



THE CUPOLEX® SOLUTION



STRUCTURAL
RIBBED SLABS



www.cupolex.ca

PONTAROLO®
ENGINEERING 

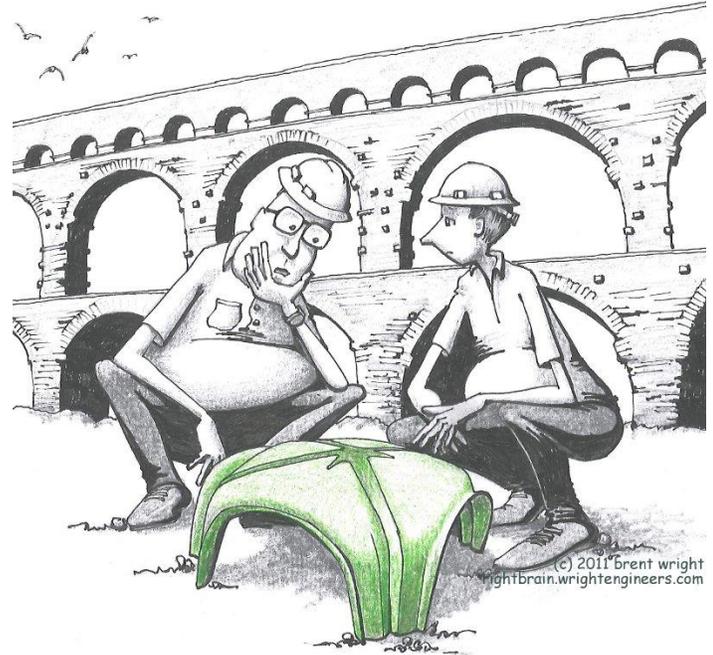


STRUCTURAL SLAB FORMING SOLUTIONS

Over the past 3 decades, the idea of placing concrete over CUPOLEX® permanent void forms has become an increasingly popular foundation method, not only for site conditions involving challenging soils, but replacing conventional slabs that are not very well known to provide healthy interior environments. Building designers and developers strive to assure better results and protect themselves and their product from criticism and failure. They are constantly facing challenges when designing and installing slabs on ground including the following:

- Structural failure
- slab curling and shrinkage,
- reducing the environmental impact of building,
- lowering building costs and the carbon footprint,
- reduce the cycle time of building,
- post construction settlement of soil below structures
- reduce aggregate use and the use of importing and engineering fill
- seeking alternative design to not using light weight fill or EPS fill to reduce dead loads on structures
- moisture and mold prevention,
- expansive and challenging soil conditions,
- accumulating points for LEED certification.

Sites with soils with very low bearing capacity, high compressibility, or that are highly expansive typically require remedial treatment. A Special slab design such as a structural reinforced slab, a slab that includes stiffening beams or a slab not directly supported by the soil such as on a beam/pile or stem wall foundation.



"THIS FEELS LIKE SUCH NEW TECHNOLOGY.
HOW DO WE KNOW IT'LL WORK?"





STRUCTURAL RIBBED CONCRETE SLABS

The CUPOLEX® floor slab can be fully or partially suspended on piles, stem walls or grade/edge beams. Additional reinforced internal ribs are then used in the slab by introducing PONTEX®, the structural CUPOLEX® accessory to provide a structure capable of spanning between foundations or piles.

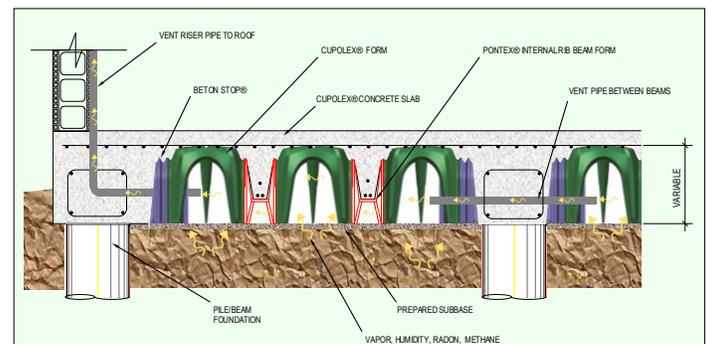
The innovation of PONTEX® was introduced to the CUPOLEX® system to advance the aerated floor technology one step further. It has the potential to revolutionize the conventional application of concrete slab construction by reducing the amount of excavation, reducing or eliminating the need for imported materials, aggregates or engineered sub-grade, reducing the amount of concrete consumption and reducing labour costs. The CUPOLEX-PONTEX® technology is at the forefront of conventional concrete slab construction.

PONTEX® is recycled polypropylene element that, combined with CUPOLEX® can be used to create beams so that aerated floors become self-bearing. If the soil is unsuitable to hold the slab load design, PONTEX® is used which in turn will create a one directional or a two directional structural slab.

Applications

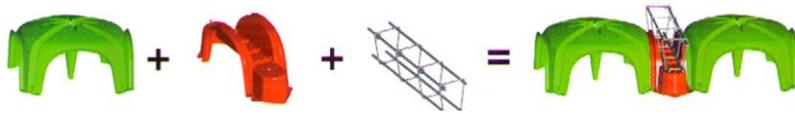
There may be many reasons for suspending a floor slab that may include:

- Unsuitable ground conditions such as very low bearing pressures
- Expansive/swelling soils
- Predicted post construction settlement of the subbase
- Bridging over public storm water and sewer lines
- Slope stability issues



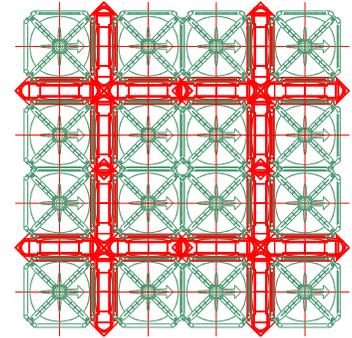
FEATURES:

- Quick and simple to install
- Minimizes the need for skilled labor
- Supplied on short lead times
- Tailored to any type of site requirements
- Saves aggregate, concrete and steel
- Speeds construction
- Lowering building costs
- Reducing the cycle time of building
- Maximum control of concrete curing
- Providing a higher quality floor surface;
- Achieving longer spans in pile/beam structural slabs and pile numbers may be optimized to limit additional costs
- Monolithic poured concrete foundation slabs
- Solution for Structural Weight Limits
- Contributing to GREEN or LEED certified building



Cupolex® + Pontex® => ribbed foundation system

- Reduced slab-soil contact area
- Lighter than a traditional ribbed slab
- High punching resistance ('dome' effect)



DESIGN & ENGINEERING



We provide PE stamped shop drawings through our engineering partners globally, construction training, and installation observation and we work closely with the design team, the contractor, and the owner to ensure the success of the project. Each site is different, and working with project partners to find installation solutions that address specific site needs is a part of the service we provide.

To begin using the CUPOLEX® for your structural slab project, visit our Solutions page at www.cupolex.ca for a step-by-step road map on using this product.

PONTAROLO
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PATENTED



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