



**CAA Environment and Sustainability Information**

Admixtures are an essential component of modern concrete, facilitating environmentally optimised mix design, innovative building design, improved job site placing and enhanced long term durability of the concrete.

The CAA members who supply these products are committed to meeting the highest standards of environmental and sustainable responsibility and to the responsible sourcing of the constituents used in admixture manufacture.

The following member companies have since 2008, provide annual returns showing key sustainability information based on the requirements of the Sustainable Concrete Forum and on BES 6001.

<b>BASF - Admixture Systems UK</b>	<b>Cementaid</b>
<b>CEMEX UK Materials</b>	<b>Grace Construction Products</b>
<b>Oscrete Construction Products</b>	<b>Sika Ltd</b>

**Quality management systems**

All six CAA member companies are certified to ISO 9001 by an accredited organisation

**Supply chain quality management**

More than 70% individual material suppliers to CAA members are certified to ISO 9001  
 More than 85% by mass of the material supplied to CAA members is certified to ISO 9001

**Environmental management systems**

All six CAA member companies are certified to ISO 14001 by an accredited organisation  
 There has been 1 reportable environmental incident in the last 7 years

**Supply chain Environmental management**

More than 45% individual material suppliers to CAA members are certified to ISO 14001  
 More than 60% by mass of the material supplied to CAA members is certified to ISO 14001

**Health and Safety management systems**

Only one CAA member is certified to ISO 18001  
 There has been 5 reportable accidents (RIDDORS) in the last 7 years  
 There has been 7 Lost Time incidents in the last 7 years

**Responsible Sourcing**

Less than 15% of constituent materials comes from countries outside the EU/EFTA  
 CAA members take all reasonable steps to ensure that constituent materials coming from countries outside the EU/EFTA are from suppliers who respect international norms concerning human rights and labour practices

## **Energy Efficiency**

CAA members UK energy use has fallen over the last 7 years from 47 to less than 25 kWh/tonne of admixture sold. However, as most of the constituent materials for admixtures are imported, these figures are not representative of the total embodied energy but this information can be found for individual admixture types in the appropriate EPD

## **CO<sub>2</sub> Emissions**

CAA members UK emissions of CO<sub>2</sub> in production has fallen over the last 7 years from 19 to less than 10 kg/tonne of admixture sold.

However, as most of the constituent materials for admixtures are imported, these figures are not representative of the total CO<sub>2</sub> but are accounted for in the generic EPD for each admixture

## **Waste**

Waste sent to landfill is less than 2 grams/tonne of admixture sold

In addition, approximately 5 grams of waste/tonne of admixture sold goes for recycling

## **Water Use**

Most admixtures are sold as aqueous solutions to facilitate accurate dosing. UK metered water use is recorded to access continued efficient use but does not include the amount of water in imported constituent materials that are already aqueous solutions. Water use for cleaning mixing vats and storage containers is normally saved for use in further batches of the same admixture.

The water in the admixture contributes to the water required for hydration of the cement in the concrete and in the case of plasticising and superplasticising admixtures, the water needed to give the concrete the necessary consistency can be reduced by 20 to 50 litres per meter. A significant environmental contribution.

## **Lifecycle assessment (LCA)**

Generic Environmental Product Declarations (EPD) covering 6 admixture types and conforming to EN 15804 and ISO 14025 have been produced in cooperation with EFCA and are available on the CAA website. Older versions conforming to ISO 14025 have been available since 2007

## **Stakeholders**

Individual CAA members maintain close links with their customers and suppliers. Face to face meetings were held with 94 and 79% of these stakeholders in 2014. CAA members are also directly represented as an association at meetings of the Sustainable Concrete Forum, the Concrete Society Materials Group, CEN and BSI concrete and admixture standards committees.

## **Employment**

CAA members carry out annual appraisal and training assessment upgrading for all their employees at all levels. This is monitored within the ISO 9001 and 14001 management systems and annual accreditation.

## **Noise**

The use of superplasticising admixtures to produce self compacting concrete (SCC) has significantly reduced the need for vibration of the concrete so that a modern concrete precast plant or construction site can reduce the local noise levels by tens of decibels.

## **Embedded Carbon**

Normal Plasticising Admixture use can reduce the CO<sub>2</sub> by more than 20kg per cubic meter of concrete. This equates to over 700,000t each year based on typical UK admixture use.

Superplasticiser use could more than double this reduction but this depends on the application and the baseline used. Admixtures therefore make a significant environmental contribution.