

METAL – THE SUSTAINABLE CHOICE

Over the past 40 to 50 years there has become an ever-increasing awareness of environmental issues and the need for sustainable development. At an international level, commitments to climate change, reduction of greenhouse gases and keeping global temperature rise this century below 2°C (preferably 1.5°C) above pre-industrial levels have been agreed. National action plans on how countries will achieve this target were reviewed at the COP26 conference in Glasgow in November 2021. The UK government has made a commitment to reduce greenhouse gas emissions by at least 100% of 1990 levels (Net Zero Carbon) by 2050.

A new guidance document GD39 *Sustainability and durability of metal roofing and cladding systems* from the Metal Cladding and Roofing Manufacturers Association (MCRMA) focuses on sustainability from a ‘fabric first’ approach where the metal building envelope provides a long-lasting solution which can be future proofed for potential changes of use of the building. This includes typical materials used in MCRMA members’ products and systems looking at factors such as durability, maintenance, limitations in use (e.g., corrosive influences etc.). The guidance gives an overview of the types of products and components available and how they are used to form systems for given applications to meet specific project specifications and requirements.

Metal roofing and cladding systems and their associated components can significantly contribute to achieving a sustainable building envelope solution to meet both current and future needs and requirements, thanks to their low maintenance, durability, high recycled content, recyclability and energy efficiency.

MCRMA members can offer total sustainable building design solutions thanks to a range of complementary components and systems which include sustainable high performance thermal and acoustic insulation products; high durability fixings, fillers, sealants and membranes; daylight options to maximise the transmission of natural light into buildings; flexible solar PV options and fastening systems; and 'green' and 'brown' roof options.



Architectural Profiles' Slimwall CPS aluminium rainscreen system was specified for the redevelopment of Trowbridge County Hall to provide a retrofit building envelope which could achieve a 40 per cent reduction in carbon emissions. The building has achieved a BREEAM 'Excellent' rating.

Steel and aluminium are the most common materials used in metal building envelopes and offer significant advantages when considering the entire system life cycle. They are produced from materials that have high recycled content from both pre-consumer and post-consumer scrap and can be reused or recycled repeatedly without losing their qualities as a building material.

The document provides a brief outline of the background, external influences and drivers for sustainability e.g., international awareness, client requirements, building regulations and environmental evaluation schemes. Life cycle assessments (LCA) and environmental profiling of products are covered, together with some environmental accreditation schemes particularly those credits which can be influenced by metal roofing and cladding systems e.g., BREEAM, LEED etc.

The use of an environmental assessment methodology or rating system can assist in the design and construction of sustainable buildings which are more energy efficient, climatic responsive, material and resource efficient, have healthier indoor environments for occupants and limit waste emissions and pollution.

MCRMA members can provide third party assessed Life Cycle Assessments (LCAs) and EN 15804 compliant Environmental Product Declarations (EPDs) for their products and systems to assist designers and specifiers to obtain points and credits data to be within environmental rating and certification schemes such as BREEAM and LEED.



The Marks and Spencer flagship store at Cheshire Oaks is the third Sustainable Learning Store (SLS), which is part of the retail giant's commitment to build a strong bank of knowledge and experience in sustainable building practices and embed successes into future specifications. The roof is a Euroclad Elite 4.17 system for minimal environmental impact and impressive looks. The store has achieved a BREEAM excellent rating.

The design life of a building can only be fully realised if external building envelope materials along with their component products have the durability that can achieve that desired design life. MCRMA members can support, contribute to and enhance a building project's sustainability objectives and requirements at all stages of the procurement process, through assistance with developing energy efficient building envelope solutions utilising metal roofing and cladding systems which can offer low maintenance, durability, high recycled content and recyclability.

As there is a natural split between sustainability and durability topics the MCRMA guidance document is published as a suite of eight standalone sections each of which covers specific but interrelated subjects, including sustainability background, zero avoidable waste, environmental assessment methods, durability, life cycle/whole life costing, products and components. The document can be downloaded from the MCRMA web site at <https://mcrma.co.uk/sustainability/>

Detailed product information is available from individual member companies and impartial advice can be obtained from any of the independent roofing and cladding inspectors group featured on the MCRMA web site.

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