AireX –

Life Cycle Assessment

The life cycle assessment (LCA) of AireX concrete is similar to that of traditional heavy weight concrete as the main component other than cement is only air voids.

This LCA will cover the lifecycle and durability of AireX concrete under various environmental conditions and when used in a variety of applications.

LCA table

AireX concrete:

Applicable when used as wall panels, floor slabs, floor screed, insulation and similar applications.

Lifetime indoors	**+100 years**
Lifetime outdoors unprotected	**+50 years**
Lifetime outdoors painted, plastered, coated etc.	**+100 years**
Temperature range allowed	**-50°C to +100°C**
Humidity range allowed	**0% to 100%***
Frost/thaw	**Resistant**
Exposure to sunlight	**Resistant**
Exposure to rain	**Resistant****
Exposure to chlorides	**Resistant**
Exposure to acids	**Resistant*****

*Very low levels of ambient humidity <25% will result in shrinkage of any concrete product, therefore it is recommended to add fiber reinforcement in the form of soft fibers made from polypropylene and/or fiberglass mesh in order to mitigate cracking.

**AireX used in facades or on roofs should be covered by a water proof layer in order to fully secure water tightness and long-term durability of the structure.

***An acid-resistant curing compound can be used to increase the durability in applications where continuous acid exposure is expected.

Recycling

AireX concrete is fully recyclable through the traditional process of crushing. Crushed ArieX can be reused in new concrete material as aggregates or fine powder partial cement replacement. In addition, lighter types of AireX can be utilized as light-weight gravel filling in foundations, retaining walls etc.

Crushed AireX can be recycled into traditional concrete when crushed to a powder or used as a light-weight aggregate when crushed to larger pieces.

Chemical content

In the production of AireX concrete a number of chemical additives are used for foaming, plasticizing and acceleration.

The chemical additives are used in small volumes typically <1% of final product weight. During the curing phase of the concrete, the chemical additives react with the cement and changes composition entirely.

Thus, residue chemicals are not present in an environmental harmful way after the AireX concrete has been produced.

Therefore, any recycling of AireX concrete does not need to take the chemical additives into further consideration before handling and reusing recycled AireX in new products or outdoor applications.