



the Sign of Quality

CEMENT ADMIXTURES ASSOCIATION

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ADMIXTURE ENVIRONMENTAL SHEET AES 13 SUSTAINABILITY Profile 2008

The UK admixture industry:

The CAA members are committed to working with Concrete Industry suppliers and producers to minimise the environmental impact of concrete as supplied and to demonstrate the whole life sustainability and socio-economic benefits that concrete provides to society. The CAA's own environmental policy includes the provision of environmental information, use of responsibly sourced materials, optimised production, minimised waste and effective transportation of its products to customers.

During 2008 CAA members have worked with the 'Concrete Industry Sustainable Construction Forum' to develop a structure that would deliver future improvements in the concrete industry's sustainable performance, improve the flow of information to its key stakeholders and provide an annual report on the industries performance.

The Concrete industries first report covering 2007 performance was published in March 2009 and is available on the industry website www.sustainableconcrete.org.uk. It includes performance indicators provided by CAA members.

This report, AES 13, includes admixture sustainable performance indicators for 2008 and will be incorporated into the next Concrete Industry report. The Admixture industries report covering 2007 can be found as AES 11 at www.admixtures.org.uk.

Other CAA Environmental Sheets:

The CAA has produced 6 generic 'Environmental Product Declarations' that cover about 80% of total admixture production. These EPD's include Plasticisers, Superplasticisers, Retarders, Accelerators, Air Entrainers and Waterproofers and can be found as AES 1 to 6 available for free download from the CAA website www.admixtures.org.uk publications page.

AES 7 & AES 8 Use information from the EPD's to provide background information on Life Cycle Analysis 'LCA' and examples of 'Environmental Impacts' when using admixtures.

AES 9 provides information on Admixture leaching from concrete related to their approval for use in potable water applications.

AES 12 gives information on and the benefits that can be obtained from admixture use in relation to the BRE Green Guide, the Code for Sustainable Homes and ecopoints.

Admixtures and ECO2 in concrete:

Admixtures are added in such small quantities that in accordance with ISO 14000 series of standards and BRE guidance, the direct contribution to embedded carbon from admixtures at less than 1% is too small to be significant and can be ignored when calculating the ECO2 of the concrete.

This does not prevent them being used and means that the environmental benefits from the admixture use can allow other high carbon components of concrete to be reduced without affecting the concrete properties thereby providing significant environmental benefits. Based on published ECO2 figures for other concrete constituents, it is estimated that current admixture use already saves about 600,000 tonnes of ECO2 per annum in the UK.

Further information on the ECO2 of concrete constituents and of concrete can be found in a series of sheets available from www.sustainableconcrete.org.uk. See download tables at:

<http://www.sustainableconcrete.org.uk/main.asp?page=210>

Performance Indicators:

These performance indicators are based on information provided by all 7 CAA members:- BASF, Cementaid, Cemex, Christeyns, Fosroc, Grace and Sika.

Management Systems:

All 7 CAA members work within Quality Management Systems accredited to ISO 9001.

In addition 5 of the 7 companies are also accredited to ISO 14001 and 2 others are actively working towards its attainment.

Accreditation to ISO 14001 particularly requires each company to review and record the environmental aspects of its operation and take actions to continually minimise these impacts

Responsible Sourcing:

CAA member preferentially use raw materials suppliers who have ISO 9001 and ISO 14001 accreditation

In 2008 87% of the raw materials supplied were from ISO 9001 companies and 62% were ISO 14001.

Less than 10% of raw materials comes from outside EU and EFTA countries.

Waste Management:

CAA member's solid waste including packaging averaged 27 tonnes/ company/ year.

Admixture Packaging: Most admixture is supplied in bulk by tanker delivery or returnable IBC containers. Where supply is in smaller non returnable packaging units, most CAA members subscribe to the VALPAK scheme to cover sustainable disposal. Further details on disposal of packaging can be found on the CAA website publications page Information Sheet AIS 9

Health and Safety:

CAA members had one reportable accident and one environmental incident in 2008.

Transport:

This has proved difficult to measure as many deliveries use external hauliers who deliver split loads and may or may not have a return load. CAA members work with their customers to optimise the size of the delivery in order to reduce delivery miles. This normally involves bulk supply on a milk round delivery or supply in 1000 litre containers.

Staff and Training:

All CAA members have production sites in the UK employing 196 staff.

All staff of CAA members are subject to annual training and procedural updates and these average about 32 hours annually.

Stakeholder Engagement:

CAA is a member of the UK 'Concrete Industry Sustainable Construction Forum' and works with other concrete materials suppliers and concrete producers to improve all aspects of its sustainability and responsible sourcing.

CAA members had face to face meetings with over 99% of their customers and 50% of their suppliers in 2008.

Other:

Admixtures are generally produced in dedicated factories, usually on industrial estates. CAA members take pride in ensuring that their sites meet high standards of appearance and comply with all local bylaws. Site stewardship and local liaison where applicable will be recognised within the companies own environmental management systems.

Admixture raw materials are mostly chemicals of synthetic origins but several are produced from natural products including lignin from pulping of wood from sustainably managed forests.

Admixtures:

Although sustainability considerations are a current focus for admixture use, the historic benefits should not be ignored as they contribute to the durability of concrete which in itself is a key sustainability benefit for concrete over other construction materials. Admixtures can give economic benefits in both production and placing, optimising mix design, reducing the need for heat curing in precast and allowing modern placing methods to be employed which reduce noise and vibration as well as faster construction.

The CAA website contains further information on admixtures including technical and environmental sheets that are available for free download. Visit www.admixtures.org.uk.

Information on Admixtures:

For general information on admixtures contact:

John Dransfield, CAA Secretary (see front page).