

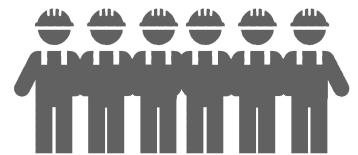
# ADVANTAGES FACT SHEET

All building industry players including developers, architects, engineers and contractors need to understand the only way forward is to be receptive to new ideas and explore their possibilities. BubbleDeck is a cost effective biaxial suspended floor slab system. BubbleDeck numerous benefits listed herewith should be taken into account when the costing of a building project is considered.

## LABOUR SAVING

Up to 50% less labor is saved at the site for the installation of BubbleDeck system. Fewer skilled labor such as supervisors, bar benders, carpenters, general labors are needed to construct the floor slab as opposed to Conventional Flat Slab, Beam & Slab system, and Post Tensioning System.

This will result in higher productivity per man hour and ease of supervising fewer people. Housing of labor can be much fewer, savings in workers levy, less social issues and amenities for the workers can be reduce resulting in savings e.g. genset, canteens and toilets.



## HIGH CONSTRUCTION SPEED

Speed is one of Bubbledeck strongest points. Bubbledeck is beamless precast system which manufactured in the factory. It's none weather dependent, negligible formwork, 40% less scaffoldings to put up at site, with all the shear links and reinforcement preinstalled. It's up to TWICE as fast when compared to conventional system.

- Less interest to be paid to banks and financiers of the project.
- Less wages and salaries paid as project is completed faster.
- Less exposure to fluctuations of building materials.
- Speed is especially important when a particular site is in the city center or its near existing populated area. The traffic restriction time and complaints from nearby residents can slow down a project.
- For condominiums and apartments where car parks need to be constructed. BubbleDeck can expedite this non-profitable area quickly and enable the developer to start collecting from the buyers when the actual condo units that are being built.
- BubbleDeck system also reduces the chances of LAD due to fast track precast system. Faster completion also means faster sales or leasing of property for developer and more projects can be undertaken by the contractor.

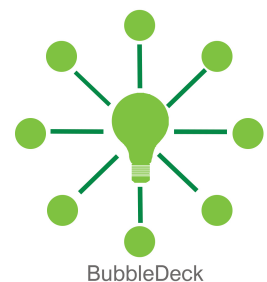
## GREATER DESIGN FLEXIBILITY

BubbleDeck biaxial floor slab system is thicker and stronger. It allows walls to be shifted easily without additional support beams. This design flexibility also allows each floor design to be different from the next floor.

The slabs can also be designed in any shapes with greater accuracy, from curve to round to wavy before it is lifted into place.

It can cantilever 10 times its own thickness without any beam support.

The floor can also be cored and voided. As there are no pre-stressed wire tendons in its construction, coring and openings are allowed in a BubbleDeck floor. However, the civil engineer must be consulted on any openings prior to work being done.





## HIGH IBS SCORE

The BubbleDeck system is recognized by CIDB as an approved IBS (Industrialized Building System). It can score up to maximum of 50 points in the Structural System depending on the number of floors and columns design in the overall building design.



BubbleDeck



Conventional

## EXCELLENT QUALITY

Quality is Priceless. BubbleDeck System uses steel moulds that provides consistent high quality soffits ALWAYS. Quality is not dependent on the skills of workers in the site, quality of materials or the weather. This translates to less repair problems later.

## LESS PILING

Depending on the original design, the BubbleDeck system can reduce the number of piles required to support the building. This is due to its 30% saving in concrete.

## SAVING IN CRANE RENTAL

Tower Cranes, Mobile or Crawler Cranes are expensive to rent. BubbleDeck precast floor slabs can be easily installed up to 1,000m<sup>2</sup> in a day. With fewer building materials like steel bars, plywood, concrete, rebars need to be lifted, this translated into shorter rental periods for the cranes and faster building time.



## LESS SCAFFOLDING

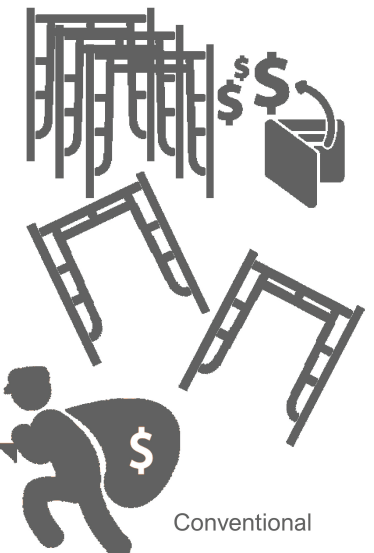
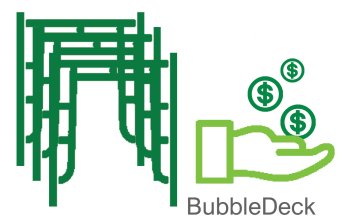
BubbleDeck precast floor slabs offers 40% less scaffolding than conventional beam and slab. As there are no beams, the soffit has only one level. This again translates to faster erection time, less scaffolding to rent and a CLASSIC finishes.

## LESS STORAGE

The BubbleDeck panels are prefabricated with most of the floor slab components preinstalled, less storage space is needed at the site for plywood, steel bars, scaffoldings, bar bending stations, workers accommodations etc. This again is important if the site is very tight and in the middle of the city.

## LESS PIFERAGE

The nightmare of most sites is theft. With BubbleDeck precast floor slab system, the possibility of pilferage of steel bars, plywood and scrap irons are greatly reduced.





## HIGH **GBI** SCORE

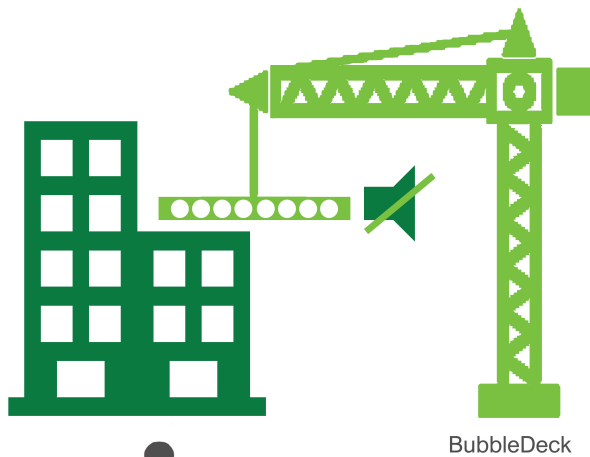
BubbleDeck is highly environmentally friendly. It uses up to 30% less concrete, 20% less steel and 90% less plywood. Fewer trucks needed in transporting building materials to site. The saving in carbon is tremendous, up to 40kg of CO<sup>2</sup> / m<sup>2</sup>. The non-structural plastic balls are made from recycled plastic materials. In the Green Building Index, the BubbleDeck system scores a maximum of 5 points.

## LESS CONSTRUCTION DEBRIS

Less construction debris and rubbish to clear as 90% formwork is eliminated. This saves the expenses of clearing and transporting waste out from the site. Less waste steel bars from bar bending.



BubbleDeck

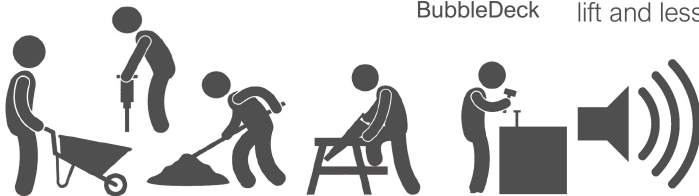


## LESS NOISE

For high populated areas, a reduction in carpentry means less noise. BubbleDeck system is a good solution to reduce noise for construction site nearby high density populated areas as it's prefabricated in the factory. Also, BubbleDeck system has better acoustic resistance quality.

## SAFER SITE ENVIRONMENT

Less lifting means more safety for the work site. With less materials to lift and less transport trucks are needed to be in the site.



Each of the above points is very important as problems with any one of them could prove to be costly to both the developer and the contractor.