

**LBT Power South Africa CC t/a
LightBUILD Technologies**

Reg. No: 2007/117125/23

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Build Right, Building Light!

LightBUILD Wall Grouting System Cost Advantages

Light steel construction techniques offer a wide range of benefits when compared with conventional building in terms of quality, cost, durability and speed. Cellular Lightweight Concrete is a unique material that can be used in various on site applications.

We offer a new, economical solution – to use lightweight cellular concrete as the infill for cavity wall panels.

By combining the light steel framework with LightBUILD cellular concrete, a full scale mould of the structure can be configured with all the services, both plumbing and electrical, cast in situ as a monolithic reinforced walling system.

Benefits of using lightweight cellular concrete:

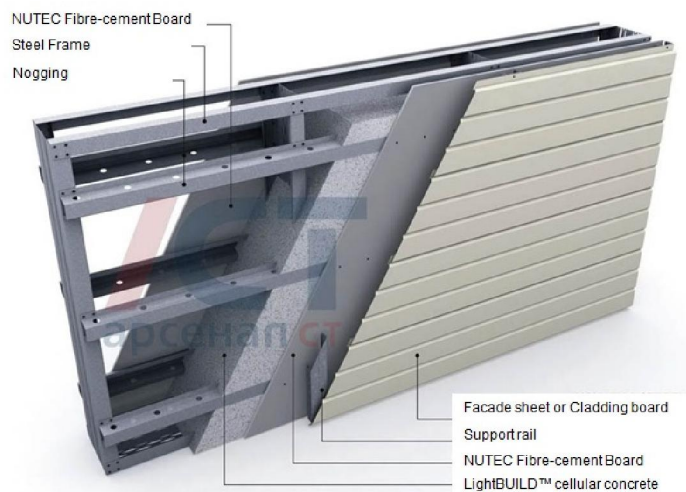
- The life time of material is 50 to 100 years! It doesn't shrink or sag
- It is non-inflammable
- On-site manufacture and application
- Concrete is cast in place resulting in savings in handling and transportation costs
- Thermal insulation is better as there will be no cavities, slits or other openings that are normally left inside after installation of other products such as glass wool, etc. It will be a solid concrete wall!
- Low water absorption of material (because of its closed cellular structure) makes homes warm and pleasant to live in
- Outstanding acoustic properties – provides exceptional sound insulation from neighbourhood and traffic noise.
- Safe and environmentally friendly material.



The outside wall can consist of either: 12 mm fibre cement flat sheet / weatherboard / MgO board / plaster rendered finish / brick tile / oriented strand board or face brick.

Internal walls can be either 9 (or 12) mm fibre cement or MgO flat sheet.

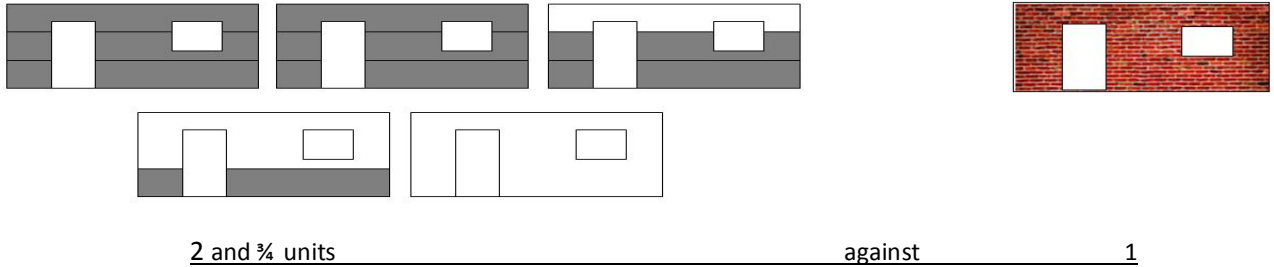
LightBUILD Cellular concrete can be manufactured on site with controlled parameters of density and strength to meet specific structural and non-structural design requirements!



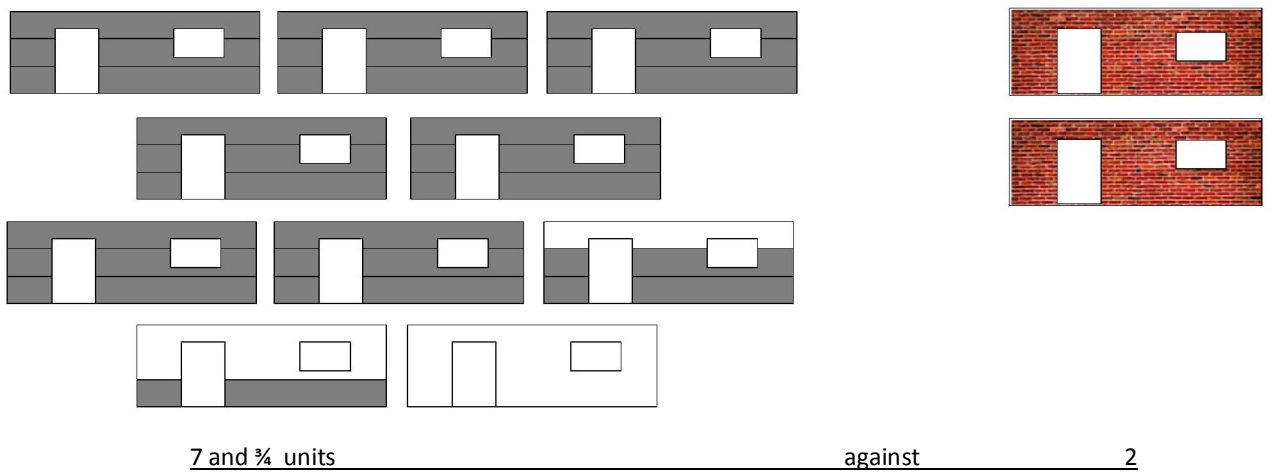
Case Study: LightBUILD Wall Grouting versus Conventional Bricks and Mortar

The benefits of using lightweight concrete wall grouting compared to the traditional “brick and mortar” technique are represented below in the four weeks scenario: **12 workers building a 2 bed, 1 bath home of 50m² floor area.**

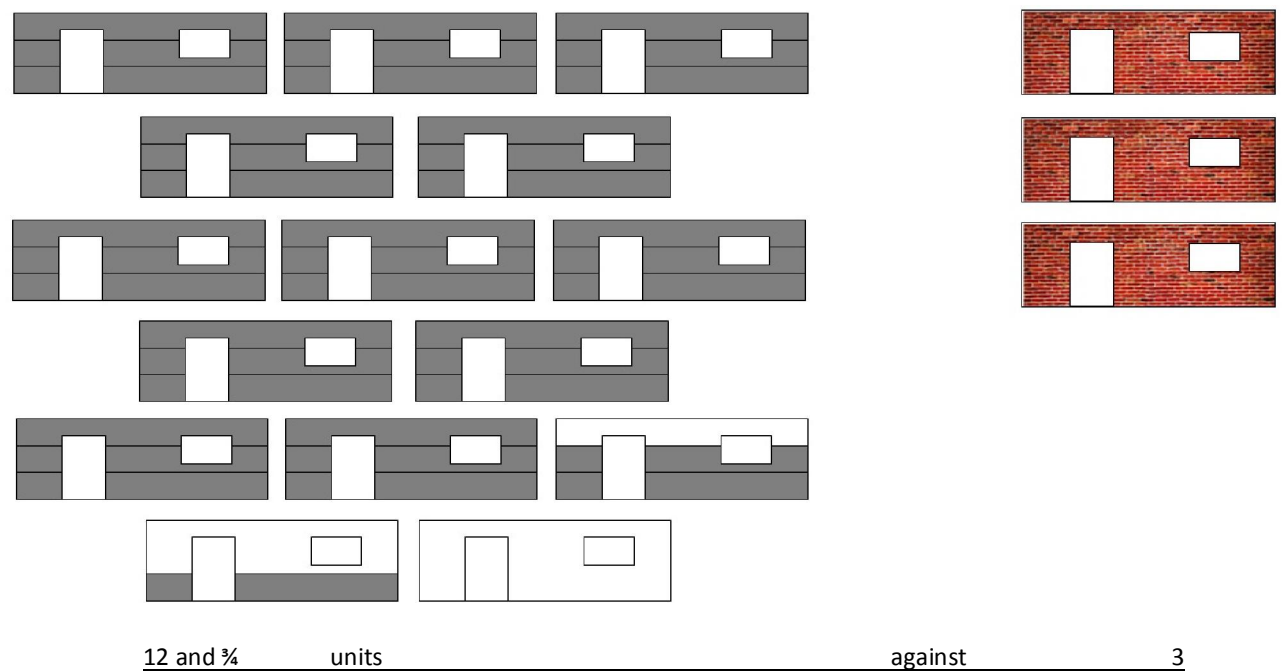
Week 1



Week 2



Week 3



Week 4



17 and $\frac{3}{4}$ units against 4

Result - Phenomenal Construction Speed!

This system has been developed to address the key challenges embodied in the low cost and affordable housing shortages facing developing countries namely:

- lack of resources
- insufficient funds
- skills shortage
- time constraint
- work flow control
- waste

Materials Savings

LightBUILD lightweight concrete can achieve 7MPa compressive strength at 1200kg/m³ density. This is 2 times lighter than conventional dense concrete and approximately 1.7 times lighter than concrete stock bricks. Wall grouting technology using LightBUILD cellular concrete requires no stone and can be easily modified according to the local cement and aggregates to meet the project requirements.

Cellular Lightweight Concrete panels perform their sound and thermal insulating functions well at considerably lower dimensions, so thinner walls may be manufactured utilizing fewer materials, resulting in lower costs.

Due to reduction in dead weight, reduction in consumption of steel and cement and lesser excavation for foundations, construction time is reduced which in turn results in savings in labour cost and overheads.

Savings in Labour Cost

Local labour can be used for installation under trained supervisors. Wall erection time decreases drastically due to high cellular concrete production volume; our equipment manufactures from 6 to 12 cubic metres of material in one hour! Five buildings can be built in the time it takes to build one such building using standard “brick and mortar.”

Savings in Plaster

Grouted walls have a uniform shape so minimal plastering is required. There is an overall 65% reduction in the cost of plastering.

Reduction in Wastage

LightBUILD wall grouting systems completely eliminate the on-site concrete wastage from the input costs. The steel elements and boards can be supplied in pre-cut lengths as per building drawings and erected within the prescribed procedure, so the wastage can also be minimized.

Input of LightBUILD Wall Grouting at a glance

Item	Description	Saving	Overall Impact
1.	Material Savings & Saving in cost of Structure (Steel, Cement, Excavation, etc.)	15%	1%
2.	Saving in Labour Cost	50%	15%
3.	Saving in Mortar	100%	1.5%
4.	Saving in Plaster	65%	1.5%
5.	Saving on Wastage	65%	0.5%
6.	Savings due to less power load	25%	12%
	Overall Savings		31.5%

At **LightBUILD Technologies** we offer our expertise and experience delivering modern solutions to the construction industry.

We look forward to demonstrate our commitment to serving your needs and the opportunity to discuss our technologies with you in the near future. We are serious about delivering excellent service to *our* customers and we're working hard to make it better.

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