

LEED is an internationally recognised rating system for excellence in green building which demonstrates that a structure was designed & built in the most sustainable way.

It is developed and administered by the US Green Building Council and gives project teams the tools required to design and build with the lowest impact on the environment.

As a low carbon cement replacement, Ecocem's GGBS can contribute to several areas in the LEED scorecard. The number of points the project earns determines the level of LEED certification.

ECOCEM GGBS & LEED

- Certified 40 - 49 Points
- Silver 50 - 59 Points
- Gold 60 - 79 Points
- Platinum 80+ Points

ECOCEM'S ROLE IN LEED

Ecocem Ground Granulated Blastfurnace Slag is used in combination with Portland Cement to produce superior longer lasting concrete. A replacement rate of up to 70% is permitted by the I.S EN 206-1.

Ecocem is a 100% recycled by-product from the steel industry, manufactured in Dublin Port and available from concrete producers nationwide.

LEED does not suggest or certify products however the use of Ecocem GGBS in concrete and concrete products can significantly contribute to LEED scoring.

ECOCEM GGBS IN LEED V4

CATEGORY	MIX PROPORTIONS	POINTS AVAILABLE
Location & Transportation	LtC3 High Priority Site	2
Sustainable Sites	SSc5 Heat Island Reduction	2
Materials & Resources	SSc6 Light Pollution Reduction	1
	MRc1 Building Life Cycle Impact Reduction	3
	MRc2 Building Product Disclosure & Optimisation - EPD's	2
	MRc3 Building Product Disclosure & Optimisation - Sourcing of Raw Materials	2
	MRc4 Building Product Disclosure & Optimisation - Materials Ingredients	2
Innovation	Innovation in Design	1
	Exemplary Performance	1
TOTAL		16

SUSTAINABLE SITES

SSc5 Heat Island Reduction

INTENT

This credit addresses the heat island effect caused by low reflectance surfaces, it aims to minimise the warming impacts on microclimates and habitats.

REQUIREMENTS

Non Roof Measures

All paving materials and architectural shading structures should be designed to have or use materials that have a three year aged solar reflectance value of at least 0.28 or an initial solar reflectance value of at least 0.33 at installation.

Roof Measures

Depending on the slope of the roof, materials should be used that have an SRI equal to 82 for a low slope roof and 39 for a steep slope roof.

CONTRIBUTION - 2 POINTS

Contaminated soils in brownfield sites can be stabilized and solidified using GGBS. The increased sulphate resistance of concrete containing GGBS means it is suitable for all aggressive ground conditions and will last longer than traditional cement.

SOLAR REFLECTANCE INDEX OF ECOCEM

PERCENTAGE	SOLAR REFLECTANCE INDEX
70% Ecocem	74
50% Ecocem	60
30% Ecocem	41

SSc6 Light Pollution Reduction

INTENT

To increase night sky access, improve night time visibility, and reduce the consequences of development for wildlife and people.

REQUIREMENTS

For Exterior spaces light areas only as required for safety and welfare.

CONTRIBUTION - 1 POINT

If calculations are being carried out for this credit, specification of GGBS concrete can lower the artificial lighting requirement of large open areas such as car parks and paths due to the higher reflectance.

Using lighter coloured surfaces can result in a 30% reduction in energy usage because reduced artificial lighting is required to achieve a similar brightness.

LOCATION & TRANSPORTATION

LTc3 High Priority Site

INTENT

To encourage project location in areas with development constraints and promote the health of the surrounding area.

REQUIREMENTS

Remediation of a brownfield site where soil or groundwater contamination has been identified, and where the local authority requires its remediation.

CONTRIBUTION - 2 POINTS

Contaminated soils in brownfield sites can be stabilized and solidified using GGBS. The increased sulphate resistance of concrete containing GGBS means it is suitable for all aggressive ground conditions and will last longer than traditional cement.

MATERIALS & RESOURCES

MRc1 Building Life Cycle Impact Reduction

INTENT

To encourage adaptive reuse and optimize the environmental performance of products and materials.

REQUIREMENTS

Demonstrate reduced environmental effects during initial project decision-making by reusing existing building resources or demonstrating a reduction in materials use through life-cycle assessment.

For new construction, a life-cycle assessment of the project's structure and enclosure can be conducted that demonstrates a minimum of 10% reduction, compared with a baseline building, in at least three of the six impact categories outlined, one of which must be global warming potential.

CONTRIBUTION - 3 POINTS

Ecocem have a third party verified Environmental Product Declaration that outlines GGBS impact in each of the categories listed. For all categories GGBS has a lower impact than that of traditional cement.

This means specifying GGBS at design stage will help achieve the minimum 10% reduction required compared with a similar building with no GGBS included.

MATERIALS & RESOURCES

MRc2 Building Product Disclosure & Optimisation - EDPs

INTENT

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts.

Project teams are rewarded for selecting products from manufacturers who have verified improved environmental life-cycle impacts.

REQUIREMENTS

To achieve this credit project teams must use at least 20 different permanently installed products sourced from at least five different manufacturers.

CONTRIBUTION - 2 POINTS

Ecocem has a product specific third party verified Type III Environmental Product Declaration which means it is valued as one whole product for the purpose of this credit.

MRc3 Building Product Disclosure & Optimisation - Sourcing of Raw Materials

INTENT

To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts.

To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner.

REQUIREMENTS

Use products that meet at least one of the responsible extraction criteria outlined by the USGBC such as recycled or reused materials.

Points are awarded under this credit for third-party verified corporate sustainability reporting of extraction operations and activities associated with the manufacturer's supply chain.

CONTRIBUTION - 2 POINTS

Ecocem GGBS is certified under the BES 6001 Responsible Sourcing of Construction Products which demonstrates commitment to supply chain sustainability.

As Ecocem GGBS is a by-product from an industrial process it is classified as a preconsumer product in the recycled content calculations.

RECYCLED CONTENT =	POSTCONSUMER CONTENT + ½ PRECONSUMER CONTENT
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MRc4 Building Product Disclosure & Optimisation - Material Ingredients

INTENT

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts.

To reward project teams for selecting products for which the chemical ingredients in the product are inventoried and that minimise the use and generation of harmful substances.

REQUIREMENTS

Use at least 20 different permanently installed products from at least five different manufacturers that use any of the programs listed by the USGBC to demonstrate the chemical inventory of the product to at least 0.1%.

CONTRIBUTION - 2 POINTS

Ecocem maintain a chemical inventory and have a published a third party verified Environmental Product Declaration for their GGBS.

INNOVATION

Option 1: Innovation 1 Point

INTENT

To encourage projects to achieve exceptional or innovative performance. These credits can be achieved by using Ecocem GGBS through the exemplary performance criteria or the innovation criteria.

REQUIREMENTS

An innovation credit can be gained by demonstrating a reduction of total Portland cement content to reduce embodied greenhouse gas emissions. Ecocem GGBS can replace significant amounts of Portland cement (= / < 50%) and help reduce overall cementitious material needed.

Option 2: Exemplary Performance 1 Point

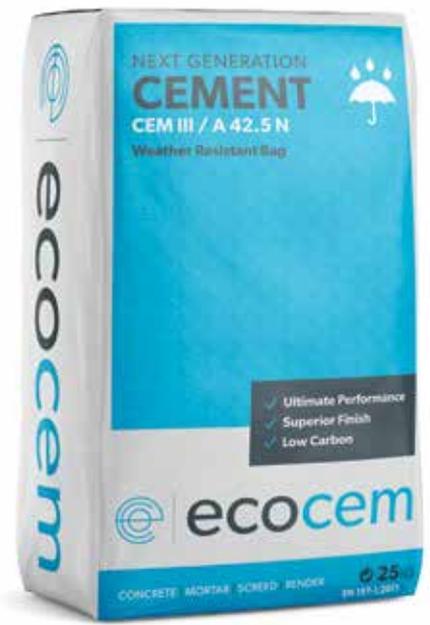
INTENT

This credit rewards exemplary performance in an existing LEED credit. An exemplary performance point is typically earned for achieving double the credit requirements or the next incremental percentage threshold.

REQUIREMENTS

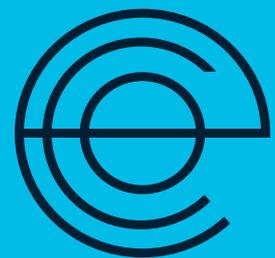
This credit can be gained by exceeding the threshold for recycled content. Depending on individual projects, this can be achieved by using a high specification of GGBS.

Ultimate Performance Superior Finish Eco-Friendly



CERTIFICATION

Ecocem has been rigorously tested in accordance with the EN 197-2 Cement - Part 2: Conformity evaluation and the EN 15167-2: Ground Granulated Blast furnace Slag and has been issued with an EC certificate of conformity by an EU Notified Body and carries the CE mark.



**Innovation
Powering
Sustainability**

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