

# LIGHTWEIGHT CONCRETE

We have several options of lightweight and semi-lightweight, structural and non-structural concrete fill. Your choice depends on the desired density and compressive strength.

## STRUCTURAL FULL-LIGHTWEIGHT AGGREGATE CONCRETE:

This type of lightweight concrete is made with lightweight porous ceramic material produced by expanding and vitrifying select shale in a rotary kiln. Typical density for this concrete is around 1850kg/m<sup>3</sup> and can still produce structural concrete with strengths between 20 MPa and 35 MPa. The finishing procedures are similar to normal density concrete.



## STRUCTURAL SEMI-LIGHTWEIGHT AGGREGATE CONCRETE:

Semi-lightweight concrete is produced using aggregate made from slag. The density of the semi-lightweight concrete is 2050kg/m<sup>3</sup>. This product also produces a structural concrete with compressive strengths of 20 MPa to 35 MPa. The finishing procedures are similar to normal density concrete.



## NON-STRUCTURAL LIGHTWEIGHT CONCRETE FILL (CELLULAR CONCRETE):

Cellular concrete/grout is used to produce a non-structural lightweight fill. This lightweight concrete is created by adding air bubbles and foaming to the concrete, resulting in a lighter density product. The density of cellular concrete/grout is around 1850kg/m<sup>3</sup> (and as low as 1600kg/m<sup>3</sup>), but with non-structural strength typically between 2 MPa to 10 MPa. Note that the finishability is more difficult due to the high air content.



## NON-STRUCTURAL POLYSTYRENE LIGHTWEIGHT FILL (POLYSTYRENE CONCRETE):

Polystyrene based concrete is essentially a concrete/grout that has styrofoam beads introduced to the mix to make the product lighter. It is mostly used as fill. Again, this is a non-structural concrete with a density of 500kg/m<sup>3</sup> to 700kg/m<sup>3</sup> and strengths between 0.2 MPa and 3 MPa. It has excellent thermal properties and would be similar to a rigid insulation fill.

