</b>



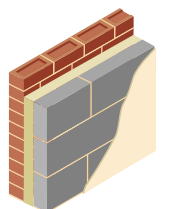
Partial fill	
External leaf	103mm Brick
Cavity/insulation	50mm Cavity + 35mm Celotex
Celcon block	100mm Standard Plus
Internal finish	13mm Any plaster or drylined finish
<b>U-value (W/m²K)</b>	<b>0.35 (or better)</b>

Partial fill	
External leaf	103mm Brick
Cavity/insulation	50mm Cavity + 35mm Celotex
Celcon block	115mm Solar Plus
Internal finish	12.5mm drylined finish
<b>U-value (W/m²K)</b>	<b>0.30 (10mm*) 0.29 (2mm*)</b>



Full fill	
External leaf	103mm Brick
Insulation	75mm Dritherm/Jablite cavity batt
Celcon block	100mm Standard Plus
Internal finish	13mm Any plaster or drylined finish
<b>U-value (W/m²K)</b>	<b>0.35 (or better)</b>

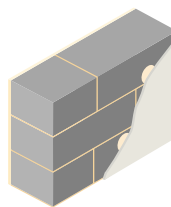
Full fill	
External leaf	103mm Brick
Insulation	75mm Dritherm/Jablite cavity batt
Celcon block	115mm Solar Plus
Internal finish	12.5mm drylined finish
<b>U-value (W/m²K)</b>	<b>0.30</b>



A fully filled cavity wall construction is not suitable for all exposure conditions.

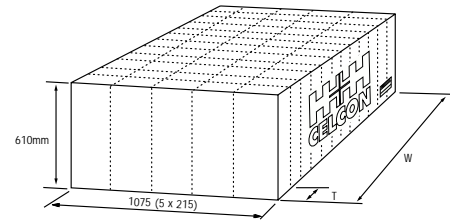
Solid wall	
External finish	16mm Render
Celcon block	300mm Solar Plus (140mm course height)
Internal finish	30mm Thermaline Basic
<b>U-value (W/m²K)</b>	<b>0.35 (10mm*)</b>

Solid wall	
External finish	16mm Render
Celcon block	300mm Solar Plus (140mm course height)
Internal finish	30mm Thermaline Basic
<b>U-value (W/m²K)</b>	<b>0.30 (2mm*)</b>



By using Celfix Thin-Joint mortar a 300mm Solar Plus block with 12.5mm plasterboard on dabs will also achieve 0.35W/m²K.  
\*(10mm) = traditional mortar joint, (2mm) = thin-joint.

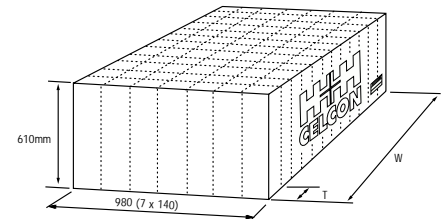
## Pack Information (for pack weights see page 3)



### Plus blocks (610mm x 215mm)

T = Block thickness (mm)	75	100	115	125	140	150	200	215	255	265	275	300
W = Pack width (mm)	1200	1200	1150	1125	1120	1200	1200	1075	1020	1060	1100	1200
No. of blocks per pack	80	60	50	45	40	40	30	25	20	20	20	20
m <sup>2</sup> per pack traditional* (10mm)	11.2	8.4	7.0	6.3	5.6	5.6	4.2	3.5	2.8	2.8	2.8	2.8
m <sup>2</sup> per pack thin-joint* (2mm)	10.6	7.9	6.6	5.9	5.3	5.4	4.0	3.3	2.7	2.7	2.7	2.7

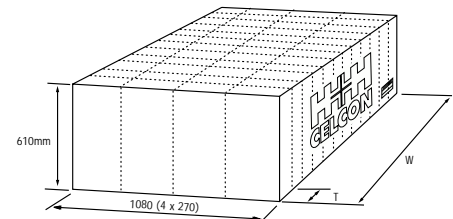
\*Based on 7.17 blocks/m<sup>2</sup> laid traditional (10mm joint) and 7.53 (Celfix 2mm joint) blocks/m<sup>2</sup> laid.



### Plus blocks (610mm x 140mm)

T = Block thickness (mm)	200	215	255	265	275	300
W = Pack width (mm)	1200	1075	1020	1060	1100	1200
No. of blocks per pack	42	35	28	28	28	28
m <sup>2</sup> per pack traditional* (10mm)	3.9	3.3	2.6	2.6	2.6	2.6
m <sup>2</sup> per pack thin-joint* (2mm)	3.7	3.0	2.4	2.4	2.4	2.4

\*Based on 10.75 blocks/m<sup>2</sup> laid traditional (10mm joint) and 11.51 (Celfix 2mm joint) blocks/m<sup>2</sup> laid.



### Jumbo Plus blocks (610mm x 270mm)

T = Block thickness (mm)	75	100	115	125	140	150
W = Pack width (mm)	1200	1200	1150	1125	1120	1200
No. of blocks per pack	64	48	40	36	32	32
m <sup>2</sup> per pack traditional* (10mm)	11.1	8.3	6.9	6.3	5.6	5.6
m <sup>2</sup> per pack thin-joint* (2mm)	10.6	7.9	6.6	5.9	5.3	5.3

\*Based on: 5.76 blocks/m<sup>2</sup> laid traditional (10mm joint) and 6.01 (Celfix 2mm joint) blocks/m<sup>2</sup> laid

#### Notes

- 1 Where an exposed painted finish is required, it may be necessary to fill small blowholes before decoration.
- 2 In areas where there is a high risk of mechanical damage additional protection should be provided in the vulnerable areas.
- 3 Solid walls should normally have an external finish applied to them e.g. rendered or clad in accordance with BS 5628-3 2001.
- 4 Blocks over the 20kg CONIAC recommendation for repetitive manual handling should be two-person or mechanically handled.

Technical Hotline **01732 880580** or [tsd@celcon.co.uk](mailto:tsd@celcon.co.uk)

Other sources of information

Our website [www.celcon.co.uk](http://www.celcon.co.uk) has pages dedicated to Plus blocks.

Contact the Marketing department **01732 880520** or [marketing@celcon.co.uk](mailto:marketing@celcon.co.uk)

National Sales call **08705 143820**