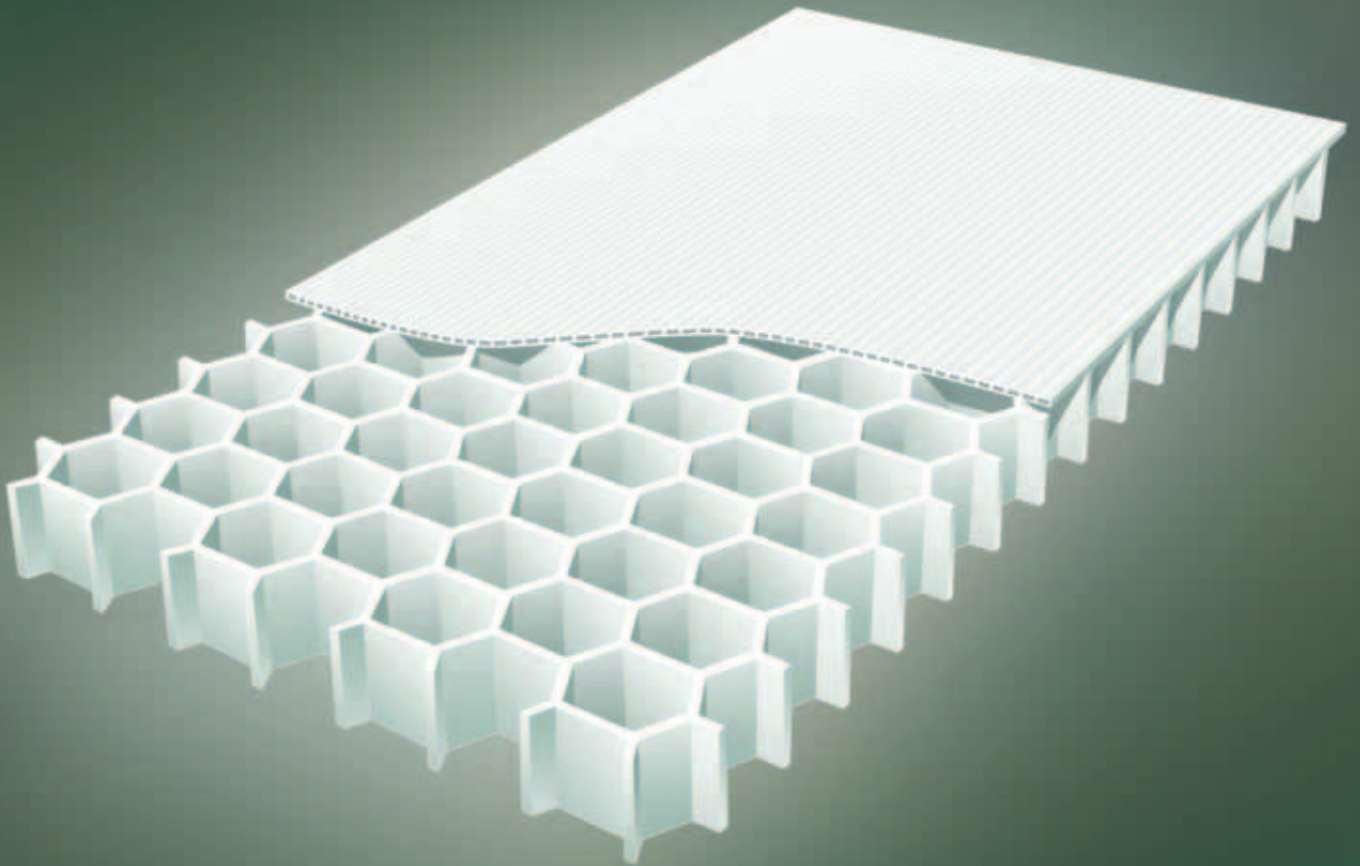


cellcore



FOR PROTECTING FOUNDATIONS
AGAINST GROUND MOVEMENT

New Cellcore HX

- ▶ Built on over 20 years experience, Cellcore HX is the result of an extensive development programme. The unique design combined with the moulded construction provides improved protection against ground heave.

TYPE CELLCORE HX S



For Slabs
Standard Size: 2400 x 1200mm

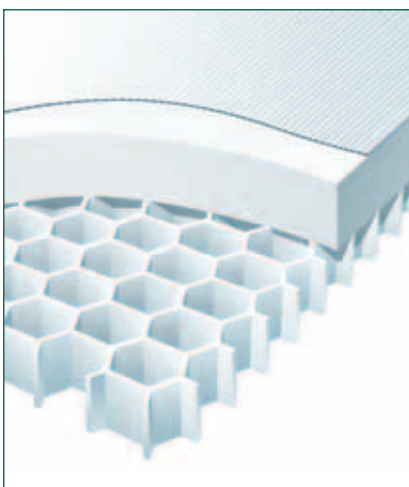
TYPE CELLCORE HX B



For Beams
Widths between 300 and 1200mm.
Preferably in 25mm increments.

TYPE CELLCORE HX PLUS

Where insulation is needed.



The new HX range incorporates drainage slots.



The table shows the thermal properties for different thicknesses of EPS.

For further advice please contact our Technical Service team.

Thickness (mm)	Thermal Resistance m^2c/w
50 (Standard)	1.39
75	2.08
100	2.78
125	3.47
150	4.17

► **Cellcore HX provides a number of significant new benefits over the original Cellcore range.**

- Moulded for consistent performance and durability
- Reduced depth and therefore less excavation required
- A reduction in the upward force transferred to the structure
- Suitable for most lightweight slabs
- More economic
- Reduced carbon footprint

Table 1 (Standard grades)

Grade Safe Load/Fail Load (kN/m ²)	Max. Concrete Depth* (mm)
7/10	220
9/13	300
13/18	460
18/24	660

* Based on the new Eurocode and a live load allowance of 1.5kN/m².

For concrete thicknesses greater than 660mm, please contact our Technical Services team.



Table 2 (Selection of Cellcore HX)

Results of Soil Analysis	NHBC Category	Predicted Ground Movement or BRE/NHBC requirement	Depth of Cellcore HX required to achieve 'Equivalent Void'	
Plasticity Index	Shrinkage Category	Void Dimension (mm)	HX S (mm)	HX B (mm)
10 - 20	Low	50	90	85
20 - 40	Medium	100	160	155
40 - 60*	High	150	225	220

* When the analysis exceeds 60 or a deeper void is required, please consult our Technical Services Dept.

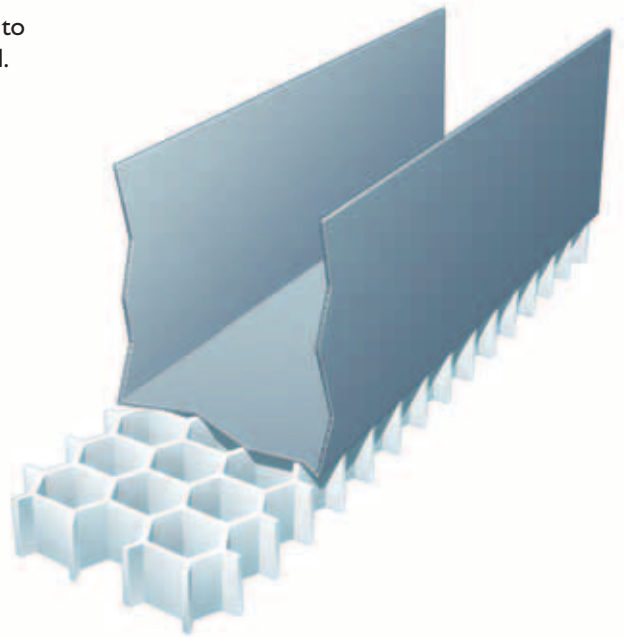
► **New Cellform HX**

For use under piled beams. Provides permanent formwork and protection against ground movement.

Cordek's permanent formwork system Cellform HX, is used to protect beams on sites where ground movement is predicted.

Benefits

- Tailor made for each project
- Quick and simple to install
- Reduces concrete wastage



**Beam widths between 300 and 1200mm.
Preferably in 25mm increments.**

► **Claymaster**

Claymaster, a compressible expanded polystyrene, protects piled beams from lateral forces of heave.



For more information and advice on delivery, storage, handling and installation please consult our website or

download our Ground Movement and Permanent Formwork literature.

Design Examples

DESIGN EXAMPLE 1



Lightweight Slab (220mm thick)

- Assume the soil survey showed a plasticity index of 15.
- Table 2 shows the potential for ground movement is low
- BRE/NHBC data recommends a clear Void of 50mm.

1. Total deadweight/downward load is:

Self weight of 220mm concrete slab:		
0.22 x 25kN/m ²	=	5.5kN/m ²
Live load allowance	=	1.5kN/m ²
TOTAL LOAD	=	7.0kN/m²

2. Table 1 shows the next SAFE LOAD value is 7kN/m²
(Fail Load of 10kN/m²)

The appropriate Cellcore HX S grade = 7/10

3. A maximum 50mm of ground movement is predicted and Table 2 shows that,

The Cellcore HX S depth to accommodate this = 90mm
So, the full product specification =

Cellcore HX S 90mm 7/10

As stated above, this Cellcore HX S grade has a
FAIL LOAD of 10 kN/m²

The Slab must therefore accommodate a Residual Upward Force, derived as follows:

Cellcore HX S Fail Load	-	Self weight of Slab	=	Residual Upward Force
10.0	-	5.5	=	4.5kN/m²

Two possible modes of failure should be considered:

- The Slab being lifted off the foundation.
- Failure of the Slab in bending or shear due to the uplift.

DESIGN EXAMPLE 2



Beam (600mm deep)

- Assume the soil survey showed a plasticity index of 30.
- Table 2 shows the potential for ground movement is medium
- BRE/NHBC data recommends a clear Void of 100mm.

1. Total deadweight/downward load is:

Self weight of 600mm concrete beam:		
0.60 x 25kN/m ²	=	15.0kN/m ²
Live load allowance	=	1.5kN/m ²
TOTAL LOAD	=	16.5kN/m²

2. Table 1 shows the next SAFE LOAD value is 18kN/m²
(Fail Load of 24kN/m²)

The appropriate Cellcore HX B grade = 18/24

3. A maximum 100mm of ground movement is predicted and Table 2 shows that,

The Cellcore HX B depth to accommodate this = 155mm
So, the full product specification =

Cellcore HX B 155mm 18/24

As stated above, this Cellcore HX B grade has a
FAIL LOAD of 24 kN/m²

The Beam must therefore accommodate a Residual Upward Force, derived as follows:

Cellcore HX B Fail Load	-	Self weight of Beam	=	Residual Upward Force
24.0	-	15.0	=	9.0kN/m²

Two possible modes of failure should be considered:

- The Beam being lifted off the top of the piles.
- Failure of the Beam in bending or shear due to the uplift.

For our detailed literature on these other Cordek Solutions,
please call our technical sales on: **01403 799601**

Formwork Solutions

For a range of construction applications

Trough & Waffle Moulds

For forming ribbed concrete floors

Piling Accessories

A range of product solutions and systems

Cellcore

For protecting foundations against ground movement

Claymaster

Low density polystyrene for accommodating lateral ground movement

Cellform

Like Groundform but with built-in protection against ground movement

Groundform

A formwork system for in-situ ground beams and pile caps

Correx® & Seekure

For temporary protection

Tipform

A system for constructing steep sided landfill sites

Filcor EPS

For voidforming, fill and a range of other applications

Digital Fabrications

For a range of design led applications

Gas Protection

For venting hazardous gases from under buildings



If the contents of this brochure do not point to a solution for a particular application, we urge contractors and specifiers to call our Technical Sales line on 01403 799601.

Our reputation is built on innovation and we have a wealth of problem solving experience for you to call on.

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