



# LEED v4.1 & LEED v5

## BUILDING DESIGN AND CONSTRUCTION



## LEED v4.1 Credit Review

Classic Gray Concrete Brick  
Premium White Concrete Brick  
Professional Gray Brick  
Professional White Brick

| LEED v4.1 Direct Credit Contributions |                                              |                 |
|---------------------------------------|----------------------------------------------|-----------------|
| Category                              | Credit/Prerequisite                          | Possible Points |
| MR                                    | Environmental Product Declarations: Option 1 | 1               |
| MR                                    | Material Ingredients: Option 1               | 1               |
| EQ                                    | Low-Emitting Materials                       | Up to 3         |

| LEED v4.1 Indirect Credit Contributions |                                                |                 |
|-----------------------------------------|------------------------------------------------|-----------------|
| Category                                | Credit/Prerequisite                            | Possible Points |
| EA                                      | Optimize Energy Performance: Option 1          | Up to 18        |
| MR                                      | Building Life-Cycle Impact Reduction: Option 1 | Up to 5         |
| MR                                      | Building Life-Cycle Impact Reduction: Option 2 | Up to 4         |
| MR                                      | Construction and Demolition Waste Management   | Up to 2         |

# Materials and Resources (MR)

## Credit: Environmental Product Declarations

*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 from manufacturers who have verified improved environmental life-cycle impacts.*

### Option 1. Environmental Product Declaration (1 Point)

*Requirements: Use at least 20 different permanently installed products sourced from at least five different manufacturers that meet one of the disclosure criteria listed.*

*Bilco Brick has Product-specific Type III Environmental Product Declarations (EPD) with external verification and external critical review. These products can therefore contribute one whole product towards the 20 permanently installed products required for this credit.*

*Location Valuation Factor: For credit achievement calculation, projects located within 100 miles of Lancaster, Texas, USA may value these Bilco bricks as two whole products.*

## Credit: 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 using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. To reward raw material manufacturers who produce products verified to have improved life-cycle impacts.*

### Option 1. Material Ingredient Reporting (1 Point)

*Requirements: Use at least 20 different permanently installed products sourced from at least five different manufacturers that use any of the accepted programs to demonstrate the chemical inventory of the product to at least 0.1% (1000 ppm).*

*Bilco Brick has published, complete Health Product Declarations (HPD) with full disclosure of known hazards of all substances present at or above 0.1% (1000 ppm). These products can therefore contribute one whole product towards the 20 permanently installed products required for this credit.*

*Location Valuation Factor: For credit achievement calculation, projects located within 100 miles (160 km) of Lancaster, Texas, USA may value these as two whole products.*

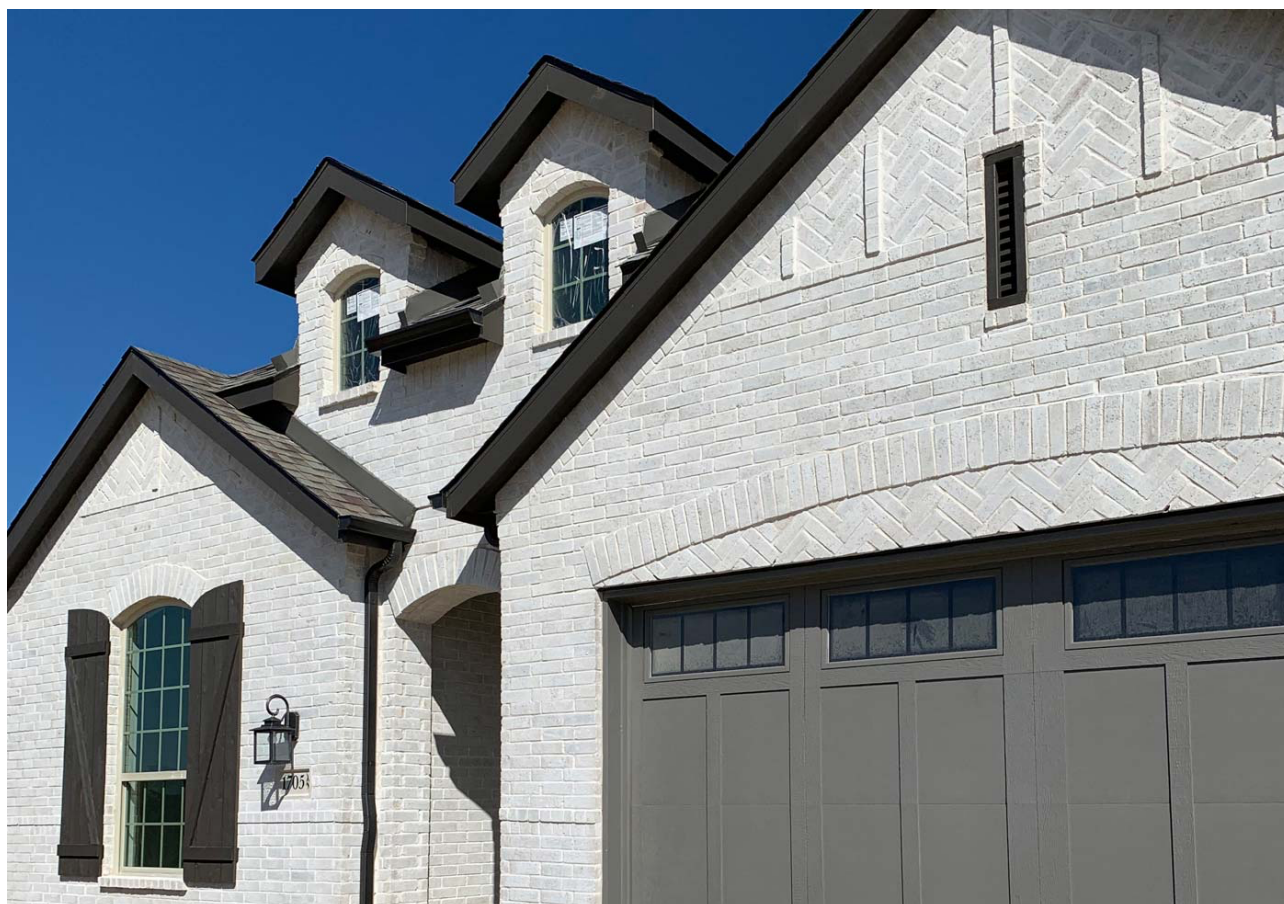
# Indoor Environmental Quality (EQ)

## Credit: Low-Emitting Materials (Up to 3 Points)

*Intent: To reduce concentrations of chemical contaminants that can damage air quality and the environment, and to protect the health, productivity, and comfort of installers and building occupants.*

*Requirements: Use materials on the building interior that meet the low-emitting criteria stated.*

*Bilco Brick products are considered inherently non-emitting sources of VOCs. When used on the interior of a building, Bilco Brick may therefore contribute to the requirement that a portion of materials on the building interior meet the low-emitting criteria of this credit.*





# Indirect Credit Contributions

**Category:** Energy and Atmosphere (EA):

**Credit:** Optimize Energy Performance

Option 1. Energy Performance Compliance (Up to 18 Points)

*Bilco's concrete bricks have a high thermal mass, which helps to maintain the internal temperatures of a building, thus reducing the need for excessive heating or cooling and improving energy efficiency.*

**Category:** Materials and Resources (MR)

**Credit:** Building Life-Cycle Impact Reduction

*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.*

Option 1. Building and Material Reuse (Up to 5 Points)

*Building Reuse: Bilco Bricks are made to last, and can contribute to a portion of a building's existing structure being maintained during reconstruction or renovation.*

*Material Reuse: When removed from a building during renovation or reconstruction, concrete bricks can find new life by being crushed and repurposed for use in other construction or infrastructure projects.*

Option 2. Whole-Building Life-Cycle Assessment (Up to 4 Points)

*Bilco Brick has Product-specific Type III EPDs available, which can assist with development of a whole-building life cycle assessment, and may contribute to reduced environmental impacts of the proposed building.*

**Category:** Materials and Resources (MR)

**Credit:** Construction and Demolition Waste Management (Up to 2 Points)

*Bilco ships its bricks in cubes, which minimizes packaging per volume. Packaging is primarily plastic and paper fiber; where facilities exist, these materials may be recyclable. Broken or unused bricks may be recycled into aggregate for construction fill or new concrete-based products, and can thus help achieve established goals for waste.*

## LEED v5 Credit Review

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| LEED v5 Direct Credit Contributions |                                                  |                 |
|-------------------------------------|--------------------------------------------------|-----------------|
| Category                            | Credit/Prerequisite                              | Possible Points |
| MR                                  | MRC2: Reduce Embodied Carbon: Option 2           | Up to 3         |
| MR                                  | MRC3: Low-Emitting Materials                     | Up to 2         |
| MR                                  | MRC4: Building Product Selection and Procurement | Up to 5         |

| LEED v5 Indirect Credit Contributions |                                                   |                 |
|---------------------------------------|---------------------------------------------------|-----------------|
| Category                              | Credit/Prerequisite                               | Possible Points |
| EA                                    | Reduce Peak Thermal Loads: Option 4               | Up to 3         |
| MR                                    | MRp2: Quantify and Assess Embodied Carbon         | Required        |
| MR                                    | MRC1: Building and Material Reuse: Option 1       | Up to 3         |
| MR                                    | MRC1: Building and Material Reuse: Option 2       | Up to 2         |
| MR                                    | MRC2: Reduce Embodied Carbon: Option 1            | Up to 6         |
| MR                                    | MRC5: Construction and Demolition Waste Diversion | Up to 2         |

# Materials and Resources (MR)

## MRc2: Reduce Embodied Carbon

*Intent: To track and reduce embodied carbon of major structural, enclosure, and hardscape materials from construction processes on new construction and renovation projects.*

*Option 2: Environmental Product Declaration (EPD) Analysis (Up to 3 Points)*

*Bilco Brick has Product-specific Type III EPDs available, which can assist with calculating embodied carbon for a project, and may contribute to reduced impacts for the proposed building when compared with industry benchmarks.*

## MRc3: Low-Emitting Materials (Up to 2 Points)

*Intent: To reduce concentrations of chemical contaminants that can damage air quality and the environment. To protect human health and the comfort of installers and building occupants.*

*Requirements: Use materials on the building interior that meet the low-emitting criteria stated.*

*Bilco Brick products are considered inherently non-emitting sources of VOCs. If used in a building's interior, Bilco Bricks can therefore contribute to the requirement that a portion of materials on the building interior meet the low-emitting criteria of this credit.*

## MRc4: Building Product Selection and Procurement (Up to 5 Points)

*Intent: To encourage the use of products and materials that have sustainability information available and that have environmentally, economically, and socially preferable impacts in alignment with industry momentum. To reward project teams for selecting products from manufacturers who have disclosed sustainability information about their products and optimized their products across multiple criteria areas.*

*Requirements: Select nonstructural building products that demonstrate achievement in one or more of five criteria areas: Climate health, Human health, Ecosystem health, Social health and equity, and Circular economy.*

*Bilco Brick has demonstrated achievement in two criteria areas (multi-attribute score of 2):*

*Health Product Declarations (HPD) with full disclosure of known hazards of all substances present at or above 1000 ppm, Pre-Checked for LEED (Human Health: 1)*

*Product-Specific Type III Environmental Product Declarations (EPD) with external verification and external critical review (Climate Health: 1)*

# Indirect Credit Contributions

**Category: Energy and Atmosphere (EA)**

**EAc2: Reduce Peak Thermal Loads**

Option 4. Peak Thermal Load Reductions (Up to 3 Points)

*Requirements: Comply with various determinations of peak loads, and limit the sum of peak heating load and peak cooling load per unit of treated floor area to be less than or equal to the thresholds specified.*

*Bilco's concrete bricks have a high thermal mass, which helps to maintain the internal temperatures of a building, thus reducing the need for excessive heating or cooling and improving energy efficiency.*

**Category: Materials and Resources (MR)**

**MRp2: Quantify and Assess Embodied Carbon**

*Requirements: Quantify the embodied carbon impacts (GWP) of the structure, enclosure, and hardscape materials for the project. Quantify the cradle-to-gate embodied carbon emissions for each material.*

*Bilco Brick has Product-specific Type III EPDs available, which can assist with the quantification of embodied carbon impacts (GWP) of the structure, and with cradle-to-gate embodied carbon emissions for the materials used for a project.*

**Category: Materials and Resources (MR)**

**MRc1: Building and Material Reuse**

Option 1. Building Reuse (Up to 3 Points)

*Requirements: Maintain the existing building structure, including floor decking, roof decking, and enclosure.*

*Bilco Bricks are made to last, and can contribute to a portion of a building's existing structure being maintained during reconstruction or renovation.*



# Indirect Credit Contributions

## Category: Materials and Resources (MR)

### MRc1: Building and Material Reuse

#### Option 2. Materials Reuse (Up to 2 Points)

**Requirements:** For projects with deconstruction or demolition in scope, conduct a salvage assessment prior to deconstruction or demolition activities and identify materials that can be retained on-site or diverted off-site to reuse markets.

*Bilco Bricks are made with a combination of sand, aggregate, and cement. When removed from a building during renovation or reconstruction, concrete bricks can find new life by being crushed and repurposed for use in other construction or infrastructure projects.*

## Category: Materials and Resources (MR)

### MRc2: Reduce Embodied Carbon

#### Option 1: Whole Building Life Cycle Assessment (Up to 6 Points)

**Requirements:** Conduct a cradle-to-grave whole-building life-cycle assessment of the project's structure, enclosure, and hardscape materials. Compare results to a baseline developed for the project.

*Bilco Brick has Product-specific Type III EPDs available, which can assist with development of a whole-building life cycle assessment, and may contribute to reduced impacts for the proposed building when compared with industry benchmarks.*

## Category: Materials and Resources (MR)

### MRc5: Construction and Demolition Waste Diversion (Up to 2 Points)

**Requirements:** Develop and implement a construction and demolition waste management plan and achieve points through diversion and recycling.

*Bilco ships its bricks in cubes, which minimizes packaging per volume. Packaging is primarily plastic and paper fiber; where facilities exist, these materials may be recyclable. Broken or unused bricks may be recycled into aggregate for construction fill or new concrete-based products, and can thus help achieve established goals for waste.*