SCC Limited

Information for EBCO Holdings submission with a fire plan.

Portawall Interlocking concrete blocks – use in fire breaks

In fire, concrete performs well – both as an engineered structure, and as a material in its own right. It has the highest fire resistance classification (class AI) under EN 13501-1:2007- A1:2009.

EN 13501-1:2007-A1:2009 specifies the method of fire classification for construction products and building elements. Materials that are classified as A1 are non-combustible and satisfy the requirements of all other classifications. **Concrete is classified as combustibility Class A1.**

This classification was defined in a European Commission decision and therefore it is not necessary to test concrete to demonstrate this fire classification. **The decision applies to all concrete with less than 1% volume or weight (the more onerous) organic material.**

Note that under The Directive blocks manufactured in accordance with the provisions of the directive and other prevailing standards are deemed to meet the criteria on the production of supporting certification from the supplier and they are not subject to end product testing.

Our Portawall blocks are manufactured from CEM1 52.5 OPC and virgin silica or limestone based aggregates under a Factory Control Procedure to BS EN 8500.

Our blocks are Class A1 Fire Resistant and will withstand extreme fire conditions for a minimum of 4 hours, they retain their structural integrity as passive fire protection in fires thus containing the burning material, preventing side spread and due to the low thermal conductivity and high heat capacity protect adjoining structures and materials while active fire fighting is employed.

Construction standards for a 4 hour fire rating require concrete thickness at 180mm, our blocks form a wall 800mm thick and so are over 4 times the minimum requirement (based on non-hydrocarbon fires).

Authoritative evidence of concrete's fire performance properties is presented in European standards. All building materials have been classified in terms of their reaction to fire and their resistance to fire, which will determine whether or not a material can be used and when additional fire protection needs to be applied to it. Based on the European Construction Products Directive, EN 13501–1: 2002: Fire classification of construction products and building elements classifies materials into seven grades with the designations, A1, A2, B, C, D, E and F, according to their reaction to fire. The highest possible designation is A1 (non-combustible materials) and the European Commission has published a binding list of approved materials for this classification, which includes the various types of concrete and also the mineral constituent materials of concrete. Concrete fulfils the requirements of class A1 because its mineral constituents are effectively non-combustible (i.e. do not ignite at the temperatures that normally occur in fire).

In most cases, concrete does not require any additional fire-protection because of its built-in resistance to fire. It is a non-combustible material (i.e. it does not burn), and has a slow rate of heat transfer. Concrete ensures that structural integrity remains, fire compartmentation is not compromised and shielding from heat can be relied upon.

Concrete as a material

Concrete does not burn – it cannot be set on fire and it does not emit any toxic fumes when affected by fire. Concrete is proven to have a high degree of fire resistance and, in the majority of applications, can be described as virtually fireproof.

This excellent performance is due, in the main, to concrete's constituent materials (cement and aggregates) which, when chemically combined within concrete, form a material that is essentially inert and, importantly for fire safety design, has relatively poor thermal conductivity. It is this slow rate of conductivity (heat transfer) that enables concrete to act as an effective fire shield not only between adjacent spaces, but also to protect itself from fire damage.

Concrete structures

Concrete structures perform well in fire. This is because of the combination of the inherent properties of the concrete itself, along with the appropriate design of the structural elements to give the required fire performance and the design of the overall structure to ensure robustness.

Fire performance is the ability of a particular structural element (as opposed to any particular building material) to fulfil its designed function for a period of time in the event of a fire.

Examples of Portawall Block supply conforming to EA requirements

We have supplied over 20000 blocks to numerous sites including Remet Metals (plastic and non-ferrous processing), Norpol Plastics, Colas Asphalt, Van Werven Plastics, ECO PLAS plastics, Chatham Plant – wood recycling, IP Polymer, SITA, Bio Wood, Bradford City Council and the majority of waste reprocessing sites in the locale.

Certification

All SCC Portawall blocks are individually marked and supplied with Certificates of Conformity.

If any further information is required please contact the company Engineering Director via email aps.csrservices@outlook.com.