



C3C Block System

Flexible concrete solutions

System Description

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1. DESCRIPTION OF THE SYSTEM

C3C Block System™ consists of prefabricated solid concrete blocks that are built together using the Lego principle. C3C offers two block systems, one with a thickness of 600 mm and the other with a thickness of 800 mm. The robust building products can be used to construct retaining walls, ground-level storage areas and pockets for materials and waste, to name but a few applications. The C3C block's geometric shape lends itself to many areas of use, and the block system's Lego modules can be quickly built together at the construction site.



C3C Block System™ provides future flexibility through simple possibilities for reconstruction and extensions. Control consoles on top of the C3C blocks, combined with recesses at the bottom, guide and lock the blocks horizontally into the correct position. A shear construction is thus achieved with capacity for pressure transfer between modules in the block system's horizontal joints. Expansion joints, normally cold and non-sealed, are created between all C3C blocks in order to absorb movements and prevent the concrete structure from cracking.



Concrete surfaces are constructed with staining, matrix casting and specific surface treatment for project-specific requirements, in which case the products are manufactured on a project-specific basis to meet the needs of specific projects.

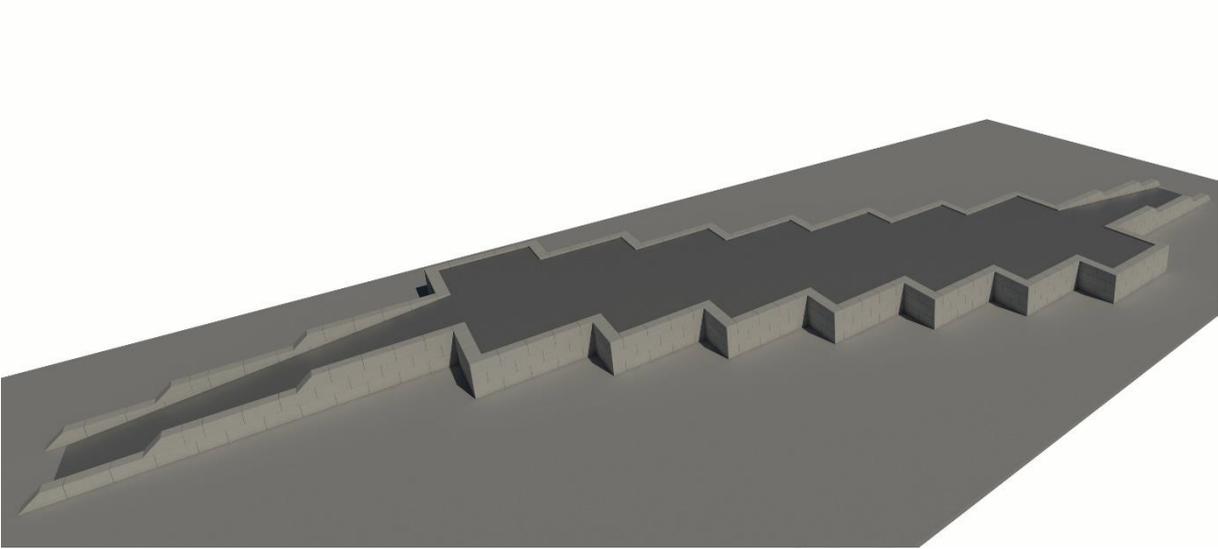


Figure 1a. Example of a waste station built with C3C Block System™.

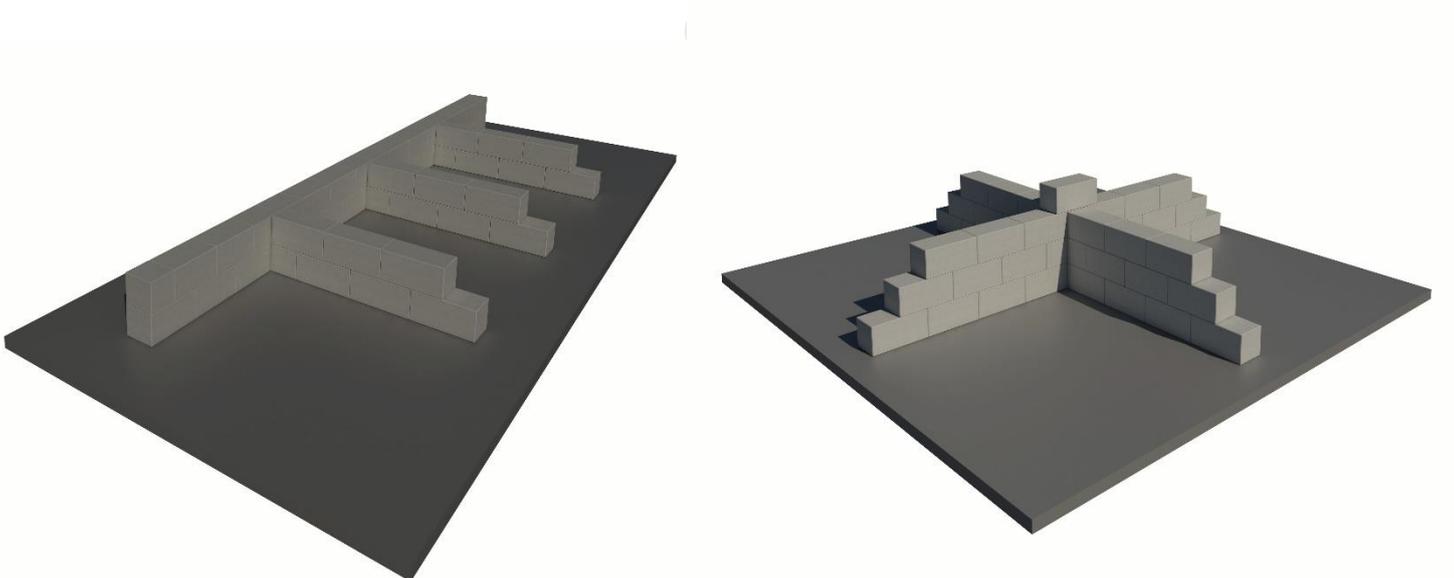


Figure 1b-c. Examples of sorting pockets constructed with C3C Block System™.

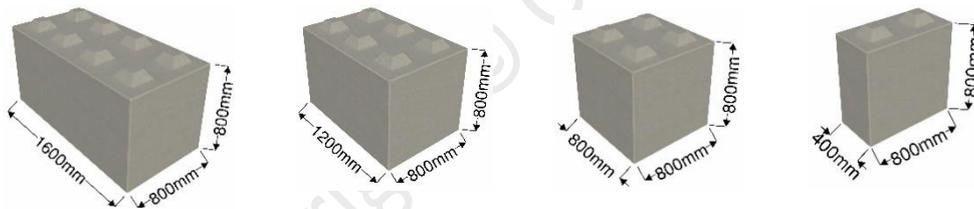
2. DIMENSIONS AND MATERIALS

C3C Block System™ is made with homogeneous standard concrete, manufactured and certified in accordance with SS-EN 206–1, quality C20/25, X0 (at least). Customised concrete qualities can be made on a project-specific basis in order to meet specific exposure classes or strength requirements, for example for a marine quay environment, a road and/or railway environment, or heavy radiation-shielding concrete.

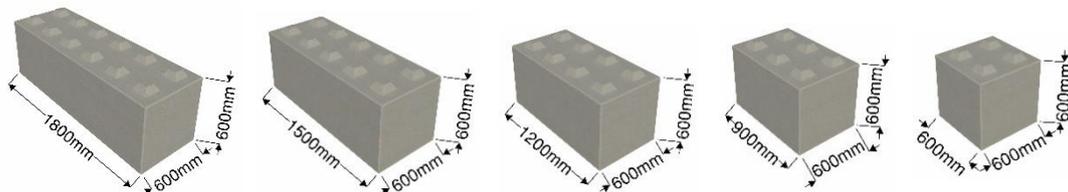


Figure 2a. C3C Block System™ in marine quay environment.

2.1 Product specification and type functions



The figures above show **C3C Block System™ 1688**. The number designation 1688 stands for the following module dimensions: *length 1,600 mm, width 800 mm and height 800 mm*. Thereafter, in the following tables, you will find a number of special blocks that are compatible with C3C Block System™ 1688. Article designations that end in **_R** and are labelled with the recycling symbol  indicate products that are made with recycled concrete.



The tables thereafter show **C3C Block System™ 1866**. The number designation 1866 stands for the following module dimensions: *length 1,800 mm, width 600 mm and height 600 mm*. In the subsequent tables you will find a number of special blocks that are compatible with C3C Block System™ 1866. Article designations that end in **_R** and are labelled with the recycling symbol  indicate products that are made with recycled concrete.

2.2 C3C Block System™ 1688

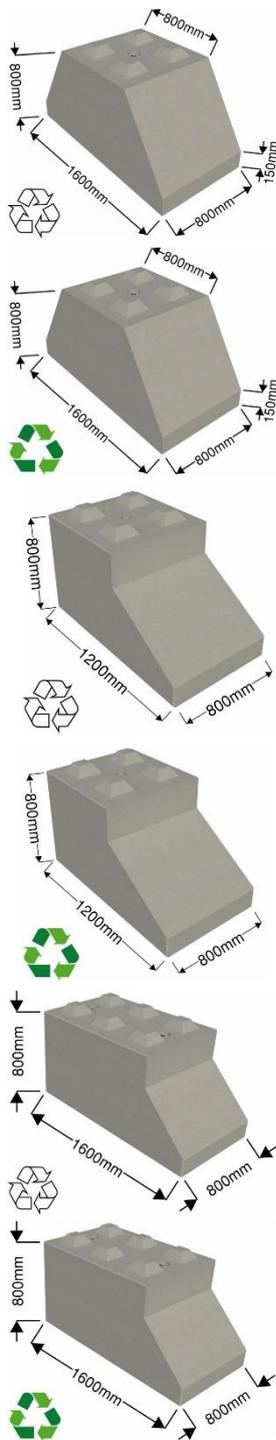
C3C block™ 1688 Standard block	Product name Type functions	Block geometry Length x Width x Height	Weight (Tonnes/block)	Assembly lifting (project-specific)
	C3C block™ 1688 Standard block	1600x800x800 mm. 8 control consoles 8 recesses	2.40 tonnes	Scissor clamp
	C3C block™ 1688_R Standard block RECYCLED CONCRETE	1600x800x800 mm. 8 control consoles 8 recesses	2.40 tonnes	Scissor clamp
	C3C block™ 1688L Standard block with lifting link	1600x800x800 mm. 8 control consoles 8 recesses	2.40 tonnes	2 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1688L_R Standard block with lifting link RECYCLED CONCRETE	1600x800x800 mm. 8 control consoles 8 recesses	2.40 tonnes	2 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1288 Module block	1200x800x800 mm. 6 control consoles 6 recesses	1.80 tonnes	Scissor clamp
	C3C block™ 1288_R Module block RECYCLED CONCRETE	1200x800x800 mm. 6 control consoles 6 recesses	1.80 tonnes	Scissor clamp
	C3C block™ 1288L Module block with lifting link	1200x800x800 mm. 6 control consoles 6 recesses	1.80 tonnes	1 x 2.5 tonne Pre-cast lifting link

	<p>C3C block™ 1288L_R Module block with lifting link RECYCLED CONCRETE</p>	<p>1200x800x800 mm. 6 control consoles 6 recesses</p>	<p>1.80 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 888 Module block</p>	<p>800x800x800 mm. 4 control consoles 4 recesses</p>	<p>1.20 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 888_R Module block RECYCLED CONCRETE</p>	<p>800x800x800 mm. 4 control consoles 4 recesses</p>	<p>1.20 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 888L Module block with lifting link</p>	<p>800x800x800 mm. 4 control consoles 4 recesses</p>	<p>1.20 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 888L_R Module block with lifting link RECYCLED CONCRETE</p>	<p>800x800x800 mm. 4 control consoles 4 recesses</p>	<p>1.20 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0488L Module block with lifting link</p>	<p>400x800x800 mm. 2 control consoles 2 recesses</p>	<p>0.6 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0488L_R Module block with lifting link RECYCLED CONCRETE</p>	<p>400x800x800 mm. 2 control consoles 2 recesses</p>	<p>0.6 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>

<i>C3C block™ 1688 Special block</i>	<i>Product name Type functions</i>	<i>Block geometry Length x Width x Height</i>	<i>Weight (Tonnes/block)</i>	<i>Assembly lifting (project-specific)</i>
	C3C block™ 1688G Forklift recesses Standard block with 2 forklift recesses	1600x800x800 mm. 8 control consoles 8 recesses	2.37 tonnes	Scissor clamp Pallet forks
	C3C block™ 1688G_R Forklift recesses Standard block with 2 forklift recesses RECYCLED CONCRETE	1600x800x800 mm. 8 control consoles 8 recesses	2.37 tonnes	Scissor clamp Pallet forks
	C3C block™ 1688GL Forklift recesses Standard block with 2 forklift recesses and lifting link	1600x800x800 mm. 8 control consoles 8 recesses	2.37 tonnes	2 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1688GL_R Forklift recesses Standard block with 2 forklift recesses and lifting link RECYCLED CONCRETE	1600x800x800 mm. 8 control consoles 8 recesses	2.37 tonnes	2 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1688S Flat top	1600x800x800 mm. 0 control consoles 8 recesses	2.37 tonnes	Scissor clamp
	C3C block™ 1688S_R Flat top RECYCLED CONCRETE	1600x800x800 mm. 0 control consoles 8 recesses	2.37 tonnes	Scissor clamp
	C3C block™ 1688SL Flat top	1600x800x800 mm. 0 control consoles 8 recesses	2.37 tonnes	2 x 2.5 tonne Pre-cast lifting link

	<p>C3C block™ 1688SL_R Flat top RECYCLED CONCRETE</p>	<p>1600x800x800 mm. 0 control consoles 8 recesses</p>	<p>2.37 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1288S Flat top</p>	<p>1200x800x800 mm. 0 control consoles 6 recesses</p>	<p>1.78 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 1288S_R Flat top RECYCLED CONCRETE</p>	<p>1200x800x800 mm. 0 control consoles 6 recesses</p>	<p>1.78 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 1288SL Flat top</p>	<p>1200x800x800 mm. 0 control consoles 6 recesses</p>	<p>1.78 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1288SL_R Flat top RECYCLED CONCRETE</p>	<p>1200x800x800 mm. 0 control consoles 6 recesses</p>	<p>1.78 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 888S Flat top</p>	<p>800x800x800 mm. 0 control consoles 4 recesses</p>	<p>1.19 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 888S_R Flat top RECYCLED CONCRETE</p>	<p>800x800x800 mm. 0 control consoles 4 recesses</p>	<p>1.19 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 888SL Flat top</p>	<p>800x800x800 mm. 0 control consoles 4 recesses</p>	<p>1.19 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>

	<p>C3C block™ 888SL_R Flat Flat top RECYCLED CONCRETE</p>	<p>800x800x800 mm. 0 control consoles 4 recesses</p>	<p>1.19 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0488SL Flat Flat top</p>	<p>400x800x800 mm. 0 control consoles 2 recesses</p>	<p>0.59 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0488SL_R Flat Flat top RECYCLED CONCRETE</p>	<p>400x800x800 mm. 0 control consoles 2 recesses</p>	<p>0.59 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ L-Block Special block</p>	<p>1600x800x1600 mm. 0 control consoles 8 recesses</p> <p><i>Made on project-specific basis with e.g. stud holes, embedment details, staining.</i></p>	<p>Approx. 2.3 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ L-Block Special block Sloping for level differences</p>	<p>1600x800x1600 mm. 0 control consoles 8 recesses</p> <p><i>Made on project-specific basis with e.g. stud holes, embedment details, staining.</i></p>	<p><2.3 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block 1688TRL Steps block Steps</p>	<p>1680x800x800 mm 4 control consoles 8 recesses Step height 200 mm Step depth 220 mm</p>	<p>2.02 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1688DSF-1 Double-sided Foundation block Outspread ground pressure</p>	<p>1600x800x800 mm. 4 control consoles 8 recesses</p>	<p>1.76 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 1688DSF-1_R Double-sided Foundation block Outspread ground pressure RECYCLED CONCRETE</p>	<p>1600x800x800 mm. 4 control consoles 8 recesses</p>	<p>1.76 tonnes</p>	<p>Scissor clamp</p>

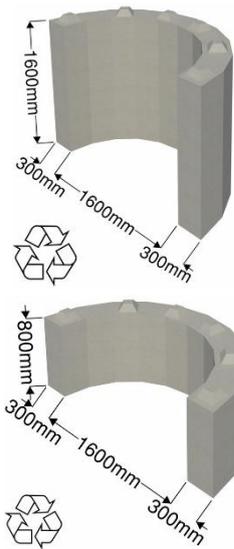


<p>C3C block™ 1688DSFL-2 Double-sided Foundation block Outspread ground pressure</p>	<p>1600x800x800 mm. 4 control consoles 8 recesses</p>	<p>1.88 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1688DSFL-2_R Double-sided Foundation block Outspread ground pressure RECYCLED CONCRETE</p>	<p>1600x800x800 mm. 4 control consoles 8 recesses</p>	<p>1.88 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1288ESFL Single-sided Foundation block Outspread ground pressure Single-sided at console</p>	<p>1200x800x800 mm. 4 control consoles 4 recesses</p>	<p>1.54 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1288ESFL_R Single-sided Foundation block Outspread ground pressure Single-sided at console RECYCLED CONCRETE</p>	<p>1200x800x800 mm. 4 control consoles 4 recesses</p>	<p>1.54 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1688ESFL Single-sided Foundation block Outspread ground pressure Special for corners</p>	<p>1600x800x800 mm. 6 control consoles 8 recesses</p>	<p>2.14 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1688ESFL_R Single-sided Foundation block Outspread ground pressure Special for corners RECYCLED CONCRETE</p>	<p>1600x800x800 mm. 6 control consoles 8 recesses</p>	<p>2.14 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>

C3C block™ 1688 Special block

	<i>Product name</i> <i>Type functions</i>	<i>Block geometry</i> <i>Length x Width x Height</i>	<i>Weight</i> <i>(Tonnes/block)</i>	<i>Assembly lifting</i> <i>(project-specific)</i>
	C3C block™ 1688K Cone-end block 90-270 degree wall angle	1600x800x800 mm. 5 control consoles 5 recesses	2.23 tonnes	Scissor clamp
	C3C block™ 1688K_R Cone-end block 90-270 degree wall angle RECYCLED CONCRETE	1600x800x800 mm. 5 control consoles 5 recesses	2.23 tonnes	Scissor clamp
	C3C block™ 1688KL Cone-end block 90-270 degree wall angle	1600x800x800 mm. 5 control consoles 5 recesses	2.23 tonnes	2 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1688KL_R Cone-end block 90-270 degree wall angle RECYCLED CONCRETE	1600x800x800 mm. 5 control consoles 5 recesses	2.23 tonnes	2 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1688-45L 45 degree ending Wall ending on slope	1600x800x800 mm. 4 control consoles 8 recesses	1.86 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1688-45L_R 45 degree ending Wall ending on slope RECYCLED CONCRETE	1600x800x800 mm. 4 control consoles 8 recesses	1.86 tonnes	1 x 2.5 tonne Pre-cast lifting link

	<p>C3C block™ 1688TL Chamfered top Chamfered top</p>	<p>1600x800x800 mm. 0 control consoles 8 recesses</p>	<p>2.12 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1688TL_R Chamfered top Chamfered top RECYCLED CONCRETE</p>	<p>1600x800x800 mm. 0 control consoles 8 recesses</p>	<p>2.12 tonnes</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1288TL Chamfered top Chamfered top Module block</p>	<p>1200x800x800 mm. 0 control consoles 6 recesses</p>	<p>1.59 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1288TL_R Chamfered top Chamfered top Module block RECYCLED CONCRETE</p>	<p>1200x800x800 mm. 0 control consoles 6 recesses</p>	<p>1.59 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 888TL Chamfered top Chamfered top Module block</p>	<p>800x800x800 mm. 0 control consoles 4 recesses</p>	<p>1.06 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 888TL_R Chamfered top Chamfered top Module block RECYCLED CONCRETE</p>	<p>800x800x800 mm. 0 control consoles 4 recesses</p>	<p>1.06 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1688TL-45 Chamfered top + 45 degree ending Chamfered top Wall ending on slope</p>	<p>1600x800x800 mm. 0 control consoles 8 recesses</p>	<p>1.60 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1688TL-45_R Chamfered top + 45 degree ending Chamfered top Wall ending on slope RECYCLED CONCRETE</p>	<p>1600x800x800 mm. 0 control consoles 8 recesses</p>	<p>1.60 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>



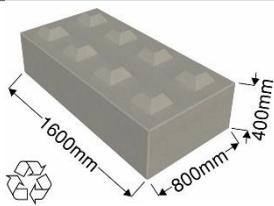
Protection block™ 241616 Impact protection of pylons etc.	2400x1600x1600 mm. 6 control consoles 6 recesses	4.30 tonnes	2 x M30
Integrates with 1688			

Protection block™ 241616 Impact protection of pylons etc.	2400x1600x800 mm. 6 control consoles 6 recesses	2.15 tonnes	2 x M30
Integrates with 1688			

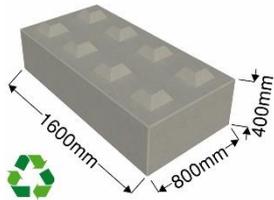
2.3 C3C Block System™ 1684

C3C block™ 1684 Special block

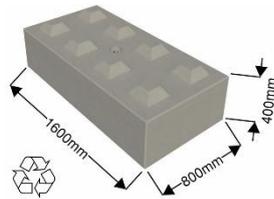
<i>Product name</i> <i>Type functions</i>	<i>Block geometry</i> <i>Length x Width x Height</i>	<i>Weight</i> <i>(Tonnes/block)</i>	<i>Assembly lifting</i> <i>(project-specific)</i>
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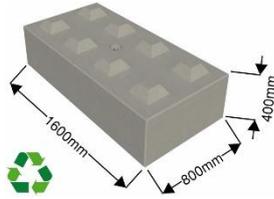
C3C block™ 1684 Half-height Module block half-height	1600x800x400 mm. 8 control consoles 8 recesses	1.20 tonnes	Scissor clamp
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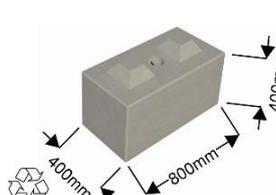
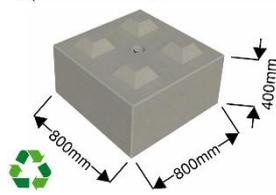
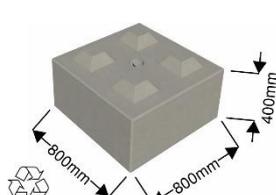
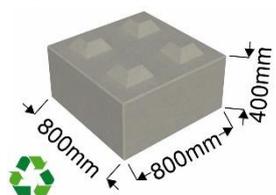
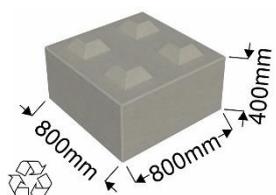
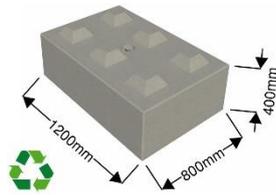
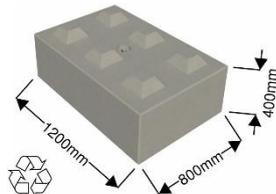
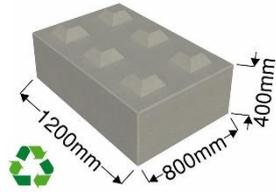
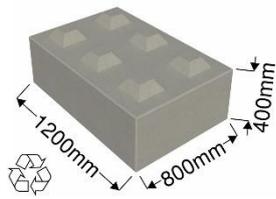
C3C block™ 1684_R Half-height Module block half-height RECYCLED CONCRETE	1600x800x400 mm. 8 control consoles 8 recesses	1.20 tonnes	Scissor clamp
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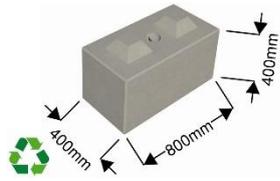
C3C block™ 1684L Half-height Module block half-height	1600x800x400 mm. 8 control consoles 8 recesses	1.20 tonnes	1 x 2.5 tonne Pre-cast lifting link
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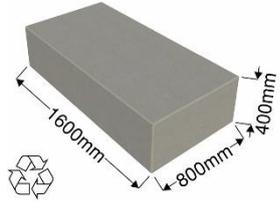
C3C block™ 1684L_R Half-height Module block half-height RECYCLED CONCRETE	1600x800x400 mm. 8 control consoles 8 recesses	1.20 tonnes	1 x 2.5 tonne Pre-cast lifting link
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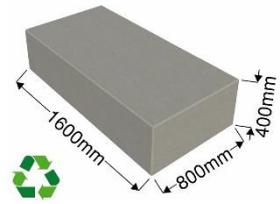
<p>C3C block™ 1284 Half-height Module block half-height Module block smaller length</p>	<p>1200x800x400 mm. 6 control consoles 6 recesses</p>	<p>0.9 tonnes</p>	<p>Scissor clamp</p>
<p>C3C block™ 1284_R Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>1200x800x400 mm. 6 control consoles 6 recesses</p>	<p>0.9 tonnes</p>	<p>Scissor clamp</p>
<p>C3C block™ 1284L Half-height Module block half-height Module block smaller length</p>	<p>1200x800x400 mm. 6 control consoles 6 recesses</p>	<p>0.9 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1284L_R Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>1200x800x400 mm. 6 control consoles 6 recesses</p>	<p>0.9 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 884 Half-height Module block half-height Module block smaller length</p>	<p>800x800x400 mm. 4 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>Scissor clamp</p>
<p>C3C block™ 884_R Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>800x800x400 mm. 4 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>Scissor clamp</p>
<p>C3C block™ 884L Half-height Module block half-height Module block smaller length</p>	<p>800x800x400 mm. 4 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 884L_R Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>800x800x400 mm. 4 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 484L Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>400x800x400 mm. 2 control consoles 2 recesses</p>	<p>0.3 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>



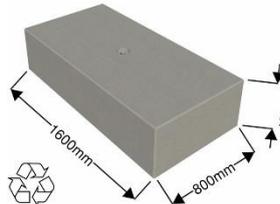
C3C block™ 484L_R Half-height Module block half-height Module block smaller length RECYCLED CONCRETE	400x800x400 mm. 2 control consoles 2 recesses	0.3 tonnes	1 x 2.5 tonne Pre-cast lifting link
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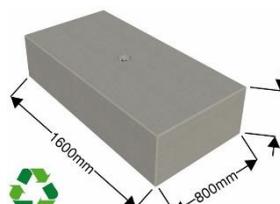
C3C block™ 1684S Half-height Flat Module block half-height Flat top	1600x800x400 mm. 0 control consoles 8 recesses	1.20 tonnes	Scissor clamp
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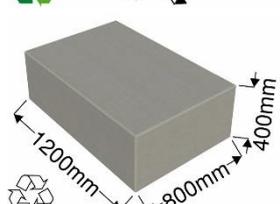
C3C block™ 1684S_R Half-height Flat Module block half-height Flat top RECYCLED CONCRETE	1600x800x400 mm. 0 control consoles 8 recesses	1.20 tonnes	Scissor clamp
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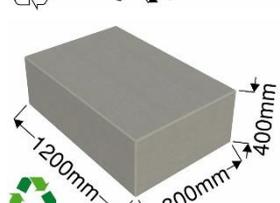
C3C block™ 1684SL Half-height Flat Module block half-height Flat top	1600x800x400 mm. 0 control consoles 8 recesses	1.20 tonnes	1 x 2.5 tonne Pre-cast lifting link
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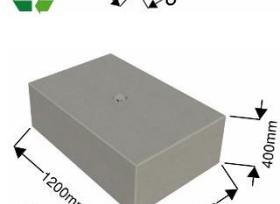
C3C block™ 1684SL_R Half-height Flat Module block half-height Flat top RECYCLED CONCRETE	1600x800x400 mm. 0 control consoles 8 recesses	1.20 tonnes	1 x 2.5 tonne Pre-cast lifting link
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C3C block™ 1284S Half-height Flat Module block half-height Module block smaller length Flat top	1200x800x400 mm. 0 control consoles 6 recesses	0.9 tonnes	Scissor clamp
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C3C block™ 1284S_R Half-height Flat Module block half-height Module block smaller length Flat top RECYCLED CONCRETE	1200x800x400 mm. 0 control consoles 6 recesses	0.9 tonnes	Scissor clamp
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C3C block™ 1284SL Half-height Flat Module block half-height Module block smaller length Flat top	1200x800x400 mm. 0 control consoles 6 recesses	0.9 tonnes	1 x 2.5 tonne Pre-cast lifting link
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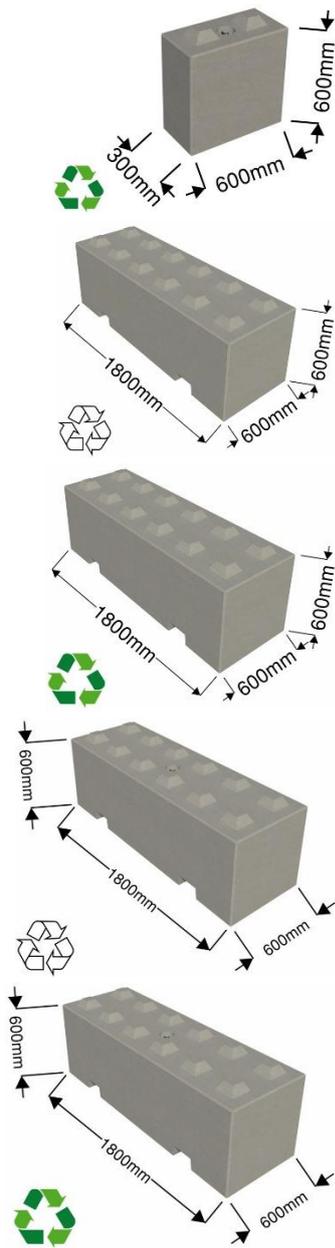
	<p>C3C block™ 1284SL_R Half-height Flat Module block half-height Module block smaller length Flat top RECYCLED CONCRETE</p>	<p>1200x800x400 mm. 0 control consoles 6 recesses</p>	<p>0.9 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 884S Half-height Flat Module block half-height Module block smaller length Flat top</p>	<p>800x800x400 mm. 0 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 884S_R Half-height Flat Module block half-height Module block smaller length Flat top RECYCLED CONCRETE</p>	<p>800x800x400 mm. 0 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 884SL Half-height Flat Module block half-height Module block smaller length Flat top</p>	<p>800x800x400 mm. 0 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 884SL_R Half-height Flat Module block half-height Module block smaller length Flat top RECYCLED CONCRETE</p>	<p>800x800x400 mm. 0 control consoles 4 recesses</p>	<p>0.6 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 484SL Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>400x800x400 mm. 2 control consoles 2 recesses</p>	<p>0.3 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 484SL_R Half-height Module block half-height Module block smaller length RECYCLED CONCRETE</p>	<p>400x800x400 mm. 2 control consoles 2 recesses</p>	<p>0.3 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>

2.4 C3C Block System™ 1866

<i>C3C block™ 1866 Standard block</i>	<i>Product name Type functions</i>	<i>Block geometry Length x Width x Height</i>	<i>Weight (Tonnes/block)</i>	<i>Assembly lifting (project-specific)</i>
	C3C block™ 1866 Standard block	1800x600x600 mm. 12 control consoles 12 recesses	1.50 tonnes	Scissor clamp
	C3C block™ 1866_R Standard block RECYCLED CONCRETE	1800x600x600 mm. 12 control consoles 12 recesses	1.50 tonnes	Scissor clamp
	C3C block™ 1866L Standard block	1800x600x600 mm. 12 control consoles 12 recesses	1.50 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1866L_R Standard block RECYCLED CONCRETE	1800x600x600 mm. 12 control consoles 12 recesses	1.50 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1566 Module block special	1500x600x600 mm. 10 control consoles 10 recesses	1.25 tonnes	Scissor clamp
	C3C block™ 1566_R Module block special RECYCLED CONCRETE	1500x600x600 mm. 10 control consoles 10 recesses	1.25 tonnes	Scissor clamp

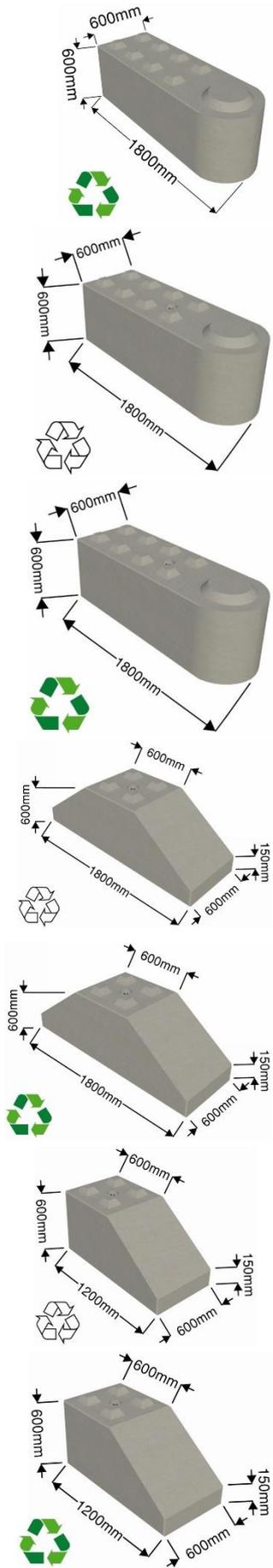
	<p>C3C block™ 1566L Module block special 1500x600x600 mm. 10 control consoles 10 recesses 1.25 tonnes 1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1566L_R Module block special RECYCLED CONCRETE 1500x600x600 mm. 10 control consoles 10 recesses 1.25 tonnes 1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1266 Module block std. 1200x600x600 mm. 8 control consoles 8 recesses 1.00 tonne Scissor clamp</p>
	<p>C3C block™ 1266_R Module block std. RECYCLED CONCRETE 1200x600x600 mm. 8 control consoles 8 recesses 1.00 tonne Scissor clamp</p>
	<p>C3C block™ 1266L Module block std. 1200x600x600 mm. 8 control consoles 8 recesses 1.00 tonne 1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 1266L_R Module block std. RECYCLED CONCRETE 1200x600x600 mm. 8 control consoles 8 recesses 1.00 tonne 1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 966 Module block special 900x600x600 mm. 6 control consoles 6 recesses 0.75 tonnes Scissor clamp</p>

	<p>C3C block™ 966_R Module block special RECYCLED CONCRETE</p>	<p>900x600x600 mm. 6 control consoles 6 recesses</p>	<p>0.75 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 966L Module block special</p>	<p>900x600x600 mm. 6 control consoles 6 recesses</p>	<p>0.75 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 966L_R Module block special RECYCLED CONCRETE</p>	<p>900x600x600 mm. 6 control consoles 6 recesses</p>	<p>0.75 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0666 Module block std.</p>	<p>600x600x600 mm. 4 control consoles 4 recesses</p>	<p>0.50 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 0666_R Module block std. RECYCLED CONCRETE</p>	<p>600x600x600 mm. 4 control consoles 4 recesses</p>	<p>0.50 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C block™ 0666L Module block std.</p>	<p>600x600x600 mm. 4 control consoles 4 recesses</p>	<p>0.50 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0666L_R Module block std. RECYCLED CONCRETE</p>	<p>600x600x600 mm. 4 control consoles 4 recesses</p>	<p>0.50 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
	<p>C3C block™ 0366L Module block special</p>	<p>300x600x600 mm. 2 control consoles 2 recesses</p>	<p>0.25 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>

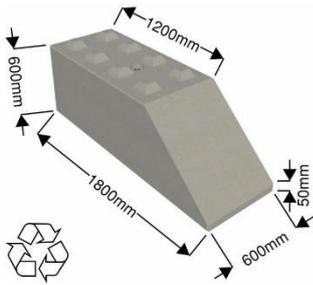


C3C block™ 0366L_R Module block special RECYCLED CONCRETE	300x600x600 mm. 2 control consoles 2 recesses	0.25 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1866G Standard block with forklift recesses	1800x600x600 mm. 12 control consoles 8 recesses	1.46 tonnes	Scissor clamp Pallet forks
C3C block™ 1866G_R Standard block with forklift recesses RECYCLED CONCRETE	1800x600x600 mm. 12 control consoles 8 recesses	1.46 tonnes	Scissor clamp Pallet forks
C3C block™ 1866GL Standard block with forklift recesses	1800x600x600 mm. 12 control consoles 8 recesses	1.46 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1866GL_R Standard block with forklift recesses RECYCLED CONCRETE	1800x600x600 mm. 12 control consoles 8 recesses	1.46 tonnes	1 x 2.5 tonne Pre-cast lifting link

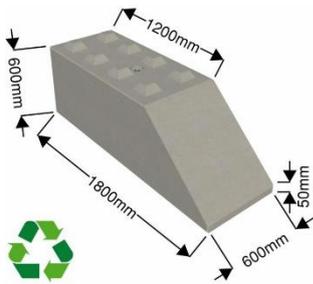
C3C block™ 1866 Special block	Product name Type functions	Block geometry Length x Width x Height	Weight (Tonnes/block)	Assembly lifting (project-specific)
	C3C block™ 1866S Flat Flat top	1800x600x600 mm. 0 control consoles 12 recesses	1.48 tonnes	Scissor clamp
	C3C block™ 1866S_R Flat Flat top RECYCLED CONCRETE	1800x600x600 mm. 0 control consoles 12 recesses	1.48 tonnes	Scissor clamp
	C3C block™ 1266S Flat Flat top Module block	1200x600x600 mm. 0 control consoles 8 recesses	0.99 tonnes	Scissor clamp
	C3C block™ 1266S_R Flat Flat top Module block RECYCLED CONCRETE	1200x600x600 mm. 0 control consoles 8 recesses	0.99 tonnes	Scissor clamp
	C3C block™ 0666SL Chamfered top Chamfered top Module block	600x600x600 mm. 0 control consoles 4 recesses	0.49 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 0666SL_R Chamfered top Chamfered top Module block RECYCLED CONCRETE	600x600x600 mm. 0 control consoles 4 recesses	0.49 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1866K Cone-end block 90-270 degree wall angle	1800x600x600 mm. 9 control consoles 9 recesses	1.40 tonnes	Scissor clamp



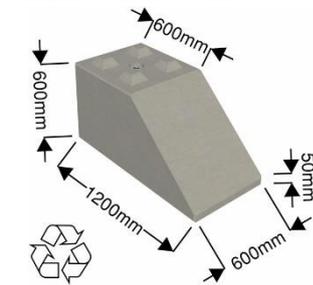
C3C block™ 1866K_R Cone-end block 90-270 degree Wall angle RECYCLED CONCRETE	1800x600x600 mm. 9 control consoles 9 recesses	1.40 tonnes	Scissor clamp
C3C block™ 1866KL Cone-end block 90-270 degree Wall angle	1800x600x600 mm. 9 control consoles 9 recesses	1.40 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1866KL_R Cone-end block 90-270 degree Wall angle RECYCLED CONCRETE	1800x600x600 mm. 9 control consoles 9 recesses	1.40 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1866DSFL Double-sided Foundation block Outspread ground pressure	1800x600x600 mm. 4 control consoles 12 recesses	1.18 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1866DSFL_R Double-sided Foundation block Outspread ground pressure RECYCLED CONCRETE	1800x600x600 mm. 4 control consoles 12 recesses	1.18 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1266ESFL Single-sided Foundation block Outspread ground pressure Single-sided at console	1200x600x600 mm. 4 control consoles 8 recesses	0.84 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 1266ESFL_R Single-sided Foundation block Outspread ground pressure Single-sided at console RECYCLED CONCRETE	1200x600x600 mm. 4 control consoles 8 recesses	0.84 tonnes	1 x 2.5 tonne Pre-cast lifting link



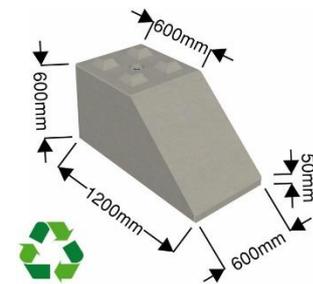
C3C block™ 1866-45L 45 degree ending Wall ending on slope	1800x600x600 mm. 8 control consoles 12 recesses	1.29 tonnes	1 x 2.5 tonne Pre-cast lifting link
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C3C block™ 1866-45L_R 45 degree ending Wall ending on slope RECYCLED CONCRETE	1800x600x600 mm. 8 control consoles 12 recesses	1.29 tonnes	1 x 2.5 tonne Pre-cast lifting link
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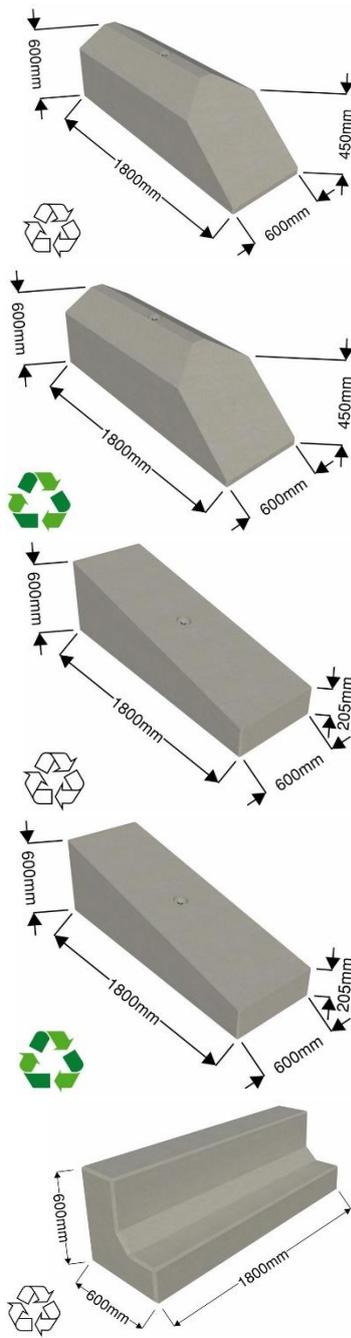
C3C block™ 1266-45L 45 degree ending Wall ending on slope Module block	1200x600x600 mm. 4 control consoles 8 recesses	0.80 tonnes	1 x 2.5 tonne Pre-cast lifting link
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C3C block™ 1266-45L_R 45 degree ending Wall ending on slope Module block RECYCLED CONCRETE	1200x600x600 mm. 4 control consoles 8 recesses	0.80 tonnes	1 x 2.5 tonne Pre-cast lifting link
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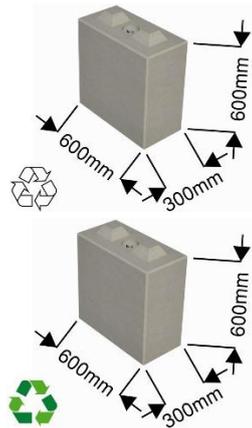
<i>C3C block™ 1866 Special block</i>	<i>Product name Type functions</i>	<i>Block geometry Length x Width x Height</i>	<i>Weight (Tonnes/block)</i>	<i>Assembly lifting (project-specific)</i>
	C3C block™ 1866TL Chamfered top Chamfered top	1800x600x600 mm. 0 control consoles 12 recesses	1.34 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1866TL_R Chamfered top Chamfered top RECYCLED CONCRETE	1800x600x600 mm. 0 control consoles 12 recesses	1.34 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1266TL Chamfered top Chamfered top Module block	1200x600x600 mm. 0 control consoles 8 recesses	0.89 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1266TL_R Chamfered top Chamfered top Module block RECYCLED CONCRETE	1200x600x600 mm. 0 control consoles 8 recesses	0.89 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 0666TL Chamfered top Chamfered top Module block	600x600x600 mm. 0 control consoles 4 recesses	0.45 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 0666TL_R Chamfered top Chamfered top Module block RECYCLED CONCRETE	600x600x600 mm. 0 control consoles 4 recesses	0.45 tonnes	1 x 2.5 tonne Pre-cast lifting link



<p>C3C block™ 1866T-45L Chamfered top + 45 degree ending Chamfered top Wall ending on slope</p>	<p>1800x600x600 mm. 0 control consoles 12 recesses</p>	<p>1.14 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1866T-45L_R Chamfered top + 45 degree ending Chamfered top Wall ending on slope RECYCLED CONCRETE</p>	<p>1800x600x600 mm. 0 control consoles 12 recesses</p>	<p>1.14 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1866-12L 12.5 degree ending Wall ending on slope</p>	<p>1800x600x600 mm. 0 control consoles 12 recesses</p>	<p>0.99 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ 1866-12L_R 12.5 degree ending Wall ending on slope RECYCLED CONCRETE</p>	<p>1800x600x600 mm. 0 control consoles 12 recesses</p>	<p>0.99 tonnes</p>	<p>1 x 2.5 tonne Pre-cast lifting link</p>
<p>C3C block™ L-Block Special block Can also be made with sloping top</p>	<p>1800x600x600 mm. 0 control consoles 12 recesses</p> <p><i>Made on project-specific basis with e.g. stud holes, embedment details, staining.</i></p>	<p>Approx. 1.0 tonne</p>	<p>2 x 2.5 tonne Pre-cast lifting link</p>

2.5 C3C Block System™ 1836

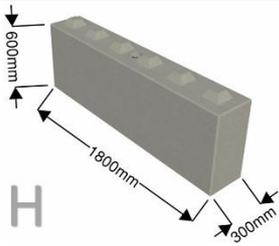
<i>C3C block™ 1836 Special block t=300 mm</i>	<i>Product name Type functions</i>	<i>Block geometry Length x Width x Height</i>	<i>Weight (Tonnes/block)</i>	<i>Assembly lifting (project-specific)</i>
	C3C block™ 1836L Standard block	1800x300x600 mm. 6 control consoles 6 recesses	0.75 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1836L_R Standard block RECYCLED CONCRETE	1800x300x600 mm. 6 control consoles 6 recesses	0.75 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1236L Module block	1200x300x600 mm. 4 control consoles 4 recesses	0.50 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 1236L_R Module block RECYCLED CONCRETE	1200x300x600 mm. 4 control consoles 4 recesses	0.50 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 936L Module block	900x300x600 mm. 3 control consoles 3 recesses	0.38 tonnes	1 x 2.5 tonne Pre-cast lifting link
	C3C block™ 936L_R Module block RECYCLED CONCRETE	900x300x600 mm. 3 control consoles 3 recesses	0.38 tonnes	1 x 2.5 tonne Pre-cast lifting link



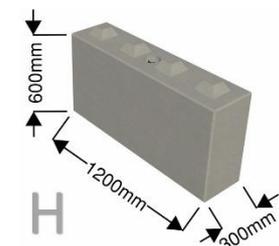
C3C block™ 636L Module block	600x300x600 mm. 2 control consoles 2 recesses	0.25 tonnes	1 x 2.5 tonne Pre-cast lifting link
C3C block™ 636L_R Module block RECYCLED CONCRETE	600x300x600 mm. 2 control consoles 2 recesses	0.25 tonnes	1 x 2.5 tonne Pre-cast lifting link

C3C block™ 1836 HEAVY 4.0
Special block t=300mm

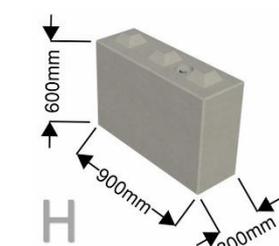
<i>Product name</i>	<i>Block geometry</i>	<i>Weight</i>	<i>Assembly lifting</i>
<i>Type functions</i>	<i>Length x Width x Height</i>	<i>(Tonnes/block)</i>	<i>(project-specific)</i>



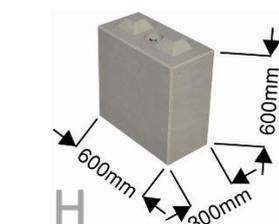
C3C block™ 1836HL Radiation shielding Heavy shielding Mobile radiation protection Standard block	1800x300x600 mm. 6 control consoles 6 recesses	1.30 tonnes 4.0 tonnes per m³	1 x 2.5 tonne Pre-cast lifting link
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C3C block™ 1236HL Radiation shielding Heavy shielding Mobile radiation protection Module block	1200x300x600 mm. 4 control consoles 4 recesses	0.86 tonnes	1 x 2.5 tonne Pre-cast lifting link
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C3C block™ 936HL Radiation shielding Heavy shielding Mobile radiation protection Module block	900x300x600 mm. 3 control consoles 3 recesses	0.65 tonnes	1 x 2.5 tonne Pre-cast lifting link
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C3C block™ 636HL Radiation shielding Heavy shielding Mobile radiation protection Module block	600x300x600 mm. 2 control consoles 2 recesses	0.43 tonnes	1 x 2.5 tonne Pre-cast lifting link
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2.6 C3C Ground slabs™

<i>C3C Ground slabs™</i>	<i>Product name</i> <i>Type functions</i>	<i>Construction geometry</i> <i>Length x Width x Height</i>	<i>Weight</i> <i>(Tonnes/slab)</i>	<i>Assembly lifting</i> <i>(project-specific)</i>
	C3C Ground slab™ 20.10.2	2000x1000x200 mm.	1.0 tonne	2 x 5.0 tonne Pre-cast lifting link
	C3C Ground slab™ 20.20.2	2000x2000x200 mm.	2.0 tonnes	4 x 5.0 tonne Pre-cast lifting link
	C3C Ground slab™ 30.20.2	3000x2000x200 mm.	3.0 tonnes	4 x 5.0 tonne Pre-cast lifting link
	C3C Ground slab™ 40.20.2	4000x2000x200 mm.	4.0 tonnes	4 x 5.0 tonne Pre-cast lifting link

2.7 C3C Park™

C3C Park™ Special block

C3C Park™ Special block	Product name Type functions	Block geometry Length x Width x Height	Weight (Tonnes/ block)	Assembly lifting (project- specific)
	<p>C3C terrace block™ 2295 For terracing that allows sitting and standing 1-sided radius 50 mm chamfered top</p>	<p>2200x912x500 mm</p>	<p>2.53 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C bench™ 2295-16-1 Bench stand-alone along a wall 1-sided radius 50 mm chamfered top</p>	<p>2200x912x500 mm. Recess at bottom 1600x100 mm</p>	<p>2.17 tonnes</p>	<p>Scissor clamp Pallet forks Sling</p>
	<p>C3C bench™ 2285 Bench stand-alone 2-sided radius 50 mm chamfered top</p>	<p>2200x864x500 mm.</p>	<p>2.37 tonnes</p>	<p>Scissor clamp</p>
	<p>C3C bench™ 2285-16-1 Bench stand-alone 2-sided radius 50 mm chamfered top</p>	<p>2200x864x500 mm. Recess at bottom 1600x100 mm</p>	<p>2.00 tonnes</p>	<p>Scissor clamp Pallet forks Sling</p>
	<p>C3C bench™ 2285-16-2 Bench stand-alone 2-sided radius 50 mm chamfered top</p>	<p>2200x864x500 mm. Recess at bottom 1600x200 mm</p>	<p>1.67 tonnes</p>	<p>Scissor clamp Pallet forks Sling</p>
	<p>C3C block grill™ 1688-10-5 Robust outdoor grill stand-alone Grilling area 600x400 mm Stainless steel cover 2 Intake air vents 1 Exhaust air vent Wood/charcoal storage shelf</p>	<p>1600x800x800 mm. Recess at bottom 800x600 mm</p>	<p>1.50 tonnes</p>	<p>Scissor clamp Pallet forks Sling</p>

3. MANUFACTURING

3.1 Manufacturing method

C3C block is manufactured through wet casting in C3C's specially developed steel casting moulds that ensure functionality with small tolerances. The moulds are cleaned between each casting, after which they are treated with a biological release agent. The casting moulds are then filled with certified factory concrete or, alternatively, fully-equivalent residual certified factory concrete, where all sub-materials have been tested. C3C strives to optimise the use of residual concrete in the manufacture of its blocks, in order to reduce environmental impact. The concrete mass is compressed with a vibrator or, alternatively, casting takes place with self-compacting concrete. The concrete mass hardens to the necessary strength, after which demoulding and transportation to product storage takes place. At product storage the final hardening takes place to achieve assembly strength.

3.2 Manufacturing tolerances

The blocks are made with manufacturing tolerances according to Svensk Betong's "Tolerances for concrete elements" Edition April 2015, Walls, Table 19, Class B. ¹

Length	±8 mm
Height	±8 mm
Thickness	±12 mm
Angular deviation	±8 mm

3.3 Surfaces, surface treatment

Standard design consists of steel mould surface on five sides of the block. The block's sixth side surface is finely levelled with a straightedge. Variations on surfaces and differences in colour nuances may occur since C3C blocks are made from concrete which is a natural material. Minor demoulding damage and scuffing from the handling of heavy items may also occur on individual C3C blocks. By minor scuffing we mean scuffed visible corners and chips that do not have a directly negative impact on the construction.

If a customer wishes to receive other, more aesthetic surfaces, C3C is able to offer customised and/or project-specific C3C Block Systems with higher qualities. Side surfaces other than extracted concrete could be: a woodcut surface, steel-glazed surface, stippled surface, stamped surface structures, steel and rubber matrix structures, graphical image casting, stained concrete and exposed ballast surface.

3.4 Marking

C3C block is normally manufactured without traceable marking. Certain C3C blocks are delivered with relief-cast C3C logo to show the make of the product. The blocks are marked in certain project-specific cases.

¹ https://www.svenskbetong.se/images/pdf/Toleranser_for_betongelement_2015-05-06.pdf

3.5 Quality control

All blocks are manufactured from certified factory concrete according to EN 206-1, with a minimum strength of C20/25 and minimum exposure class X0. However, the average strength and exposure class exceeds the minimum requirements. The EN 206-1 standard specifies requirements for: the concrete's sub-materials, properties of concrete mass and hardened concrete as well as the verification of such properties, limits for the concrete's composition, specification of concrete, delivery of concrete mass, production checks and criteria for and evaluation of compliance. The steel casting moulds that are used during production are also continuously checked for compliance with tolerances and serviceability.

4. CAPACITY

C3C blocks can be assembled together to produce a stability that provides capacity to handle relatively large loads. Since there are a number of different factors that can influence the capacity, for example ground conditions, digging, design, etc., no general capacity is declared. C3C has developed its own calculation program that takes into account different ground conditions, counter-filling, heaviness and angle of repose for counterweight material, liquid loads, impact loads, snow loads, wind loads and loads from overlying structures. C3C's construction calculations give consideration to, among other things, sliding, eccentricity, ground pressure and toppling of walls.

The normal project design procedure for contracts involving C3C Block System is the preparation of preliminary, review, construction and relational documents with underlying construction calculations.

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5. USE

5.1 Restrictions on use

C3C block should be constructed to cope with the load and ground conditions for the project at hand. The blocks are normally constructed on the basis of EKS 10 criteria to which they are planned to be subjected within their intended function. If temporary retaining wall structures are built with C3C blocks and the client has not prepared construction documents for such structures, there must not be a risk of work environment injuries within the blocks' collapse risk area, for example risk that a person could be:

- squashed/hit by a C3C block when receiving the block;
- hit by a C3C block or a lifting device when a block is lifted; or
- hit by a falling block.

5.2 Construction

Wall stability is achieved through the ground's load-bearing capacity and the blocks' own weight as counter-resistance. Stabilising connected corner pieces provide local stability.

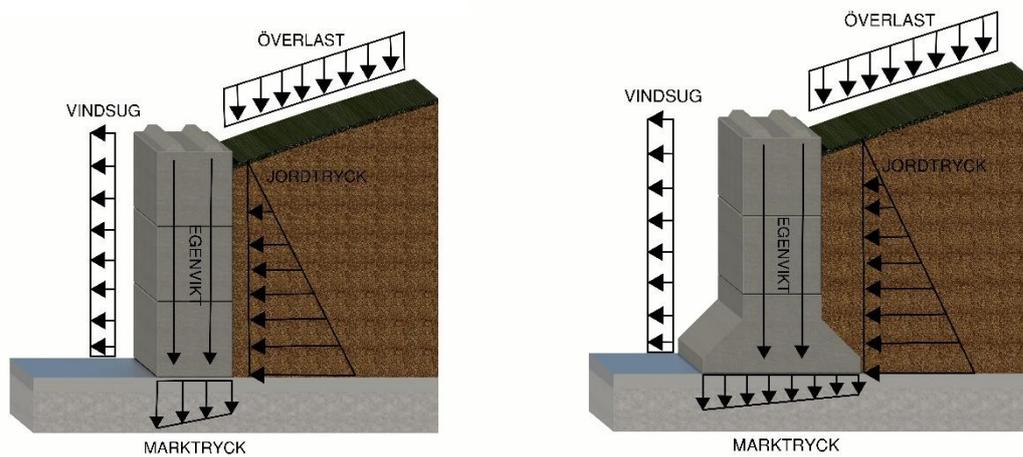


Figure 5.2a-b. Wall stability through the ground's load-bearing capacity and the blocks' own weight as counter-resistance.

Retaining wall design with transverse C3C blocks creates stabilising counterforts, which are optimised against the load conditions in question through size and distance. Alternatively, staggered walls can be designed to provide equivalent functionality (please see next page).

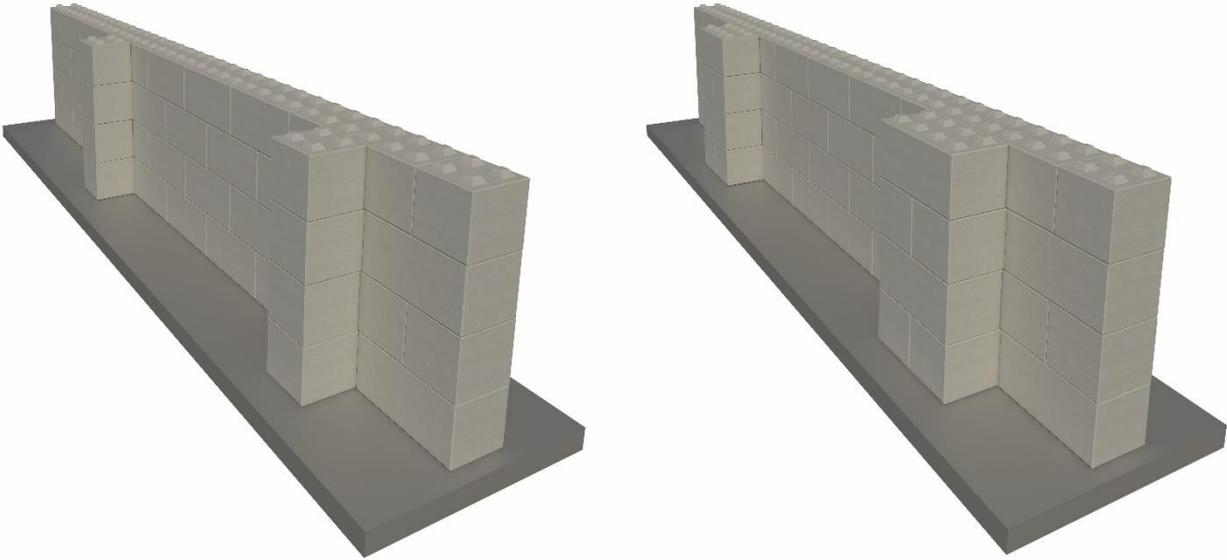


Figure 5.2c-d. Wall stability achieved through single or double counterforts.

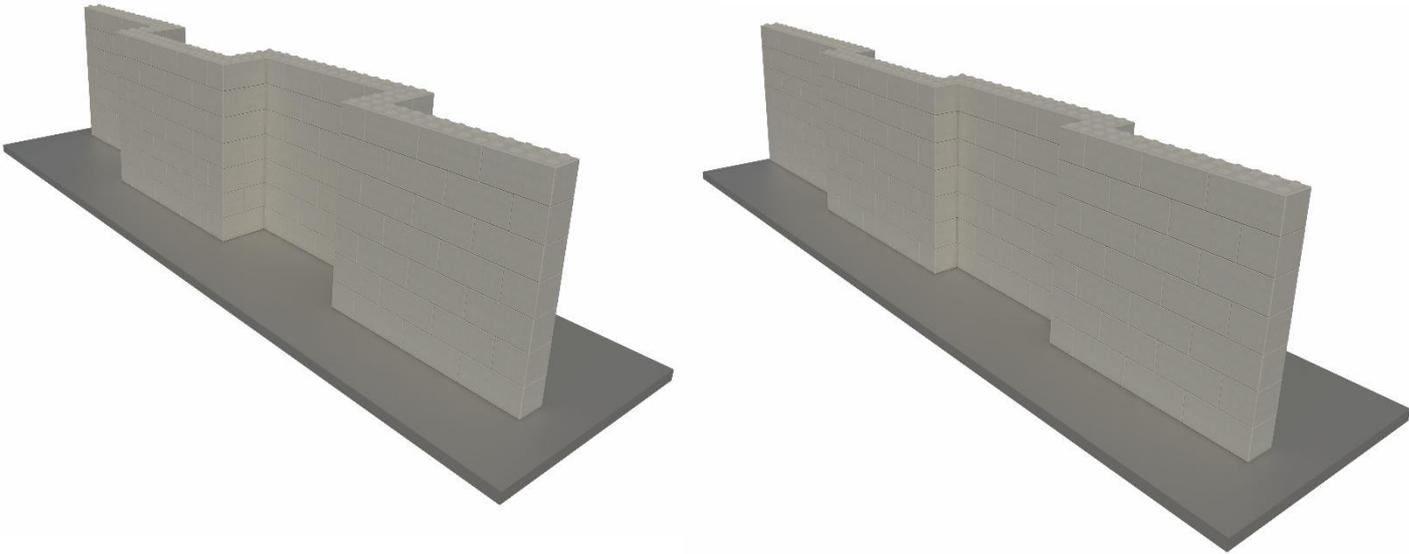


Figure 5.2e-f. Wall stability achieved through staggered walls.

Geo net can be effectively incorporated into project design by C3C or other geo designers in order to stabilise counter-filled retaining walls through ground anchoring, as visualised below.

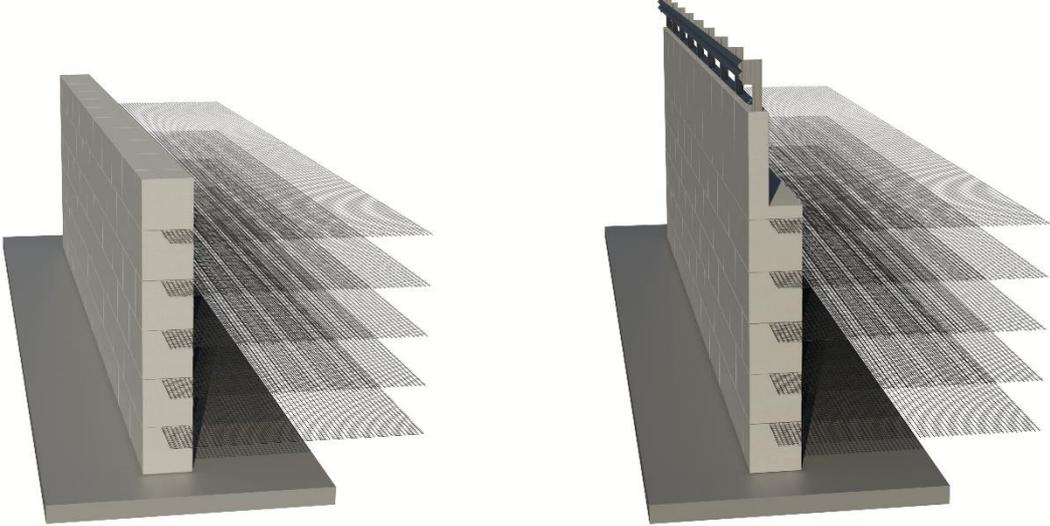


Figure 5.2g-h. Stabilisation with geo net through ground anchoring.

Customised slack-reinforced or tensioned C3C blocks can be made on a project-specific basis, please see the figure below. Robust rods can be incorporated into the project through the block design, and these can also be pre-tensioned or post-tensioned. Other embedment details such as anchor rails, fixation plates, screw bushings etc. can also be incorporated into the project design.

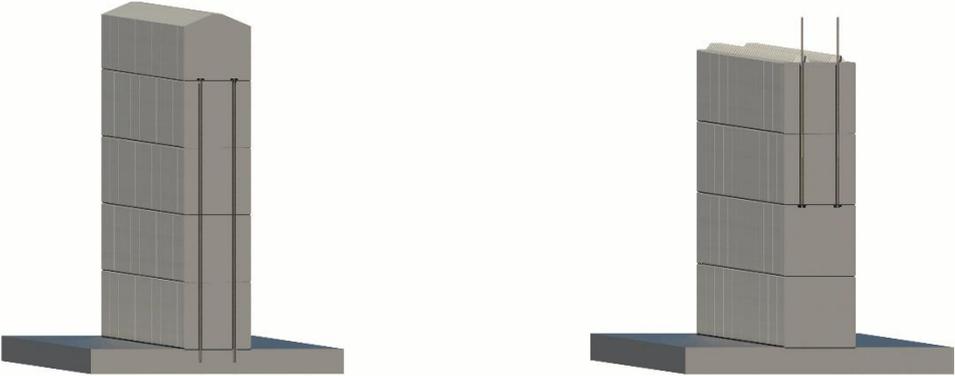


Figure 5.2i-j. Tensioned C3C blocks, slab on the ground with top blocks and top layer.

6. INSTALLATION

6.1 Loading procedures

The following must be observed when loading C3C Block System;

6.1.1 Equipment

During loading, the driver must have the following equipment:

- Safety clothing/safety vest
- Helmet
- Safety footwear
- Gloves
- Safety goggles

6.1.2 Arrival at the factory for loading

Upon arrival at the factory for loading:

- Report the arrival via the telephone number provided one hour prior to loading.
- Upon arrival, inform the factory about which goods that are to be collected/dropped off. Information about this should exist at the responsible transport planner and the factory where loading is to take place.
- Check that the right type and quantity of block is being loaded. Vehicles that have not been loaded in accordance with booked instructions may NOT leave the factory until the responsible salesperson/traffic planner at C3C Engineering AB has given his/her approval.
- The delivery note should be completed, and a copy of this should be given to: *1. The producing factory, 2. The accounting department and 3. The driver.*

6.1.3 Loading with crane lorry

When loading is performed with a crane lorry:

- No personnel may be present within the crane's work area unless they are in contact with the crane operator.
- Make sure that no one is under a suspended load.

6.1.4 Loading with fork-equipped machine

When loading is performed with a fork-equipped machine:

- The driver should be positioned so that he/she can maintain eye contact with the machine operator.
- If bedding/underlay is to be placed on the platform prior to loading, this should be done before the machine operator lifts the C3C blocks up onto the platform. Bedding/underlay may not be handled when the machine operator is holding material above the bedding/underlay.
- Extra care should be observed during loading when there is a risk for the formation of frost on the C3C Block System.

6.2 Delivery

Check the number of C3C blocks and accessories against the delivery note, to ensure that the quantity received matches the quantity ordered, i.e. a delivery check.

6.3 Intermediate storage at the workplace

If the goods are to be stored at the construction site, the intended storage area must have sufficient load-bearing capacity. C3C recommends the use of an intermediate layer that is made from timber with a cross section of at least 95x95 mm, placed at two locations in one-fifth points under the blocks. Each protruding section should stick out at least 200 mm. The blocks should not be stacked more than three layers high. C3C blocks can be stored in an offset fashion length-wise between the layers so that a machine with pallet forks and sufficient capacity can be used. Alternatively, an intermediate layer of timber can be placed between the blocks.

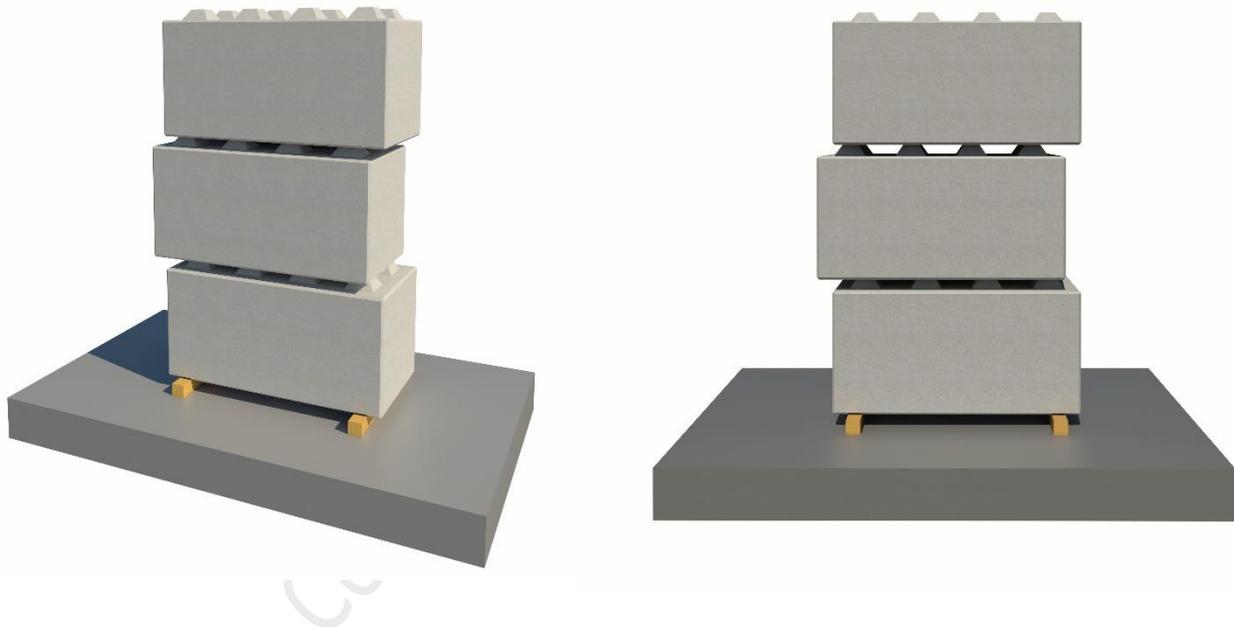


Figure 6.3a-b. Method for intermediate storage of C3C blocks.

6.4 Handling heavy weights

As standard, the blocks are handled with a mechanical lifting device with clamp, with a normal lifting capacity up to 2.5 tonnes. Before the lifting device is used each day, it should be checked for any damage, wear and tear or cracks.

Before the lifting device is used each day, the following self-check must be performed:

- Check that the device and associated protection and safety equipment has been set up and assembled in the correct and intended manner, so that there is no risk for unintended movement during the lifting or transfer of weights.
- Check the lifting device's maximum load capacity for safe use during assembly.
- Check the parts of the lifting device that are of importance to safety and the work environment to ensure there is no wear and tear, cracks, damage, corrosion, etc.

- Perform a functionality test with appropriate load.

The person who carries out the self-check must possess the competence and knowledge required to be able to assess whether the equipment provides an appropriate level of safety for the work at hand. This knowledge must cover relevant areas regarding the lifting device's construction, operation, manoeuvring, properties, area of use, limitations, maintenance and inspection.

When using an appropriate lifting device, the assembly work must be carried out in such a way that there is no risk of a person being hit by a C3C block or the lifting device during lifting, or of a person being injured in some other way in connection with the work involving the lifting device.



Figure 6.4a-b. Block handling with the help of a universal head lifting link and mechanical lifting device with clamp.

In certain projects there may be a pre-cast lifting link, and for block weights over 2 tonnes there should be double lifting links. These blocks can then be lifted with a universal head that is connected to the pre-cast lifting link (please see figure 6.4a). Check out DEHA's Universal Head user instructions for correct handling.²

6.5 Assembly

6.5.1 Load-bearing capacity

The ground area on which it is intended to assemble the C3C blocks should have sufficient load-bearing capacity. If there is any uncertainty due to the ground's condition, geological expertise should be called in. C3C generally recommends a non-frozen and drained ground surface with a load-bearing thickness of at least 150 mm under the blocks, and that the surface provides a load-bearing capacity of at least 100kPa for walls up to two layers in wall height. Higher walls should have project-specific design based on dimensioned ground pressure.

² http://www.halfen.se/s/116_7716/halfen/modules/brochures/index.php

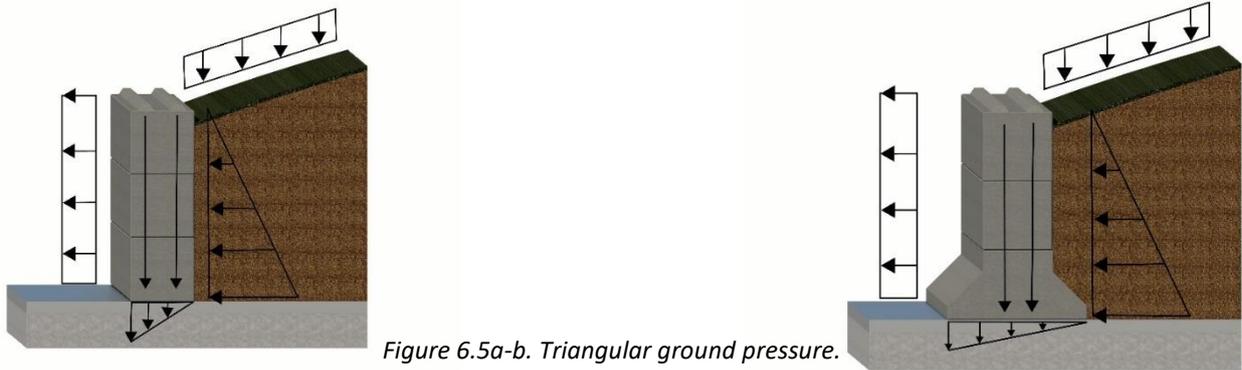


Figure 6.5a-b. Triangular ground pressure.

6.5.2 Supporting surface/bed

The supporting surface on which the C3C blocks are to be assembled should be flat within a tolerance of ± 3 mm for the best results. This is achieved by smoothing in a levelling layer of approx. 30 mm thickness to the right height. Drained fine-grained sand, gravel or shingle can be used as a levelling layer. Flat asphalt and concrete surfaces can also work well as a direct supporting surface for C3C blocks, if they possess sufficient flatness and load-bearing capacity.

The following is a description of the surface that is required in order to be able to build with the blocks on "untouched" ground:

- Reinforcement layer (bottom): Crushed rock 0/90 or 0/63 approx. 30-40 cm
- Load-bearing layer: Load-bearing layer of rock 0/45 or load-bearing layer of rock 0/32 approx. 20-30 cm
- Sealing layer/wearing layer: Crushed rock 0/18 approx. 5-8 cm
- Surface layer/wearing layer: Rock flour 0/4 or 0/8 approx. 3-6 cm

A more substantial reinforcement layer may be required in softer ground conditions - C3C recommends that a ground survey be carried out in such circumstances.

6.5.3 Assembling the blocks

When assembling the blocks, guide lines should be drawn to support the correct placement of the blocks. Other aids include a crowbar, crowfoot and 2 m spirit-level. A pre-inspected lifting machine with authorised driver/operator is used to lift the blocks into place. The lifting machine could be a lorry crane, mobile crane, tower crane, excavator, wheel loader or teleporter etc. It is important to ensure that there is no ice/coating on the blocks during lifting, as this could cause the blocks to slip from the lifting device. Please also note that personnel must never be positioned under a load that is being lifted or in its fall risk area.

The first block layer can be adjusted into exactly the right position by one person while the crane is still taking the weight. However, no risk may be allowed to exist for injury due to the crushing of fingers or feet between blocks and the platform/bedding in connection with this work. The second block layer is steered through the blocks' recesses themselves down into position with the help of conical fit into the control consoles located on top of the first block layer. Make sure that the top and bottom of the blocks are clean and free of coating, so that the blocks are resting on the layer below and are not simply hanging on the control consoles.

Please note that, when it comes to the assembly of heavy elements, the developer is responsible for ensuring that the necessary work environment plan and risk analysis has been produced.

6.5.4 Placement of the blocks

The blocks should be placed with staggered joints and can be supplemented with module blocks in order to increase the strength of the structure (please see figure 6.5c). Non-staggered joints (figure 6.5d) give rise to stand-alone stacks of blocks that do not work together in the wall's length-wise direction.

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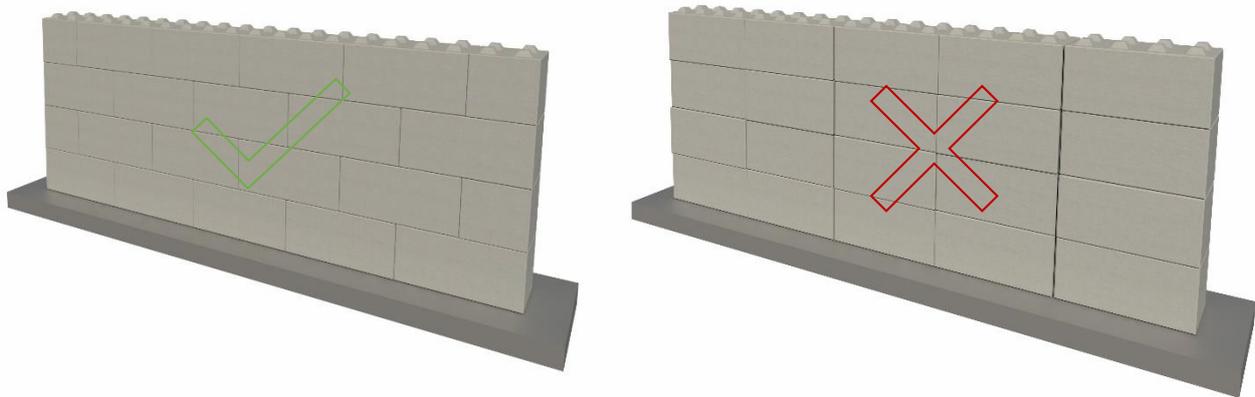


Figure 6.5c-d. Staggered joints and non-staggered joints.

6.5.5 Construction tolerances and inspections

The slope may normally be max. $h/100$ or max. 50 mm on the entire wall height. Important tolerances for the project should be indicated on the construction drawings. Please note that the blocks often gain a couple of millimetres per block length-wise compared with the module dimensions under section 2.1 Block Geometry, and this must be taken into account when designing for assembly tolerance in connection with the construction of overlying structures.

Once assembly has been completed, the assembly manager or client should visually inspect the C3C blocks to ensure that they are not showing any significant damage or comprehensive crack formation or deformations, since this impacts on the fit (please see figure 6.5f). By significant damage we mean:

- Control consoles that have been knocked away
- Corners that have been knocked away and are larger than 150 mm in diameter.
- Pieces of block that have been knocked away and are larger than 100 mm in diameter.
- Cracks with a width in excess of 0.2 mm.

Minor scuffing from handling may occur on some C3C Blocks By minor scuffing we mean visible corners and chips that have been knocked away or scuffed - these do not have a negative impact on the structure (please see figure 6.5e).

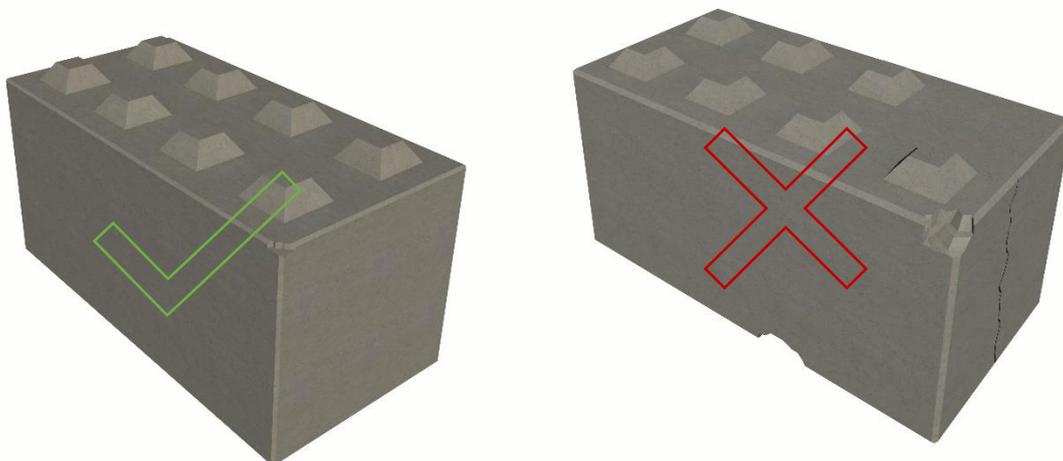


Figure 6.5e-f. Block assessment in relation to crack formation and scuffing.

7. OPERATION, MAINTENANCE AND INSPECTIONS

7.1 Operation

Personnel who work with block structures must be informed by the employer/facility owner about the intended load capacity for which, for example, a ground-level storage area has been designed. If, due to an accident/incident or other circumstances, an unforeseen load is imposed on the block structure, C3C should be contacted for advice regarding the measures that should be taken.

7.2 Maintenance

Concrete blocks can be maintained through repairs, although this is not usually financially viable. In situations of extreme exposures, consideration should be given to providing the blocks with a protective coating against, for example, low pH and hard wear and tear. As a rule, C3C blocks are individually replaceable if single sections or blocks need to be replaced.

7.3 Inspections

Depending on how high the level of utilisation of the block structure is and what it is subjected to, the client is recommended to inspect the structure periodically in accordance with 6.5.5 above, in order to ensure that the criteria are still being complied with.

8. DISASSEMBLY AND FINAL USE

C3C blocks can easily be disassembled by following the same guidelines for handling of heavy weights as set out in section 6.3. After disassembly and transportation away from the site, the C3C blocks can be kept in intermediate storage in accordance with the description provided in section 6.2. In connection with re-assembly after intermediate storage, the blocks should be inspected in accordance with section 6.4.4, and design should take place in accordance with section 6.4.1 regarding dimensioned ground pressure.

It is highly likely that C3C blocks will be able to be reused for similar or new needs in the future. Alternatively, they can be sold for use by a third party. Ultimately, concrete blocks that are deemed to be too badly damaged or worn-out for re-use or sale can be crushed into ballast that can then be used for e.g. road construction, or reused in the production of new concrete.

9. ACCESSORIES

C3C Block System™ can advantageously be equipped with accessories such as, for example:

- Lifting system
- Rails
- Net, fence
- Gate opening
- Embedment details; Fixation plates, screw bushings and reinforcement recess strips
- Signs



Figure 9a. Selection of accessories for C3C Block System™.